GREATER MANCHESTER

DOING THINGS DIFFERENTLY FOR THE ENVIRONMENT

GMCA Biodiversity Net Gain

Guidance for Greater Manchester

February 2021

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This document has been commissioned by Greater Manchester Combined Authority (GMCA) and funded by Resilient Greater Manchester. It was authored by WSP and Footprint Ecology.

FOOTPRINT ECOLOGY

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Contents

Overview and Introduction

Purpose of this Guidance

This guidance has been prepared to enable developers and potential offset providers to run biodiversity assessments in a consistent way across Greater Manchester. The document also enables the consistent verification of biodiversity assessments by local planning authorities and the Greater Manchester Ecology Unit (GMEU).

Biodiversity Net Gain is a requirement for development projects, in which biodiversity losses are outweighed by measures taken to avoid, minimise or compensate impacts of the project.

This guidance starts by setting the context within Greater Manchester. This is followed by an overview of the relevant National legislation and policy. The guide then describes how to build biodiversity net gain into the development process, followed by a section that sets out how to assess the change in biodiversity. After this there are sections on stakeholder engagement, setting up management agreements, and how the assessment will be reviewed. This is summarised in Figure 1.1.

Biodiversity Net Gain in Greater Manchester	Providing an overviews of policy and strategy context in Greater Manchester; setting out what Biodiversity Net Gain is; Describing how Biodiversity Net Gain relates to natural capital
National environmental legislation and policy context	Describing the national legislation and policy as it relates to Biodiversity Net Gain
How to build Biodiversity Net Gain into the development process	Setting out the process required to deliver Biodiversity Net Gain through development
Biodiversity Unit Calculation	Describing the method for calculating the change in biodiversity resulting from the development
Stakeholder engagement	Providing an overview of the organisation that you will need to engage with and why
Ongoing compensation and management agreements	Setting out the potential routes that you can take in order to set up agreements for ongoing management of compensation sites, either within the development site of off-site
Review and assessing a Biodiversity Net Gain assessment	A description of what reports the local planning authority and Greater Manchester Ecology Unit require and how these will be assessed

Above: Outline of the guidance document contents by chapter

Context and Relationship to the Local Nature Recovery Strategy

Our existing valued landscapes and protected sites and areas constitute our best (priority) areas for green infrastructure and these sites and areas provide many social and economic benefits. But we also have to look beyond these areas and take action to extend and link these sites to form the Local Nature Recovery Network (NRN) for Greater Manchester.

On 14 August 2020, Greater Manchester was selected by the government to help kick-start nature recovery on a countrywide scale. The pilots will enable local authorities to set out their local priorities for restoring and linking up habitats so species can thrive, and agree the best places to help nature recover, plant trees, restore peatland, mitigate flood and fire risk, and create green spaces for local people to enjoy.

GMCA is piloting and developing a Local Nature Recovery Strategy (LNRS), these will become mandatory and a statutory document under the Environment Bill and will identify priority actions for biodiversity and nature recovery across Greater Manchester, including the development of a NRN.

The map of biodiversity strategic priorities and opportunities which will underpin the Greater Manchester LNRS and the NRN will be developed as a first iteration, prior to engaging wider stakeholders in its further development.

As part of the development process for a LNRS, GMCA, working with Natural England, GMEU and wider Natural Capital Group partners, will be engaging wider stakeholders, sectors and interest groups in the development of the Strategy, the identification of priorities and the mechanisms for delivering these priority actions.

The Environment Bill being considered by Parliament goes even further – requiring all areas in England to establish LNRSs. This will help bring a broad range of groups together – from farmers to businesses to local communities – to deliver priorities for nature recovery at a local and national level. The pilots will also help kick-start the creation of over a million acres of habitats for wildlife.

Guidance on Good Practice and what the LPA would like to see

Biodiversity Net Gain is already part of the National Planning Policy Framework (NPPF, Para 170(d) and Para 175(d)) but the NPPF does not specify a number/percentage for the gain. The latest update to the forthcoming Environment Bill includes a requirement for all future schemes including the development of land to deliver a mandatory 10 % biodiversity net gain. This net gain will be required to be maintained for a period of at least 30 years.

In advance of national legislation and further detail in Local Plans and Supplementary Planning Documents. Where an outline or a full planning application is submitted, this should be supported by a description of how the development has

taken into account and delivered against each of the 10 Biodiversity Net Gain Good Practice Principles (pages 10-14).

All new development should aim to:

- Deliver net gains in biodiversity using the Biodiversity Metric 2.0[1] to demonstrate the gain and contributing to Local Plans and local biodiversity and green infrastructure plans, strategies and policies; and
- Describe how they have met the requirements set by the Biodiversity Net Gain Good Practice Principles as part of any planning application.

All new developments covered by the Town and Country Planning Act (1990) will need to deliver a net gain for biodiversity following this guidance. This will include new areas of phased major developments. Permitted developments are not subject to this requirement.

Any planning applications by householders will not be required to use the Biodiversity Metric to demonstrate net gain. Instead, applicants can provide a simple plan or statement for the measure(s) they will undertake. These measures could include some of the measures such as nest boxes or the planting of a native tree species, should space allow. Alternatively, the applicant could consider donating to a third party to plant a tree such as the Woodland Trust, their local Wildlife Trust or City of Trees.

For **outline planning applications,** a habitat survey (preferably a UK Habitat Classification Survey (UKHab)) should be carried out of the site to establish the baseline habitats present. The Biodiversity 2.0 toolkit (or most recently published version) should be completed for the pre-development habitats. This can then be used to give an indication of how BNG is likely to be achieved. A finalised landscape plan is not required for outline planning applications, but a report should be submitted summarising how BNG can be achieved further in the development process. The following components should be included:

- A written report including a non-technical summary, produced using the template in Appendix B;
- A GIS layer of the pre- and post-development habitats (based on the masterplan). This should be produced to the standards set out by the GMEU (Appendix C);
- A completed Biodiversity 2.0 toolkit (spreadsheet) containing the baseline calculations for the development; and

[1] The Biodiversity Metric 2.0 has been produced by Natural England as a standard method for meaning change in biodiversity. The Biodiversity Metric 2.0 - JP029 (naturalengland.org.uk). Please note that the most recently published version of this metric should be used.

- Any proposals for how Biodiversity Net Gain will be delivered on site, including GIS layers and calculations where the information is available. The proposal can be included in the written report.

For **full planning applications**, a habitat survey (UKHab) should be carried out of the site to establish the baseline habitats present. A landscape plan will be required, showing all areas of the site that are likely to be lost, retained or enhanced etc. These pre- and post-development habitats should be used to complete the Biodiversity 2.0 toolkit, indicating how BNG will be achieved within the site. A management plan for the site will be required to show how the site will be monitored and managed following construction. The following components should be included:

- A written report including a non-technical summary, produced using the template in Appendix B;
- Two GIS layers, one of the pre-development habitats and one identifying the post development habitats. These should be produced to the standards set out by the GMEU (Appendix C);
- A completed Biodiversity 2.0 toolkit (spreadsheet) containing the full calculations for the development; and
- Details of how the habitats will be managed, for example, via a management company.
- A management plan for the site following construction. This should set out the prescribed management and objectives for a minimum of 30 years. The management plan should include monitoring proposals and justify why the frequency and type of monitoring is appropriate.

Following the construction of the development the following reports should be provided to the local planning authority and GMEU:

- A written summary of delivery to date and any changes with justification from the initial proposals;
- A GIS layer, identifying habitats as they are at the time of reporting (if different from the previous report);
- If the post habitats or plan for delivery does differ from the original agreement a completed Biodiversity 2.0 toolkit (spreadsheet) containing the full calculations for the changes should be included;
- If there is any change, an update on the management plan for the site. This should set out the prescribed management and clear objectives for a minimum of 30 years. The management plan should include monitoring proposals and justify why the frequency and type of monitoring is appropriate.

During ongoing management of the habitats of medium or high distinctiveness, the following reports should be provided to the local planning authority and GMEU once every five years:

- A survey report and an updated management plan for the site. This should set out the prescribed management and clear objectives for remaining time covered by the plan. The management plan should include monitoring proposals and justify why the frequency and type of monitoring is appropriate.

Funding habitats creation / enhancement

Developers may be required to fund the creation and/or enhancement of habitats needed to deliver Biodiversity Net Gain. This funding will cover a minimum of 30 years of management with costs paid to GMEU for oversight of the delivery of Biodiversity Net Gain.

Biodiversity Net Gain for Greater Manchester

The Greater Manchester Strategy

The Greater Manchester Strategy 'Our People Our Place' provides important strategic context for managing and enhancing the natural environment, including an ambition to make Greater Manchester one of Europe's leading green cities - one of ten strategic priorities in the Strategy.

The Mayor's Springboard report setting out a Green Summit Action Plan aims to accelerate Greater Manchester's green ambitions including the development and implementation of a Natural Capital Investment Plan for the city region and 5 Year Environment Plan. The Environment Plan sets a priority to deliver net gain for biodiversity for all new development and the Natural Capital Plan supports this by identifying sites where biodiversity gains can be delivered before the impact from development. This is called habitat banking and is one of the most promising financial opportunities.

A Greater Manchester Local Nature Recovery Strategy is also being developed and once is in place at the relevant GM LPA scale or for Greater Manchester as a whole, this will be used to determine the biodiversity and spatial priorities for off-site biodiversity gains outside the development boundary.

Working with partners, GMCA is also supporting the establishment of the Greater Manchester Environment Fund which will be a centralised investment vehicle to provide funding and support to habitat creation and restoration projects across Greater Manchester, taking advantage of the new market arising from emerging biodiversity net gain (“BNG”) policy. The nine local authorities of Greater Manchester (excluding Stockport) have agreed in principle to produce a joint Development Plan Document. The proposal follows the decision of Stockport Council last year to withdraw from the Greater Manchester Spatial Framework. The nine councils will continue to work closely with Stockport Council, which will now prepare its own local plan, to deliver on shared objectives and strategies including the Local Industrial Strategy, the Five-Year Environment Plan, and the 2040 Transport Strategy.

Former draft policies in the Greater Manchester Spatial Framework sets out the aim to deliver net gain for biodiversity across the region. It is more than likely that a new joint Development Plan Document of nine Greater Manchester districts would set out similar policies on net gains for Biodiversity. Appendix A contains further information on Greater Manchester strategies and plans and how they relate to Biodiversity Net Gain.

This document sets out what Biodiversity Net Gain is, how to assess change in biodiversity, and how a Biodiversity Net Gain assessment should be applied within Greater Manchester. This makes clear the links to the 5 Year Environment Plan and

Natural Capital Investment Plan and how delivering Biodiversity Net Gain can best be used to enhance the region's natural capital and the benefits gained from it.

Biodiversity Net Gain – What Is It?

Biodiversity Net Gain in development occurs when biodiversity losses are outweighed by measures taken to avoid, minimise or compensate impacts of the project.

Figure 0-1 - Biodiversity Net Gain

The Biodiversity Net Gain process starts by assessment of the biodiversity baseline; the habitats and species present before the development. This is followed by avoiding, mitigating and as a last resort compensating for any impacts on biodiversity. Opportunities to restore, recreate and enhance biodiversity are designed into the development. The biodiversity that will be present after the development is then assessed. A metric is used to enable comparison of the biodiversity pre- and post-development.

The National Planning Policy Framework (Ministry of Housing, Communities and Local Government, 2019) states that planning policies and decisions 'should contribute to and enhance the natural and local environment by minimising impacts on and providing **net gains for biodiversity**, including by establishing coherent ecological networks that are more resilient to current and future pressures'.

Guidance for Greater Manchester would enable developers, ecologists and offset providers to undertake a biodiversity assessment following the approved method. The biodiversity assessment must be undertaken by the applicant/developer using a suitably qualified ecologist. The assessment will clearly demonstrate whether any given project is predicted to deliver a loss in biodiversity, no net loss, or net gain for biodiversity. The assessment will then be checked by the GMEU on behalf of the Greater Manchester local planning authorities.

Good Practice Principles

In 2016 the Construction Industry Research and Information Association (CIRIA), the Chartered Institute of Ecology and Environmental Management (CIEEM) and the Institute of Environmental Management and Assessment (IEMA) developed and published the UK's Good Practice Principles for Biodiversity Net Gain (CIEEM, CIRIA & IEMA,2016).

The UK principles will underpin the Greater Manchester approach to Biodiversity Net Gain to ensure that it is robust and provide parameters within which Biodiversity Net Gain should operate.

Biodiversity Net Gain should be implemented in a way that applies the 10 good practice principles, together.

A description of how they apply in Greater Manchester is set out in **Error! Reference s ource not found.** below.

Table 2-1 – 10 Good practice Principles for Biodiversity Net Gain and their application within Greater Manchester

Principle	Application Within Greater Manchester
Principle 1: Apply the mitigation hierarchy **Do everything possible to first avoid and then minimise impacts on biodiversity. Only as a last resort, and in agreement with external decision-makers where possible, compensate for losses that cannot be avoided. If compensating for losses within the development footprint is not possible or does not generate the most benefits for nature conservation, then offset biodiversity losses by gains elsewhere.**	Aiming for Biodiversity Net Gain does not mean the mitigation hierarchy can be side-stepped: projects cannot jump straight to the compensation stage. For a joint local plan of nine GM local authorities and more detailed district Local Plans, policies will specify adherence to the mitigation hierarchy. Developers, decision makers and statutory consultees will need to seek early engagement on schemes to ensure that the mitigation hierarchy is fully considered from the outset and applications for new development will need to demonstrate that the mitigation hierarchy has been fully considered with a step-wise approach.
Principle 2: Avoid losing biodiversity that cannot be offset by gains elsewhere	Impacts on irreplaceable biodiversity cannot be offset to achieve No Net Loss or Net Gain and should be excluded from any biodiversity metric calculations. This includes impacts on statutory designated sites as well as irreplaceable habitats

Avoid impacts on irreplaceable biodiversity – these impacts cannot be offset to achieve no net loss or net gain.	such as ancient woodland or limestone pavement. Any unavoidable impacts on these sites must be addressed as fully as possible by adhering to legislative and policy requirements on a case-by-case basis, usually in collaboration with the planning decision maker and statutory nature conservation agency. This is because these features are not tradable and need to be dealt with separately, and in accordance with the relevant legislation and planning policy.
Principle 3: Be inclusive and equitable **Engage stakeholders early, and involve them in designing, implementing, monitoring and evaluating the approach to Biodiversity Net Gain. Achieve net gain in partnership with stakeholders where possible and share the benefits fairly among stakeholders.**	Developers will need to consider practical measures that will foster a culture of engagement on a project, and specify where it is a requirement, for example, Environmental Impact Assessment (EIA). Consultation should be proportionate to the scale of development/impact. Within Greater Manchester these stakeholders could include the local community, the Local Nature Partnership, and Greater Manchester Ecology Unit (GMEU). Further information is set out in the section called stakeholder engagement.
Principle 4: Address risk **Mitigate difficulty, uncertainty and other risks to achieving net gain. Apply well-accepted ways to add contingency when calculating biodiversity losses and gains in order to account for any remaining risks, as well as to compensate for the time between the losses occurring and the gains being fully realised.**	Within Greater Manchester this is addressed within the metric and methodology set out within this document. This provides a consistent approach across Greater Manchester with independent accreditation, including monitoring the long-term legacy.
Principle 5: Make a measurable net gain contribution **Achieve a measurable, overall gain for biodiversity and the services ecosystems provide while directly**	All developments should set out measurable changes they are making to biodiversity to demonstrate they are able to deliver a Biodiversity Net Gain.

contributing towards nature conservation priorities.	All new developments for which planning permission is granted under the Town and Country Planning Act (1990) (as laid out in the Environment Bill 2020) will need to deliver a net gain for biodiversity. This will include new areas of phased major developments. Permitted development will not be subject to this requirement. For developments in Greater Manchester, the minimum level of Biodiversity Net Gain is considered to be achieved when the biodiversity units for the habitats (for example, area based habitats, rivers and/or hedges) impacted by the development are 10% or more after the development.
Principle 6: Achieve the best outcomes for biodiversity **Achieve the best outcomes for biodiversity by using robust, credible evidence and local knowledge to make clearly justified choices when:** - **Delivering compensation that is ecologically equivalent in type, amount and condition, and that accounts for the location and timing of biodiversity losses;** - **Compensating for losses of one type of biodiversity by providing a different type that delivers greater benefits for nature conservation;** - **Achieving Biodiversity Net Gain locally to the development while also contributing towards nature conservation priorities at local, regional and national levels;** - **Enhancing existing or creating new habitat; and**	Each of these points should be checked and reported against any biodiversity assessment in Greater Manchester. All Habitats of Principle Importance (or Priority Habitats) should be replaced like for like. – Trading in kind - Aim to keep to the same type of broad habitat. – Trading between low distinctiveness habitats is acceptable. – Trading carefully between moderate distinctiveness habitats is acceptable. – Trading up from low and moderate to moderate or high distinctiveness habitats where possible AND suitable. – Do not trade between high distinctiveness habitats (unless there are clear and overriding ecological reasons). Areas that can enhance connectivity and support local nature conservation priorities include areas identified as ‘Greater Manchester Strategic Opportunity Areas for the Improvement of Green and Blue Infrastructure for the enhanced delivery of Ecosystem Services’, or in a Local Plan, biodiversity or GI plan/strategy, including Local Wildlife Sites and the Local Nature Recovery Network.

- **Enhancing ecological connectivity by creating more, bigger, better and joined areas for biodiversity.**	
Principle 7: Be additional **Achieve nature conservation outcomes that demonstrably exceed existing obligations (i.e. doesn't deliver something that would occur anyway).**	Within Greater Manchester any work to deliver Biodiversity Net Gain must be in addition to existing conservation activities. This requires any 'layering up' of biodiversity net gain in the same location as other requirements to be justified as additional to what would have been provided in the absence of a Biodiversity Net Gain requirement. For example, any payment for ecosystem service benefits on the same site as one identified for biodiversity compensation must either: • Be set out clearly at the outset so that the biodiversity and ecosystem service payments are transparent; or • Ensure that any payment for biodiversity gains does not take credit for the biodiversity gains already paid for through the ecosystem service payment.
Principle 8: Create a net gain legacy **Ensure Biodiversity Net Gain generates long-term benefits by:** - **Engaging stakeholders and jointly agreeing practical solutions that secure net gain in perpetuity;** - **Planning for adaptive management and securing dedicated funding for long-term management;** - **Designing net gain for biodiversity to be resilient to external factors,**	Within Greater Manchester early engagement with a range of stakeholders is important. Please see the section called stakeholder engagement for further information. Any Biodiversity Net Gain projects will need to design the net gain for the long term with funding identified for a minimum of 30 years for habitats with moderate and high target distinctiveness. This will need to include costs for management, monitoring and reporting. A management plan should set out the management required for a minimum of 30 years with clear objectives for the site. This plan can be updated on a 5-year cycle to ensure delivery of the Biodiversity Net Gain. The management plan should be created in conjunction with any other site management

especially climate change; - **Mitigating risks from other land uses;** - **Avoiding displacing harmful activities from one location to another; and** - **Supporting local-level management of Biodiversity Net Gain activities.**	requirements (for example, management of recreational spaces or green infrastructure and related requirements within a joint Development Plan Document of nine GM districts and more detailed district local plans).
Principle 9: Optimise sustainability **Prioritise Biodiversity Net Gain and, where possible, optimise the wider environmental benefits for a sustainable society and economy.**	Within Greater Manchester any habitat enhancement or creation should be designed so that the ecosystem services provided by the area are optimised and where possible meet local needs. Evidence from the Cheshire to Lancashire Ecological Network Modelling Tool and the Greater Manchester Ecosystem Service (ESS) Opportunity mapping and/or local strategies and studies should be used to inform the compensation activities. The ESS Opportunity mapping identifies where improvements in the provision of existing ecosystem services can be delivered. In addition, areas of Green Infrastructure, such as recreational areas or sustainable drainage systems, are included in the project. They should be designed to maximise the biodiversity at the same time as providing their other functions.
Principle 10: Be transparent Communicate all Biodiversity Net Gain activities in a transparent and timely manner, sharing the learning with all stakeholders.	Within Greater Manchester all data and reports should be provided as set out in this guidance. Greater Manchester Ecology Unit will keep a record of all biodiversity compensation and mitigation sites. In addition to this, engaging stakeholders to share the findings of any Biodiversity Net Gain project is important and details can be found in the section titled stakeholder engagement.

Natural Capital – What Is It?

Natural capital is the earth's stock of renewable and non-renewable natural resources (for example, plants, animals, air, water, soils and minerals).

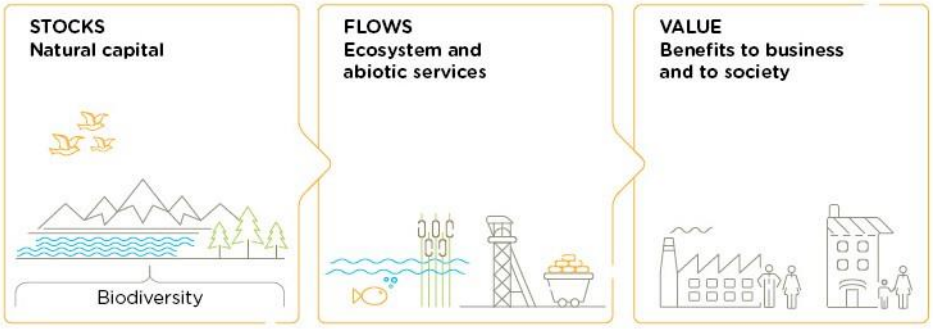


Figure 0-2 - Natural Capital stocks flows and values

Source: The Natural Capital Coalition

Ecosystem services flow from natural capital, and biodiversity constitutes the living component of natural capital. It underpins and generates ecosystem services as well as having value in and of itself. Maintaining biodiversity is important for maintaining the scale and resilience of ecosystem service delivery.

Supporting and/or enhancing natural capital, for example through developing Green Infrastructure, is a key element of the Greater Manchester Natural Capital Investment Plan. This plan includes Habitat Banking as one of the key investment opportunities which can, in turn, provide projects delivering Biodiversity Net Gain with ready-made offsite biodiversity compensation sites.

Delivering Biodiversity Net Gain will not only enhance biodiversity, but also provide benefits in terms of Greater Manchester's stocks of natural capital. This Report indicates how a project aiming for Biodiversity Net Gain can also enhance natural capital and contribute to the local and regional Green Infrastructure plans.

The aim for Greater Manchester is to use Biodiversity Net Gain as a starting point and build on this approach toward delivering net gain for the region's natural capital.

National Environmental Legislation and Policy Context

The National Planning Policy Framework (NPPF) (2019) states that Biodiversity Net Gain should be delivered, and the forthcoming Environment Bill will make Biodiversity Net Gain mandatory for new developments under the Town and Country Planning Act (1990). The NPPF states (para 170) that 'planning policies and decisions should contribute to and enhance the natural and local environment by … minimising impacts on and providing net gains for biodiversity'.

Biodiversity Net Gain is not a legal requirement at present, but it is anticipated that it will be made mandatory for specific developments due to its inclusion within the upcoming Environment Bill.

The proposed requirements set out in this Report are complimentary to the range of environmental legislation, policy and strategies that apply to biodiversity. It is important to note that the work to assess and meet legal requirements will run concurrently to the work needed to assess Biodiversity Net Gain.

The need for development to protect and enhance biodiversity is established in a range of legislation relating to designated sites, including the Conservation of Habitats and Species Regulations (2017, as amended) (the Habitats Regulations) and the Wildlife and Countryside Act (1981, as amended). Duties relating to biodiversity outside designated sites are primarily within the Natural Environment and Rural Communities Act (2006).

The delivery of Biodiversity Net Gain will facilitate adherence to wildlife legislation and policy. Specifically, Biodiversity Net Gain will contribute to the delivery of:

- The Conservation of Habitats and Species Regulations (2017, as amended);
- Wildlife and Countryside Act (1981, as amended) (WCA);
- The Natural Environment and Rural Communities (NERC) Act (2006);
- National Planning Policy Framework (NPPF) (March 2019);
- Biodiversity 2020: A strategy for England's wildlife and ecosystem services;
- A Green Future: Our 25 Year Plan (25 YEP) to Improve the Environment (Defra, January 2018);
- A range of strategies, plans and supplementary planning documents specific to Greater Manchester and its component local planning authorities (see Appendix A).

A summary of this UK legislation can be found on the JNCC website, and how legislation and policy relates to Biodiversity Net Gain is set out in Technical note 3 (page 114) of the Biodiversity Net Gain. Good practice principles for development.

The Biodiversity Net Gain work will help GMCA and the local planning authorities to demonstrate adherence to UK legislation, local policies and Greater Manchester strategies. The outputs from the biodiversity assessments will allow GMCA and local planning authorities to report on the delivery of Biodiversity Net Gain across the region.

Biodiversity Net Gain and Protected Sites and Irreplaceable Habitats

Follow existing legislation: Where a development has the potential to affect SSSIs (Sites of Special Scientific Interest), SACs (Special Areas of Conservation), SPAs (Special Protection Areas), Ramsar Sites, or irreplaceable habitats such as Ancient woodland (DCLG, 2012 and Forestry Commission and Natural England, 2018), any such impacts and actions to resolve potential effects must be dealt with following the existing legislation and national policy for these sites and features.

Don't count impacts on and mitigation /compensation for nationally designated sites: Any impacts on SSSIs, SACs, SPAs, Ramsar Sites, or irreplaceable habitats, and associated mitigation or compensation to address impacts, should be excluded from the assessment of change in biodiversity value (as set out in Biodiversity Net Gain. Good practice principles for development,2019). Enhancements above and beyond what is already required on these sites through legislation and policy can may be considered within the Biodiversity Net Gain assessment, but this should be done in collaboration with Natural England.

Include local wildlife sites in the assessment: Sites identified in the Register of Sites of Biological Importance (or Local Wildlife Sites) should be included in any Biodiversity Net Gain assessment.

Biodiversity Net Gain and Protected Species

Biodiversity Net Gain is based on habitats and uses established metrics to measure losses and gains. Whilst there are currently no agreed approaches for evaluating net gain for species, the requirements for species should be taken into account at each stage of the net gain assessment, for example, designing the habitats so that they support the Species of Principle Importance affected.

Include the features put in place to mitigate impacts on protected species: the requirements for protected species (for example, ponds for Great Crested Newts) should be included within the Biodiversity Net Gain assessment (as part of the calculation).

District Level Licensing (DLL) scheme is now operational within to Greater Manchester. The DLL approach provides better conservation outcomes for great crested newts alongside savings for developers. New metrics for species are being developed as part of the MHCLG-funded DLL approach for great crested newts.

These are not the same as the Biodiversity Metric, although the species metric will be aligned with the Biodiversity Metric.

Projects affecting protected species must fully comply with legislation and planning policy. If the project involves habitat creation or enhancement for a protected species licence, those habitats can be included in the biodiversity unit calculation to capture the biodiversity losses and gains that they contribute to a project.

How To Build Biodiversity Net Gain Into the Development Process

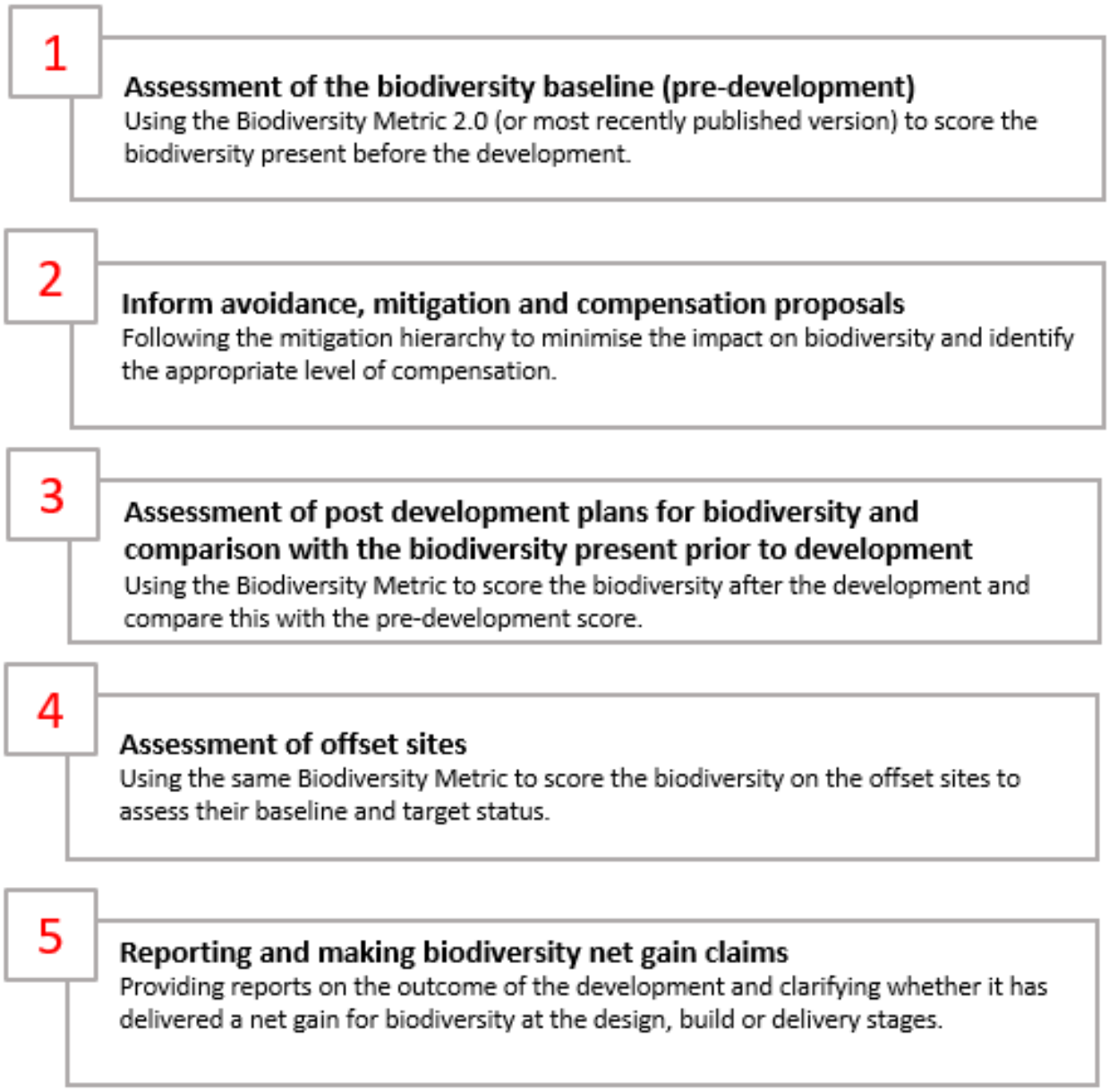
Overview

This section sets out how to run the biodiversity assessment. This is split into two parts. The first sets out the stages of a development and describes the activities needed at each stage.

Figure 0-3 - Biodiversity Net Gain stages of a development

The second splits the Biodiversity Net Gain assessment into five sequential steps and describes how biodiversity is quantified for the site at the start and end of development.

Figure 0-4 – Biodiversity unit calculation 5 steps



Biodiversity Net Gain Stages of a Development

Feasibility and Scoping

When assessing a site for development or assessing a number of options for development the following actions should be undertaken:

Understand the requirements for Biodiversity Net Gain

For example, which developments are required to deliver Biodiversity Net Gain.

Identify and engage stakeholders

Meet with the relevant staff from the local planning authority and GMEU about the sites and options to understand what requirements they might have. See the section called stakeholder engagement for further information.

Assess feasibility and apply the mitigation hierarchy

A baseline biodiversity assessment can be undertaken at this stage. This can be used to inform the site selection and/or identify the areas to avoid impacting within the site. This initial assessment can also give an indication of the area of compensation required.

Report

A summary report of the findings at this stage can provide a useful benchmark and help to demonstrate the activity you have undertaken to follow the mitigation hierarchy later in the development process. This report does not normally need to be provided to the local planning authority or GMEU, unless pre-application advice is being sought[2]. The GMEU provides a pre-application advice service, which is charged for.

Impact Assessment

The impact assessment for a Biodiversity Net Gain assessment should be carried out in conjunction with any other ecological assessment, for example, a Preliminary Ecological Assessment (PEA) or Ecological Impact Assessment (EcIA). The data gathered for these assessments and the biodiversity assessment are closely related and the survey work and reporting should be done as one.

Assess and measure the project baseline

Data requirements - A habitat survey (preferably a UK Habitat Classification Survey (UKHab)) will be required for the site. In addition to this a condition assessment of each habitat should be undertaken following the method set out by Natural England. If following the Natural England method is not possible, the ecologist should utilise a local standard and professional opinion to identify habitat condition. The approach taken will need to be set out in the Biodiversity Net Gain report.

This data can be used to provide an update to the baseline assessment. This should be included in any PEA or EcIA report.

[2] Pre-application advice is normally a chargeable service

The Environment Bill 2020 states that in circumstances where land is degraded and activities are carried out that lower the site's biodiversity value, 'the pre-development biodiversity value of the onsite habitat is to be taken to be its biodiversity value immediately before the carrying on of the activities'. This will be determined from available data such as aerial imagery or past data held by the GMEU.

Apply the mitigation hierarchy

The updated data can be used to ensure that important areas for biodiversity are avoided. For biodiversity features that cannot be avoided the impacts should be minimised with the application of mitigation measures. Where this is not possible the data can be used to establish what compensation might be required for any residual impact.

Design

Clarify the starting point and design for net gain

During the design process, biodiversity should be considered so that important areas are avoided, and mitigation (for example, timings set so that impacts are minimised) and compensation are designed into the development at the outset.

If habitats are created before the impacts this needs to be set out clearly in the assessment as this will affect the gap between losing the habitat and recreating it.

Avoid or minimise risks

Avoid or minimise risks to biodiversity and to the project by minimising impacts on Habitats of Principal Importance and identifying ways to avoid additional costs by designing for Biodiversity Net Gain at the outset.

It is important to identify how the work to deliver BNG overlaps and can complement other requirements such as open green space requirements or the need for areas of Sustainable Urban Drainage. This join up should be built into the design of BNG.

Measure the predicted net gains

Data requirements – along with the UKHab survey data and condition assessment, the landscape plan for the site post development will be required. This will need to identify the areas of temporary habitat loss, including the time these habitats are lost for, the areas of permanent habitat loss and the areas of creation and enhancement, describing the habitats that these areas will become.

At this point the post development plans (for example, landscape plans) should be used to assess the biodiversity at the end of the development. This will allow a comparison with the baseline assessment.

This stage can be repeated a number of times if the design changes, whether that be because of the biodiversity assessment or for other reasons.

For developments in Greater Manchester, **the minimum level of Biodiversity Net Gain is** considered to be achieved when the biodiversity units for the habitats (for example, area based habitats, rivers and/or hedges) impacted by the development is increased by **10% or more after the development**. This means delivering 10% gain for area base habitats and 10% net gain for hedges and 10% for rivers if any of these habitats are present on the site.

If the calculations indicate that a net gain will not be delivered at this stage, either the design should be updated or additional areas for habitat compensation identified (either onsite or outside the development boundary).

Identifying offsite compensation

If additional areas of compensation are required to meet the required increase in biodiversity units, the same assessment needs to be undertaken for the compensation site. This will consist of a UK Habitat Classification Survey and condition assessment as well as a design for the post development habitats.

Plan for the long term

For any area of habitat identified for net gain, a management plan will need to be developed. This should set out the management required for a minimum of 30 years as well as the objectives for the site. This plan can be updated on at least a 5-year cycle to ensure delivery of the Biodiversity Net Gain. The management plan should be created in conjunction with any other site management requirements (for example, management of recreational spaces).

Any Biodiversity Net Gain projects will need to design the net gain for the long term with **funding identified for a minimum of 30 years** from when the development is completed for all habitats with moderate and high target distinctiveness. This will need to include costs for management, monitoring and reporting.

Finalise the outputs and report

The output from this part of the process will consist of:

- A written report including a non-technical summary, produced using the template in Appendix B;
- Two GIS layers, one of the pre-development habitats and one identifying the post-development habitats. These should be produced to the standards set out by the Greater Manchester Ecology Unit (GMEU);
- A completed Biodiversity Metric 2.0, or latest version, (spreadsheet) containing the full calculations for the development; and
- A management plan for the site following construction. This should set out the prescribed management for a minimum of 30 years with clear objectives for the site.

These reports should be provided to the local planning authority when the planning application is submitted. These will then be sent to GMEU for checking. The GIS layers should also be submitted, so that these can be sent to GMEU. At any point up to the submission of the planning application GMEU can be commissioned to provide pre-application advice, including checking Biodiversity Net Gain assessments and advising on compensation requirements.

Construction

Include net gain in the construction documents

The plans and design to deliver Biodiversity Net Gain should be included in the relevant construction documents. Through the construction phase of the development the biodiversity assessment and the associated landscape plans or designs should be used to ensure that the development delivers the net gain for biodiversity as set out in these plans.

Train key staff

Key staff such as the Site Manager or the Ecological Clark of Works should be provided with the appropriate training, be made aware of the design for biodiversity and understand their responsibilities.

Avoid or reduce the time lag

Decrease the time any habitat is lost for by putting in place measures for restoring and compensating for habitats as early as possible. Increased time lags create increased risk, which is factored into the biodiversity assessment. Minimising the time lag will decrease the compensation requirements for the project.

Act on risks and opportunities

Improving activities to avoid impacts, decreasing time lags between loss and habitat creation, and identifying opportunities for enhancement as they arise on site will decrease the risk to the project and decrease the cost of delivering biodiversity net gain.

Collect evidence and data and update the biodiversity assessment

If the delivery differs from the assessment at any point the biodiversity unit calculation should be rerun and, if needed, additional measures put in place to ensure that Biodiversity Net Gain is still delivered. If changes decrease the gains for biodiversity below 10% further areas of compensation will be required. Equally, if time lags have been decreased or potential impacts avoided it will result in lower compensation requirements.

The Biodiversity Net Gain reports and the completed Biodiversity 2.0 toolkit should be updated and resubmitted when the development site is handed over to the organisation(s) managing the site(s) following development. Submission of reports to the GMEU will need to be in accordance with any planning conditions or legal agreements.

At the end of this stage the development can claim whether the development has delivered a net gain for biodiversity but these claims are 'as built' rather than 'in design'.

Maintenance and Monitoring

The ongoing management of the habitats (funded for a minimum of 30 years) will often be passed from the developer to a third party. This could be a management organisation, the local planning authority or a conservation organisation like the Wildlife Trust.

Contingency arrangements and proposals should be put in place to ensure that if the original management arrangements fail for some reason, for example, the management company folds, the management requirements and outcomes are still met.

The organisation responsible for managing the habitats will need to:

Undertake habitat management

Manage the habitats so that they meet the requirements set out in the management plan. Please note that the site may have multiple functions (for example, recreational space as well as supporting biodiversity).

Monitor progress and outcomes and employ adaptive management

Progress toward the outcomes set within the management plan should be monitored. Where delivery is not on track an adaptive management approach should be adopted, amending the management undertaken to ensure delivery is met. If this is not possible alternative outcomes should be proposed and agreed with the local planning authority (who will be advised by the GMEU) and the management plan updated.

Reporting on outcomes

A report should be provided to the local planning authority and GMEU on accordance with the timescales set out in planning conditions or legal agreements. This will be at least once every 5 years. The monitoring report should include:

- A written memo report including a non-technical summary setting out the management plan requirements and progress to date; and

- A GIS layer, identifying the habitats as they are on the site at the time of the report. These should be produced to the standards set out by the GMEU.

When the biodiversity is delivered on the ground (and not before) the project can claim whether the development has delivered a net gain for biodiversity.

Biodiversity Unit Calculation

This section sets out the method of calculating biodiversity units pre- and post-development. Biodiversity units are nominal figures, and they are not a full representation of ecological value, but are used to provide a quantification of a loss, no net loss or a net gain in biodiversity as a result of development.

Calculating the change in biodiversity units is vital to the assessment but the assessment must also demonstrate gains by delivering wider benefits in addition to the units, such as providing bat boxes and bird boxes and delivering the aims of a local biodiversity strategy. Units only form one part of the assessment and that all of the Good Practice Principles should be applied to the assessment.

Calculating the Change in Biodiversity Units

Pre- and post-development biodiversity units are calculated (steps 1 and 2 respectively) and then compared to work out the change in biodiversity units at the end of the project (step 3).

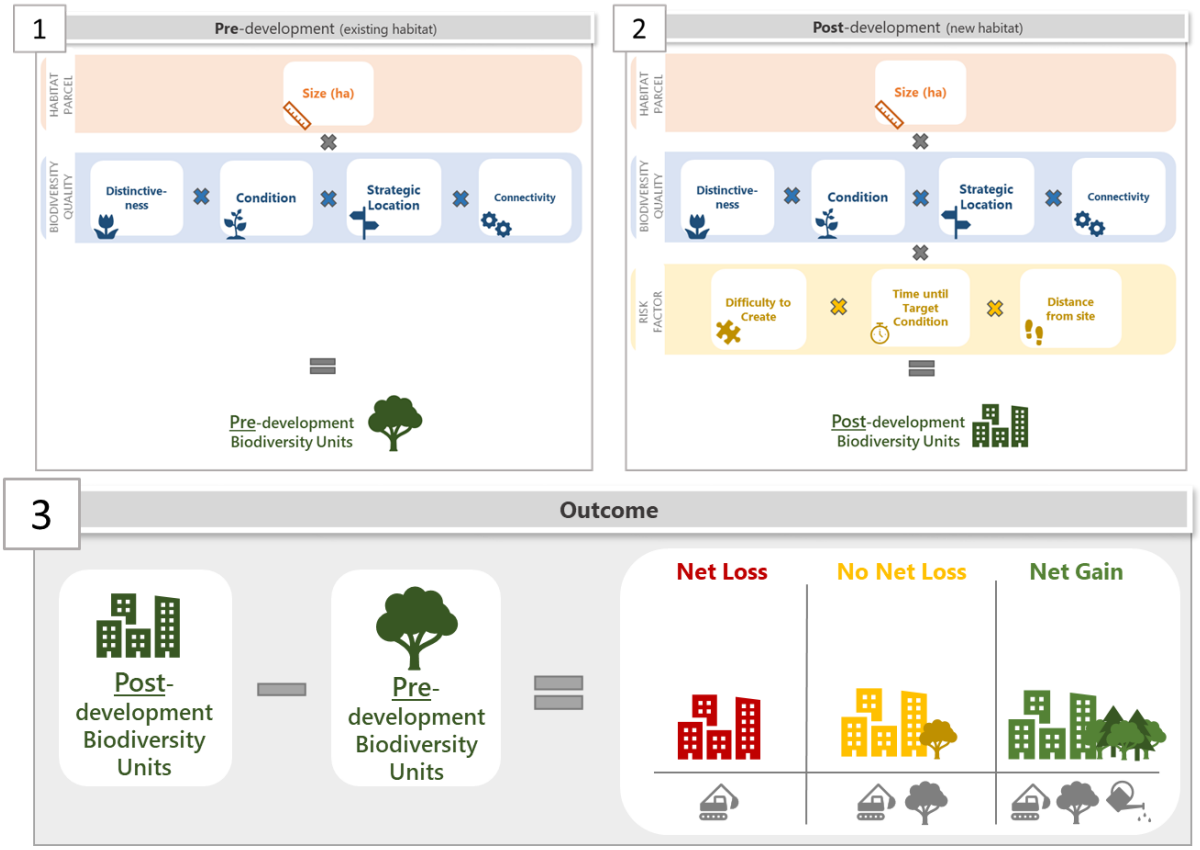


Figure 0-5 - Summary of biodiversity unit calculation

Natural England's Guidance and The Biodiversity Project Toolkit - Introduction

This document should be read alongside the guidance produced by Natural England for calculating biodiversity units (Biodiversity Metric 2.0 2019 or latest version). The definitions for all factors used, numerical scores and how these are allocated to habitats are set out in the Biodiversity 2.0 documents.

This method is supported by a Biodiversity Metric 2.0 toolkit that is approved for use within Greater Manchester and can be found on the Government website. This toolkit runs the biodiversity unit calculations and presents the outcome of the assessment.

The toolkit should be used to assess a range of options to identify the one with the least biodiversity impact and then to assess the biodiversity impacts of a given development scheme. It should also be used to assess the biodiversity benefits of a corresponding landscaping or offsetting scheme quantifying the biodiversity enhancements they provide to help optimise their design.

The Information Required to Run the Biodiversity Unit Calculation

The change in ecological value calculation involves assessing the habitats affected by the project. The linear habitats, such as hedgerows and water courses, are treated separately from the area habitats, such as woodland or grassland.

To calculate Biodiversity Units for the habitats pre- and post-development the information on the habitats present before the development and post development will be required. This data will ideally be in the format of:

- A mapped GIS layer containing UKHab habitat and habitat condition information for the baseline; and
- A GIS layer containing the landscape plan or equivalent identifying the habitats that will be retained, created or enhanced on site and the target area and condition for each of these habitats.

From this information the factors listed below can be gathered in order to run the assessment. All the factors are assigned a numerical score which are multiplied together to achieve the overall linear / biodiversity unit output.

- The area or length (for water courses or hedges) of the habitat;
- The distinctiveness of the habitat;
- The condition of the habitat;
- The connectivity of the habitat;
- The strategic significance of the habitat; and
- Whether it is lost or retained.

For the Post-Development or Post-Works calculations, the following risk factors should also be taken into consideration. These factors are also given numerical scores and multiplied to the rest of the factors (for example, habitat area and distinctiveness) for any habitat that is created, enhanced or undergoing accelerated succession.

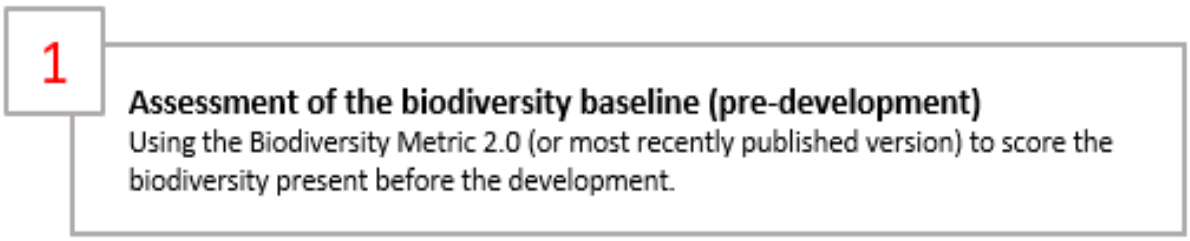
- Difficulty of creating or restoring a habitat;
- Temporal risk;
- Spatial risk; and
- Whether the habitat is enhanced, created or the succession on the site is being accelerated.

The units calculated before the development can then be compared with the units proposed within the post development plans, design or delivery (depending on the stage of the project) to assess whether the development is able to deliver a net loss, no net loss or a net gain for biodiversity. This is calculated within the metric. And is calculated for each of the features (area-based habitats, hedges and rivers) and for each type of Habitat of Principal Importance as well as the over-arching figure.

The output from comparing the pre- and post-development biodiversity units for the area / site-based habitats, the hedges and the water courses provides an overview of the impact of the project on the biodiversity and the ecological value of the site. This should be used to inform avoidance, mitigation and compensation measures in order to maximise the benefits for biodiversity. There is the option to obtain pre-application advice from the GMEU to assist with the design of avoidance, mitigation and compensation measures, if required.

In circumstances where land is degraded and activities are carried out that lower the site's biodiversity value, the pre-development biodiversity value immediately before the carrying on of the activities is to be taken to be its biodiversity value, as per the Environment Bill 2020.

Biodiversity Calculation – Steps



Assessment of The Biodiversity Baseline

Areas included within the assessment

For the purpose of the biodiversity assessment the site is considered to be the land enclosed by the boundary of the scheme.

In addition, the assessment should include any land outside the development boundary where there is an indirect impact on biodiversity and any additional areas being used to compensate for biodiversity impacts (offsets).

Irreplaceable habitats and nationally protected sites

Irreplaceable habitats and nationally protected sites within the scheme boundary must be identified. Impacts to these areas should be avoided, mitigated and, as a last resort, compensated for on a case-by-case basis, having regard for their unique biodiversity value and by following national legislation, policy and guidelines. These areas should be excluded from the biodiversity unit calculations.

Indirect impacts

Where data is available (for example in an Ecological Impact Assessment (EcIA)), areas affected by indirect impacts (such as change in air quality due to the development) should be included in the assessment, with justifications provided for in the pre- and post-development biodiversity unit scores. If these areas have been identified but the data on the change in the habitat due to the indirect impacts are not available, it should be assumed that the habitat decreases in condition by one step.

Habitat classification and survey method

Habitats should be classified using the UK Habitat classification system. If habitats are surveyed using Phase 1 method these should be translated into UK HAB using the spreadsheet accompanying the Biodiversity Metric guidance (Natural England 2019).

Habitat condition assessment method

The Biodiversity Metric requires habitat condition to be assessed. The method that should be used is the Biodiversity Metric 2.0 (Natural England 2019). The condition assessment should be done in conjunction with the site survey.

Where a condition assessment is not possible the information should be gathered through interpretation of existing data, such as survey target notes, consultation with surveyors, and employing a number of assumptions. Where this is the case, record the source and any assumptions in the report.

Calculating baseline biodiversity units

The factors used to calculate the biodiversity units (set out below) are described in the Biodiversity Metric 2019 method (Natural England, 2019).

- The area or length (for water courses or hedges) of the habitat;
- The distinctiveness of the habitat;
- The condition of the habitat;
- The connectivity of the habitat;
- The strategic significance of the habitat; and

- Whether it is lost or retained.
- Calculating connectivity of the habitat

The connectivity of a habitat is evaluated by its relationship with other surrounding similar or related semi-natural habitats in respect of biological and ecosystem flows. The Natural England Connectivity Tool (2019) can be used to evaluate the connectivity of 'high' or 'very high' distinctiveness habitats. For all other distinctiveness categories, a standard approach is used, wherein all habitats with a moderate or low distinctiveness are given a connectivity score of 'low'.

If the connectivity tool is not used it should be assumed that all very high and high distinctiveness habitats have a connectivity score of medium and all habitats with a medium or lost distinctiveness have a low connectivity score.

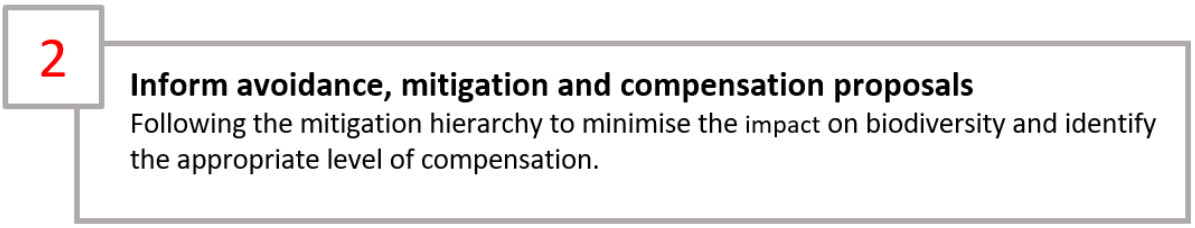
Strategic Significance of the Habitat

This component gives extra value to habitats that are located in optimum locations for biodiversity and other environmental objectives. Within Greater Manchester, it is recommended that the strategic significance of the habitat should be identified based on the criteria set out in Table 0-1 below.

Table 0-1 –Strategic Significance within GMCA - showing the three strategic significance categories and the multiplier applied within the Biodiversity calculation.

Category (Biodiversity Metric 2019)	Interpretation for Greater Manchester	Multiplier applied (to pre- and post-development calculations)
High strategic significance Within area formally identified in the local policy	Within an area identified as 'Greater Manchester Strategic Opportunity Areas for the Improvement of Green and Blue Infrastructure for the enhanced delivery of Ecosystem Services', or in a Local Plan, biodiversity or GI plan/strategy, including d Sites of Biological Importance (SBIs), and the Local Nature Recovery Network.	1.15
Medium strategic significance Not in area defined in local the policy	No local strategy in place but best ecological knowledge suggests that the location has some strategic significance at district or landscape level, for example, woodland buffering other habitats of higher value or habitat provides an important	1.1

	ecological function such as providing a stepping-stone.	
Low Strategic Significance Not in area defined in the local policy (or compensation not within area of local policy), or where no local environmental spatial policy is in place	Not in any of the areas listed above.	1



Inform Avoidance, Mitigation and Compensation

Follow the mitigation hierarchy

The information gathered from the biodiversity baseline should be used to inform avoidance, mitigation and compensation measures proposed for the project. The aim should be to minimise the ecological impacts and provide opportunities for enhancing biodiversity.

It is important to work with the people responsible for the design of the project (engineers, landscape architects etc.) to identify the type of impact caused by the scheme. This may already be set out in an EcIA which will identify whether impacts on biodiversity are direct or indirect, temporary or permanent, or as a result of cumulative impacts.

Record evidence on how the Mitigation Hierarchy has been applied. This can also be recorded within the Biodiversity Metric toolkit in the notes columns.

In both the biodiversity unit and hedge or watercourse calculations of the Biodiversity 2.0 toolkit (or latest version) enter the area or length of habitat to be retained in the 'Retention category biodiversity value' section in the metric toolkit. The toolkit will then calculate the amount of biodiversity units and linear units that will be retained and lost (whether temporarily or permanently, directly or indirectly) as a result of the development.

Wherever possible retained habitats should be enhanced to generate additional biodiversity value from the site.

Potential areas for habitat creation should also be identified at this stage. This can include an outline calculation of the potential compensation activities (on and offsite) that will be required to deliver net gain for biodiversity.

The toolkit will provide clarity on the habitats that are negatively affected by the project. Compensation should be targeted at delivering net gains that are at least ecologically equivalent in type and condition to the habitats lost. This means replacing loss with the same habitat type or one that will still support the species affected but of higher ecological value. For example, replacing semi-improved grassland with unimproved grassland. This can be described as compensating for the biodiversity following the principle of 'like for like or better'.

Like for like or better – rules of thumb

- Trading in kind - Aim to keep to the same type of broad habitat
- Trading between low distinctiveness habitats is acceptable
- Trading carefully between moderate distinctiveness habitats is acceptable
- Trading up from low and moderate to moderate or high distinctiveness habitats where possible AND suitable
- Do not trade between high distinctiveness habitats (unless there are clear and overriding ecological reasons)

Assessment of the Post-Development Plans and Comparison with the Biodiversity Present Prior to Development

Calculating post-development biodiversity value

Biodiversity units resulting from the development, including, temporarily lost and restored, newly created, enhanced and retained habitats, are referred to as post-development biodiversity units. Data to enable these to be calculated should be gathered from the ecology and landscape plans for the site, as well as other relevant information, for example retained habitat drawings.

For the post-development or post-works calculations, the following risks factors should be taken into consideration:

- Difficulty of creating or restoring a habitat;
- Temporal risk;
- Spatial risk; and
- Whether the habitat is enhanced, created or the succession on the site is being accelerated.

These are described along with the numerical scores assigned to them within the Biodiversity Metric guidance (Natural England 2019 or latest version).

The difference between habitats that are created, enhanced and undergoing accelerated succession is also described within the Biodiversity Metric 2019 guidance. The post-development units are calculated to reflect whether the change is as a result of the habitat being enhanced, created or the succession accelerated. This makes a significant difference to the biodiversity units generated so it is important to clearly identify which areas of habitat are undergoing what change.

Design iteration

If the design changes in any way that affects the biodiversity on site the assessment will need to be updated. As a result, it is not uncommon to have multiple iterations of Step 3.

Temporal risk

Where there is a difference in time between the negative impact on biodiversity and the compensation reaching the required quality, a temporal multiplier, known as the 'Time to target condition' is included within the calculations. It is sometimes possible for habitats to reach their target condition sooner than anticipated within the metric. For example, where management to create compensation habitats starts in advance. Where this is the case, the 'Time to target condition' can be reduced, therefore decreasing the multiplier applied to that habitat.

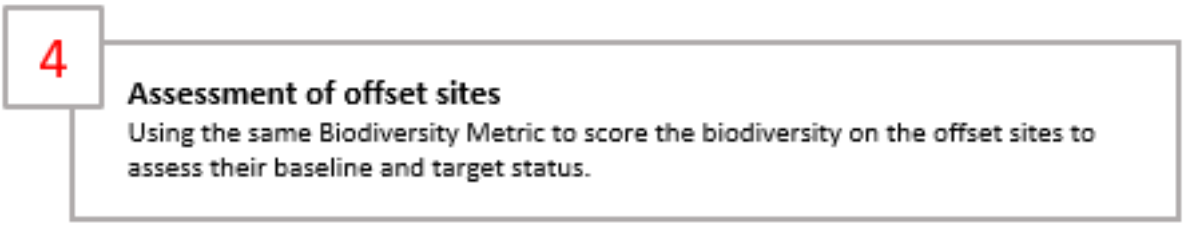
Equally, if the temporary impact of an area of land means that habitat creation will be delayed the time to target condition can be increased to take the delay into account.

Spatial risk

Good practice sets out that it is better to replace any habitat loss as close to the area of loss as possible (Making Space for Nature, Defra 2010). This is reflected within the spatial risk factor. Within Greater Manchester the spatial risk factor is assigned using the criteria set out in Table 0-2.

Table 0-2 –Spatial Risk Factor for Greater Manchester - three categories of spatial risk, their scoring and how they are applied within Greater Manchester

Category (Natural England metric 2019)	Interpretation for Greater Manchester	Multiplier applied (post development calculations only)
Compensation inside local planning authority or National Character Area (NCA), or deemed to be sufficiently local, to site of biodiversity loss	Within the LPA where the impact occurred.	1
Compensation outside local planning authority or NCA of impact site but in neighbouring local planning authority or NCA	Within the neighbouring LPA	0.75
Compensation outside local planning authority or NCA of impact site and beyond neighbouring local planning authority or NCA	Outside the neighbouring LPA.	0.5



Assessment of offset sites

Offsets

An offset is an area or length of biodiversity compensation outside the development site.

The best areas for biodiversity offsets can be identified using the Strategic Significance and the Spatial Risk factor listed in Table 0-1 and Table 0-2. The top priorities for offsetting will be close to the area of impact (set out in the Spatial Risk factor, Table 0-2) and in an area of high strategic priority (set out in Table 0-1). The offset should aim to contribute to the Local Nature Recovery Strategy.

Identification of offset sites

Offset sites can be identified on other areas of land owned by the developer, areas owned by the local planning authority, through an offset broker or directly with a third-party landowner. Please see the section titled Stakeholder Engagement for further details of who to engage with to identify potential offset sites.

Calculating the biodiversity units in an offset

The biodiversity value of an offset site is calculated in the same way as set out above for baseline and post-development biodiversity units. It is important to take into account within the calculations the habitat present before the offset is put in place, as well as the habitat that will be put in place as a result of the offset.

Habitat Banks

If the habitat is created in advance of the loss of habitat expected from the development the offset is considered a habitat bank. For a habitat bank to be recognised as a potential offset for impacts the bank needs to have been registered with GMEU before the habitats were created or enhanced onsite and it should be transparent that the activities to create or enhance habitats were additional to what would have occurred on that land without the bank being set up. The Local Nature Recovery Strategy should be used to determine the biodiversity and spatial priorities for off-site biodiversity gains outside the development boundary, including habitat banks.

Where a habitat bank is being used to offset impacts, and calculating the biodiversity units provided by the offset, the difficulty to create and the time to create risk factors do not need to be taken into account within the post-development calculation. This is because the habitat has already been created and both the time and difficulty already addressed. This means that the site will give a higher biodiversity unit / area

score and so be cheaper for the developer while still providing the gains in biodiversity required.

If a bank is only partially created the habitats can still be used as offset sites but the time to target and difficulty to create risk factors will need to be decreased (to cover the training time needed to create the habitats) rather than not being used at all.

It is important to note that if the habitat bank is partially created (for example, 10 years into a 25 year habitat creation project) it can still be used as a bank but the time remaining (15 years in the example) required to meet the target condition will need to be taken into account when working out the biodiversity units gained from the bank.

It is also possible, under the Environment Bill 2020, for a person carrying out the development of any land, to purchase a credit from the Secretary of State for the purpose of meeting the biodiversity gain objective.

Optimising sustainability - Within Greater Manchester any habitat enhancement or creation should be designed so that the ecosystem services provided by the area are optimised and where possible meet local needs. Evidence from the Greater Manchester Ecosystem Service (ESS) Opportunity mapping and/or local strategies and studies should be used to inform the compensation activities. The ESS Opportunity mapping identifies where improvements in the provision of existing ecosystem services can be delivered.

In addition, areas of Green Infrastructure, such as recreational areas or sustainable urban drainage, are included in the project they should be designed to maximise the biodiversity at the same time as providing their other functions.

Where there are offset options, the offsets that provide the best gains for biodiversity and natural capital should be selected. However, Biodiversity Net Gain should not be compromised by delivering other benefits. There are a range of methods that can be used to assess the value of the ecosystem services provided by offset sites such as iTree and the Ecometric.

Reporting and making biodiversity net gain claims

Biodiversity Net Gain Claims

The change in biodiversity units is calculated by comparing the pre-development biodiversity units with the post-development biodiversity units.

This should be done for each broad habitat type and each Habitat of Principal Importance as well as for the project as a whole. This is to ensure that any one broad habitat is not replaced with a different habitat type. It would not be acceptable to lose all the woodland in Greater Manchester and replace this with ponds.

Biodiversity Net Gain can be claimed when the biodiversity unit score for all of the features (area-based habitats, hedges or rivers) has increased by at least 10%. **This needs to be the case for each type of Habitat of Principal Importance, each broad habitat type, for hedges, rivers and the area habitats as well as the over-arching figure.**

Please note that if the project impacts on a SSSI or irreplaceable habitat then claims may only be made for specific features (for example, the non-irreplaceable habitats) and not for the project as a whole. Instead, the claim needs to be made for the specific habitat types affected.

As well as the increase in units, if the project can demonstrate that it has followed the 10 Good Practice Principles at the end of the design the claim should be 'Biodiversity Net Gain in design'. At the end of construction, it should be 'Biodiversity Net Gain as built' and when the habitats meet their target condition the claim can be 'delivery of Biodiversity Net Gain'.

If there is no impact on a specific biodiversity feature at all, then that feature type does not need to be considered within this assessment. For example, if there are no hedges on site or the hedges have not been affected at all there is no need to enhance them to get net gain for the other features, although additional enhancements is encouraged as part of on-going site management.

Stakeholder Engagement

The key stakeholders and their roles during a project to deliver biodiversity are listed below:

Local Planning Authorities

Each individual local planning authority within the Greater Manchester Combined Authority (GMCA) area has responsibility for embedding the Biodiversity Net Gain approach within their planning functions, requiring Biodiversity Net Gain from developments falling within their remit and overseeing the delivery of Biodiversity Net Gain.

Greater Manchester Ecology Unit

The Greater Manchester Ecology Unit (GMEU) receives reports, and the GIS data outputs from the Biodiversity Net Gain assessments. This data is made available for all those requesting ecological data searches within the area covered by the GMEU (including for pre-application services).

The GMEU undertake a number of mandatory checks in relation to the Biodiversity Net Gain assessment work. This will incur a fee that should be paid directly to the GMEU.

These checks will need to occur

- At the planning application stage;
- at the end of construction; and
- at intervals during the habitat management when monitoring reports will need to be submitted.

Additionally, where an applicant would like to commission the GMEU to undertake some of the Biodiversity Net Gain assessment work (which would otherwise be undertaken by contracted ecological consultants providing the EcIA), an applicant can choose from a menu of options. These discretionary services provided by the GMEU will incur fees in accordance with the nature and extent of work required.

The mandatory and discretionary services provided by the GMEU can be found on the relevant GMLPA website and the GMEU website.

Development Project Level Stakeholders

In developing a local focus within each local planning authority, additional stakeholders may be relevant and local level workshops or meetings run. These local stakeholders will depend on the development site but could include local conservation NGOs such as the Wildlife Trust and local community or interest groups. If the project is running an Environmental Impact Assessment (EIA) engagement with these stakeholders should be meshed with the engagement required for the EIA.

Potential Offset Providers

If Biodiversity Net Gain cannot be delivered on site and an offset is required, other bodies should be engaged as potential offset providers. These organisations will need to be able to identify offset sites and put in place the management, monitoring and reporting required to deliver the biodiversity gains required.

In time a list of offset providers will be made available. However, in the short term it is recommended that developers contact the following organisations to identify and agree on the offset site required and the objectives for the site:

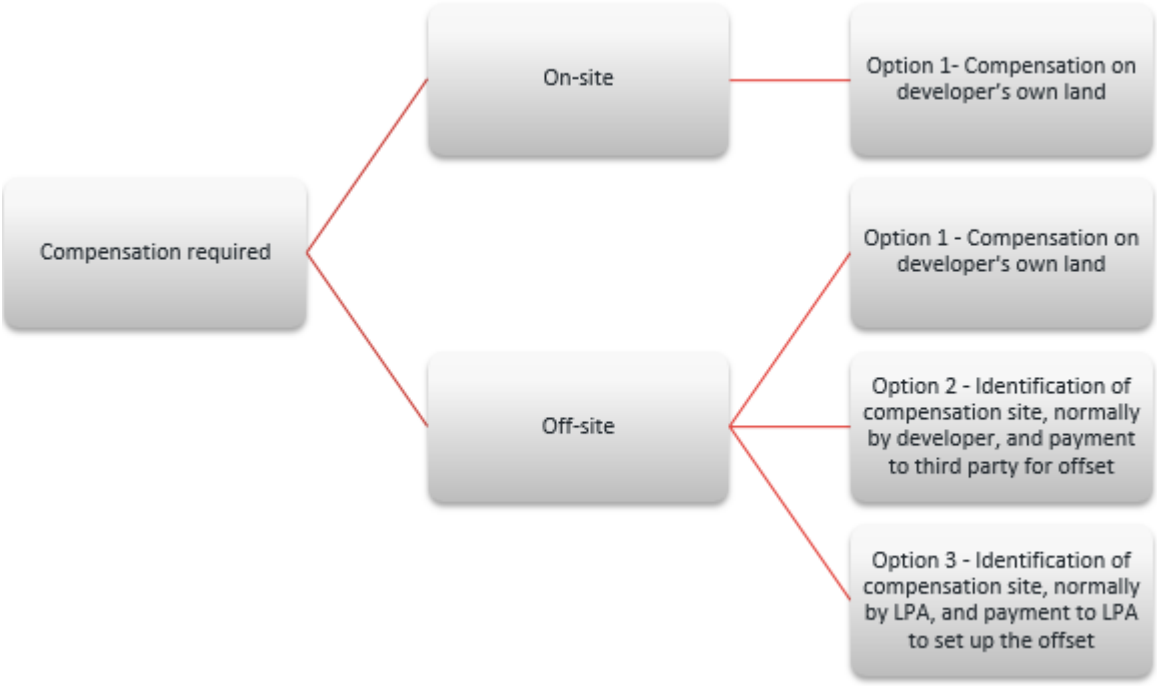
- The local planning authority;
- The Greater Manchester Environment Fund
- Conservation organisations;
- Local landowners;
- Neighbouring local authorities (noting that the offsets requirement increases when it is located outside the local planning authority areas containing the impact); or
- GMEU.

The Greater Manchester Environment Fund is proposing a Habitat Bank Facility to attract repayable finance to create and restore habitats at a city region scale while providing verified BNG credits to developers.

Offsets can also be provided by brokers who will identify the offset and oversee its delivery. A list of brokers will also be provided, but in the short term please contact the local planning authority to identify relevant brokers.

Ongoing Compensation and Management Agreements

This section contains descriptions of the options for setting up agreements for on-site or off-site habitat management. The aim is to set out the options available for setting up long term compensation and management agreements so that the appropriate route can be selected for any given development.



If offsetting is required, once a Local Nature Recovery Strategy is in place at the relevant LPA scale or for Greater Manchester as a whole, this should be used to determine the biodiversity and spatial priorities for off-site biodiversity gains outside the development boundary.

The following table provides a summary of the options for setting up agreements for ongoing biodiversity management.

Table 0-3 – Management agreement type, organisations involved and description for biodiversity offsets

Biodiversity Management Type	Description	Organisations involved	Responsibilities
OPTION 1 - Land purchase, or compensation on developer's own land	Developer buy/own the land required for offsetting. Can be agreed through conditions to	The developer The original landowner The local planning authority	The Developer, or the management organisation the land is passed to by the developer,

	the planning application.	The Greater Manchester Ecology Unit (GMEU) This could include subcontracting the management to third parties.	is responsible for managing the land to meet offset requirements and reporting on the outcomes. This is often the approach for land required for mitigating impacts on protected species. Payment for management of the offset can be managed by the developer over the time required for the offset (30 years minimum).
OPTION 2 - Payment for third party management of third party's land	Developer does not buy the land but pays the landowner (directly or via a broker) to take on the management responsibilities to meet offset requirements. Developer is able to specify the land required for the offset and the actions taken to deliver the biodiversity and ecosystem service gains. Can be agreed through conditions to the planning application.	The developer The landowner/offset provider or broker The local planning authority The Greater Manchester Ecology Unit (GMEU) The Greater Manchester Environment Fund. The landowner could be the RSPB, the Wildlife Trusts, the National Trust, the Crown Estate, the Environment Agency, the Forestry Commission, Natural England, MoD, Local Authorities or an independent landowner. A broker would be an organisation working on behalf of the	The Developer passes responsible for identifying and managing the land to meet offset requirements as well as the requirements to report on the outcomes to the offset provider, i.e. the landowner or broker. Payment will normally be required as a lump sum to the landowner or broker. This can be directly to the landowner or broker or via the

		landowner to sell the offset.	local planning authority.
OPTION 3 - Payment for local planning authority to set up compensation agreements	Developer pays a lump sum to an organisation who pay a third party to manage land in order to meet offset requirements. Developer does not buy the land but pays the local planning authority to take on the management responsibilities to meet offset requirements. Developer is not able to specify the land required for the offset or the actions taken to deliver the biodiversity and ecosystem service gains. Can be agreed through conditions to the planning application or through a section106 agreement.	The developer The local planning authority The Greater Manchester Ecology Unit (GMEU) In this situation the local planning authority is acting as the offset broker.	The Developer passes responsibility for identifying and managing the land to meet offset requirements as well as the requirements to report on the outcomes to the local planning authority. Payment will normally be required as a lump sum to the local planning authority.
OPTION 4 – Payment to the Secretary of State (Defra) to provide the offset.	The Secretary of State for Defra will provide and option of last resort, providing offsets where options 1-3 are not available.	Defra, The developer The local planning authority The Greater Manchester Ecology Unit (GMEU)	To be confirmed.

Please note that any of these approaches can also be used for offsetting or habitat banking. The only difference is that the habitat bank is put in place before the impact

of the development has occurred and as a result, within the calculation the temporal and difficulty risk factors do not apply.

It is important to recognise that a range of these approaches can be used for any one development. These different approaches are not mutually exclusive. The specific offset types selected will be shaped by a range of factors including the outcomes they deliver and their cost.

The arrangements for a site can also change over time, potentially passing to a new management company. In this situation it is important to maintain the commitment to delivery, monitoring and reporting in order to meet the Biodiversity Net Gain aims for the site. Any such changes are relevant to the planning conditions and legal agreements relating to the reporting of Biodiversity Net Gains and should therefore also be communicated in writing to the local planning authority and the GMEU.

Reviewing and Assessing a Biodiversity Net Gain Assessment

This section sets out what the assessor will look for when reviewing a Biodiversity Net Gain report. All reports should be provided to the GMLPA who will then ask the GMEU to check and validate the assessment.

Greater Manchester Ecology Unit

- When reviewing development projects reporting at the design or as built stages GMEU will assess whether the following principles have been followed: Environmental legislation and national policy has been followed and that any appropriate avoidance, mitigation and/or compensation measures have been agreed with the relevant statutory bodies for any potential impacts on legally protected species, SSSIs, SACs, SPAs, Ramsar sites or irreplaceable habitats.
- If present, SSSIs, SACs, SPAs, Ramsar sites or irreplaceable habitats are excluded from the biodiversity unit calculations. Habitat losses and gains relating to legally protected species are included in the calculations, but are clearly identified
- The biodiversity units are reported for each broad habitat type, habitat of principal importance type as well as an overarching figure.
- The overall claim matches the claim against the delivery of the habitat type with the worst outcome, the lowest percentage increase or greatest loss.
- Evidence that the outputs of the metric has informed the design and improved the biodiversity outcomes of the project. For example, changes in design or updated landscape plans where these have taken place.
- Evidence that the design of the project contributes toward specific targets and goals (where available) set out in local or Greater Manchester wide plans, for example, a Local Biodiversity Action Plan or Green Infrastructure Opportunity Areas.
- A brief commentary should be provided against each of the ten good practice principles, providing evidence on how they have been met.
- All references to external documents are correct at the time of writing. The current version of these documents, at the time of assessment, should be used.
- Submission of monitoring reports will need to be in accordance with the conditions and legal agreements applied to the planning permission given.

Net Gain Reports that do not include this information may be rejected

Considerations for Differing Development Proposals

For all developments when an outline or a full planning application is submitted this will require a description of how the development has taken into account and delivered against each of the 10 Biodiversity Net Gain Good Practice Principles and an assessment will need to be undertaken as set out in this document.

When an **outline planning application** is submitted the following reports should be included:

- A written report including a non-technical summary, produced using the template in Appendix B;
- A GIS layer of the pre- and post-development habitats. This should be produced to the standards set out by the GMEU (Appendix C);
- A completed Biodiversity 2.0 toolkit, or latest version (spreadsheet) containing the baseline calculations for the development; and
- Any proposals for how Biodiversity Net Gain might be delivered on site, including GIS layers and calculations where the information is available. The proposal can be included in the written report.

When a **full planning application** is submitted the following reports should be included:

- A written report including a non-technical summary, produced using the template in Appendix B;
- Two GIS layers, one of the pre-development habitats and one identifying the post development habitats. These should be produced to the standards set out by the GMEU (Appendix C);
- A completed Biodiversity2.0 toolkit, or latest version (spreadsheet) containing the full calculations for the development; and
- Details of how the habitats will be managed, for example, via a management company.
- A management plan for the site following construction. This should set out the prescribed management and objectives for a minimum of 30 years. The management plan should include monitoring proposals and justify why the frequency and type of monitoring is appropriate.

Following the construction of the development the following reports should be provided to the local planning authority and GMEU:

- A written summary of delivery to date and any changes with justification from the initial proposals;
- A GIS layer, identifying habitats as they are at the time of reporting (if different from the previous report);

- If the post-development habitats or plan for delivery does differ from the original agreement, then a completed Biodiversity 2.0 toolkit (spreadsheet) containing the full calculations for the changes should be included;
- If there is any change, an update on the management plan for the site. This should set out the prescribed management and clear objectives for a minimum of 30 years. The management plan should include monitoring proposals and justify why the frequency and type of monitoring is appropriate.

During ongoing management plan, the following reports should be provided to the local planning authority and GMEU once every 5 years:

- A survey report and an updated management plan for the site. This should set out the prescribed management and clear objectives for remaining time covered by the plan. The management plan should include monitoring proposals and justify why the frequency and type of monitoring is appropriate.

References

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Ecosystem Service Assessment Tools and Information

Greater Manchester Ecosystem Services Opportunity Mapping https://mappinggm.org.uk/gmodin/?lyrs=v_tep_ecosystem_services_2019#os_maps_light/10/53.5069/-2.3201

Natural Capital Coalition - https://naturalcapitalcoalition.org/natural-capital-2/

iTree - https://www.itreetools.org/

Ecometric – https://ecosystemsknowledge.net/ecometric

Strategy References

Air Quality Action Plan https://www.greatermanchester-ca.gov.uk/airquality

Climate change and Low Emissions Implementation Plan http://www.greatermanchester-ca.gov.uk/download/downloads/id/221/change_and_low_emissions_implementation_plan_2016-2020.pdf

Greater Manchester 5 Year Environment Plan - https://www.greatermanchester-ca.gov.uk/media/1986/5-year-plan-branded_3.pdf

Greater Manchester Ecosystem Services Opportunity Mapping https://mappinggm.org.uk/gmodin/?lyrs=v_tep_ecosystem_services_2019#os_maps_light/10/53.5069/-2.3201

Greater Manchester - Mayor's Springboard report - https://www.greatermanchester-ca.gov.uk/what-we-do/environment/springboard/

Greater Manchester - Natural Capital Investment Plan - https://www.greatermanchester-ca.gov.uk/what-we-do/environment/natural-capital/

The Greater Manchester Priority Green and Blue Infrastructure (2018) https://www.greatermanchester-ca.gov.uk/media/1728/the-natural-environment-priority-b_gi-2018.pdf

Greater Manchester (Draft) Spatial Framework 2019 https://www.greatermanchester-ca.gov.uk/what-we-do/housing/greater-manchester-spatial-framework/

Greater Manchester Strategy – Our People, Our Place https://www.greatermanchester-ca.gov.uk/ourpeopleourplace

Greater Manchester Transport Strategy 2040 https://tfgm.com/2040

Greater Manchester Visitor Economy http://www.marketingmanchester.com/wp-content/uploads/2017/02/tourism-strategy-2013.pdf

Greater Manchester Wetlands Nature Improvement Area (NIA) https://www.lancswt.org.uk/greatmanchesterwetlands

Trees and Woodland Strategy http://www.cityoftrees.org.uk/explore

Glossary of Terms

This section contains a short glossary of terms. For a longer list please see the Biodiversity Net Gain. Good practice principles for development (2019) page xvi.

Term	Definition
Avoidance	Measures taken to avoid creating impacts from the start. For example, changing the location of the development or development activities within the site to avoid the habitats present.
Biodiversity Net Gain	Biodiversity Net Gain is development that leaves biodiversity in a better state than before. It is also an approach where developers work with local governments, wildlife groups, landowners and other stakeholders in order to support their priorities for nature conservation.
Biodiversity Offset	A biodiversity offset is compensation outside the development boundary (permanent and temporary works).
Broad habitat type	The broad habitat types are groupings of the Habitats of Principle Importance of similar type. For example, Broadleaved, Mixed and Yew Woodland and Rivers and Streams are broad habitat types. Please see http://jncc.defra.gov.uk/page-5706 for more information.
Compensation	Measures taken to provide a biodiversity contribution that is proportionate to the long-term loss of residual impacts that cannot be completely avoided or minimised.
Ecological network	An ecological network comprises a suite of high quality sites which collectively contain the diversity and area of habitat that are needed to support species and which have ecological connections between them that enable species, or at least their genes, to move.
Ecosystem Services	Ecosystem services are the services that nature provides to people. They range from reducing flood risk to providing opportunities for recreation.
Habitat Creation	The removal or the loss of the present habitat in the action of creating the new one or creating habitat where none was previously present (including bare ground). This includes, for example, removing scrub in order to create a wetland habitat or removing hardstanding to create new grassland habitat.
Habitat Enhancement	The improvement of the condition of an existing habitat, thereby increasing the biodiversity value of a habitat type. Enhancement is achieved through measures that improve habitat biodiversity capacity and/or remove factors that detract from its value. This includes increasing the diversity of species that can be supported by a habitat, for example by managing improved grassland so that it becomes semi-improved grassland, which would seek to increase species diversity.

Major development	Major development is defined in The Town and Country Planning (Development Management Procedure) (England) Order 2010 and is defined as: major development" means development involving any one or more of the following— (a) the winning and working of minerals or the use of land for mineral-working deposits; (b) waste development; (c) the provision of dwelling/houses where — (i) the number of dwelling/houses to be provided is 10 or more; or (ii)the development is to be carried out on a site having an area of 0.5 hectares or more and it is not known whether the development falls within sub-paragraph (c)(i); (d) the provision of a building or buildings where the floor space to be created by the development is 1,000 square metres or more; or (e)development carried out on a site having an area of 1 hectare or more;
Minimisation	Measures taken to reduce the duration, intensity and/or extent of impacts (including direct, indirect and cumulative impacts, as appropriate) that cannot be completely avoided, as far as is practically feasible. This is also sometimes called mitigation.
Natural Capital	Natural capital is our 'stock' of waters, land, air, species, minerals and oceans. This stock underpins our economy by producing value for people, both directly and indirectly. Goods and services provided by natural capital are referred to as ecosystem services, and include clean air and water, food, energy, wildlife, recreation and protection from hazards. http://www.naturalcapitalcommittee.org/natural-capital/
Nature improvement areas (NIA)	Inter-connected networks of wildlife habitats intended to re-establish thriving wildlife populations and help species respond to the challenges of climate change.
The mitigation hierarchy	The Mitigation Hierarchy is defined as a set of sequential steps to first avoid, then minimise, and then compensate for impacts to biodiversity.

Appendix A - Greater Manchester Strategies and Links to Biodiversity Net Gain

Greater Manchester Strategies and Links to Biodiversity Net Gain

The Greater Manchester Strategy 'Our People Our Place' provides important strategic context for managing and enhancing the natural environment, including an ambition to make Greater Manchester one of Europe's leading green cities - one of ten strategic priorities in the Strategy. The Springboard report sets out Greater Manchester's Green Summit resolution to accelerate Greater Manchester's green ambitions, including the development of a Natural Capital Investment Plan for the city region.

Although the Greater Manchester Spatial Framework has halted, work is underway to explore a joint plan of nine local authorities of Greater Manchester (excluding Stockport). A joint local plan of nine authorities is likely to perform a similar function as the GMSF intended to, but will focus on nine districts instead of 10. Therefore a new joint plan will provide the land for jobs and new homes, ensure that the right land is available in the right places to deliver the homes and jobs and will identify the new infrastructure needed to achieve this, including green and blue infrastructure. It will also seek to enhance and protect the quality of the natural environment, conserve wildlife and tackle flood risks, to accommodate growth sustainably and deliver net gain for biodiversity across the region.

The Mayor's Springboard report setting out a Green Summit Action Plan aims to accelerate Greater Manchester's green ambitions including the development and implementation of a Natural Capital Investment Plan for the city region and 5 Year Environment Plan. The Environment Plan sets a priority to deliver net gain for biodiversity for all new development and the Natural Capital Investment Plan supports this by identifying habitat banking as one of the most promising financial opportunities.

A Greater Manchester Local Nature Recovery Strategy is also being developed and once is in place at the relevant GM LPA scale or for Greater Manchester as a whole, this will be used to determine the biodiversity and spatial priorities for off-site biodiversity gains outside the development boundary. Working with partners, GMCA is also supporting the establishment of the Greater Manchester Environment Fund which will be a centralised investment vehicle to provide funding and support to habitat creation and restoration projects across Greater Manchester, taking advantage of the new market arising from emerging biodiversity net gain (“BNG”) policy. The development of the Greater Manchester Environment Fund has been

informed by an Investment Strategy building on opportunities identified in the Natural Capital Investment Plan.

Natural England has completed a new ecological network tool for wetlands and woodlands in Northwest England. It can provide an evidence base for prioritising off-site Biodiversity Net Gain opportunities and contribute to the evidence base for the development of Local Nature Recovery Strategies.

The Ecosystem Services Opportunity mapping shows ecosystem services opportunity areas across the whole of Greater Manchester. This dataset is the first city region-wide ecosystem services opportunity assessment.

Delivery of Biodiversity Net Gain should aim to contribute towards the delivery of national, regional (Greater Manchester) and local (local planning authority) biodiversity priorities.

National priorities are set out in the National Character Area profiles[3], the protected sites[4] (for example, Sites of Special Scientific Interest) and the list of Habitats and Species of Principle Importance[5] (also called Priority Habitats and Species).Within Greater Manchester Strategic Opportunity Areas for the Improvement of Green and Blue Infrastructure for the enhanced delivery of Ecosystem Services have been identified and mapped.

Alongside the Green and Blue Infrastructure of the urban areas, there are particular areas of focus for the development of ecological networks and natural capital assets that deliver important ecosystem services. This includes the Greater Manchester Wetlands Nature Improvement Area (NIA), the uplands of the South and West Pennines, the river valleys and large areas of woodland and contributing to the delivery of the Trees and Woodland Strategy, which identifies where opportunities for tree planting can be found across the region. It will be important to ensure that Biodiversity Net Gain delivers benefits at these larger spatial scales wherever possible, including through better management of existing assets as well as creation and enhancement.

The priorities identified by the local planning authority should be also be considered. These priorities could be set out in Local Plans and/or local Green Infrastructure or biodiversity strategies and will include the Local Wildlife Sites.

Linking Biodiversity Net Gain with delivery of built infrastructure will also be important to maximise the opportunities afforded by development. Transport organisations in particular are important partners to ensure that the natural environment is enhanced through the emerging transport plans and strategies, for example, Transport Strategy for the North, Greater Manchester Transport Strategy 2040.

[3] https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making

[4] http://jncc.defra.gov.uk/page-4

[5] http://jncc.defra.gov.uk/page-5717

Table 0-4 – List of local strategies setting out the relationship with Biodiversity Net Gain

Strategy	What it is	Relationship with Biodiversity Net Gain
Greater Manchester Strategy – Our People, Our Place	Sets out the ambitions for the future of our city-region. 'Greater Manchester will be a national leader in protecting and strengthening the natural Environment.'	Sets ambitions to create a green city for all.
Greater Manchester 5 Year Environment Plan	Sets out the vision and 5-year delivery plan to lead Greater Manchester towards a greener and carbon neutral city region.	Includes production of Biodiversity Net Gain Guidance as a key priority for action.
Greater Manchester Local Nature Recovery Strategy	Greater Manchester's Local Nature Recovery Plan which clearly sets out the vision and priorities for nature's recovery and the practical actions needed to restore declining species and habitats.	Once in place at the relevant GM LPA scale or for Greater Manchester as a whole, this will be used to determine the biodiversity and spatial priorities for off-site biodiversity gains outside the development boundary.
Greater Manchester Natural Capital Investment Plan	Provides process for Habitat Banking.	Provides the framework for using habitat banks and compensation sites.
Greater Manchester Environment Fund Investment Strategy	A centralised investment vehicle to provide funding and support to habitat creation and restoration projects across Greater Manchester.	The proposed "Habitat Bank Facility" is intended to attract repayable finance to create and restore habitats at a city region scale while providing verified BNG credits to developers.
Trees and Woodland Strategy	Identifies the priority places for tree planting across the region.	Used to inform the habitat compensation put in place.
Climate change and Low Emissions Implementation Plan	Sets targets for cutting carbon emissions and achieving air quality thresholds.	Using the Trees and Woodland Strategy, the Woodland and Peatland Carbon Codes and the ESS Opportunity Map the biodiversity compensation should aim to capture carbon and improve air quality.
Greater Manchester Visitor Economy	Aims to enhance the economy by increasing visitors to the region.	Biodiversity compensation should be delivered in a way that helps to create great places for people enhancing the quality of the region.

Air Quality Action Plan	Sets targets achieving air quality thresholds.	Using the Trees and Woodland Strategy and the ESS Opportunity Map the biodiversity compensation should aim to improve air quality.
Greater Manchester Transport Strategy 2040	Sets out long-term proposals to create a cleaner, greener, more prosperous city region through better connections and simpler travel.	The biodiversity compensation delivered through Biodiversity Net Gain should enhance transport routes where ever possible, for example, creating green cycle ways for commuters.

Table 0-5 – List of strategic mapped data used to inform Biodiversity Net Gain

Strategic Area	What it is	Relationship with Biodiversity Net Gain
Greater Manchester Strategic Priority and Opportunity Areas for the Improvement of Green and Blue Infrastructure for the enhanced delivery of Ecosystem Services	Identifies priorities areas for habitat creation and enhancement within Greater Manchester.	Used to inform the Biodiversity Net Gain calculations and where biodiversity compensation should be put in place.
Cheshire to Lancashire Ecological Network Modelling Tool	Models wetland and woodland habitat networks across Cheshire to South Lancashire and highlights priorities for biodiversity and nature-based solutions.	Provides an evidence base for prioritising off-site Biodiversity Net Gain opportunities.
Ecosystem Services Opportunity Mapping	Identifies ecosystem services that could be provided in the area by specific habitats.	Used to inform the habitat compensation put in place in order to increase the required ecosystem services for any area of habitat compensation or enhancement.
Greater Manchester Wetlands Nature Improvement Area (NIA)		Used to inform the habitat compensation put in place.

Appendix B – Report Template

BIODIVERSITY NET GAIN ASSESSMENT

EXECUTIVE SUMMARY

Proposed Works

Biodiversity Impacts

INTRODUCTION

Background of Project

Aims of the Report

METHODOLOGY

Include:

- Details of steps taken,
- Version of metric used,
- Data source used, for example, extent of works, habitat survey plan, landscape plan (including version numbers)
- Any assumptions made on condition of habitats, if not measured at the time of survey.
- Any departures from the standard methodology (as identified in the most up-to-date guidelines from Natural England/Defra) for calculating the site baseline and post development. *Do not repeat details of the standard methodology unnecessarily.*
- Justify any selection of options under strategic significance and spatial risk factor

RESULTS

Results should be reported separately for each habitat of high distinctiveness and other broad habitat types should be grouped together, for example, grassland habitats reported separately from woodlands.

Impacts on Irreplaceable habitats must be reported separately.

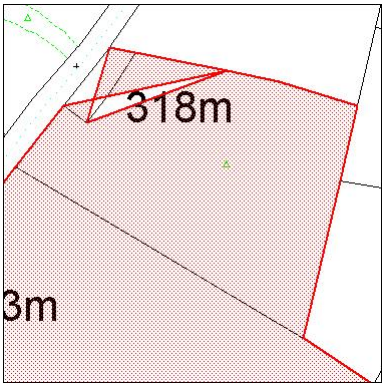
Where off-site net gain is required full details for either the proposed off-site location should be provided or the habitat bank to be used and the type and number of credits required.

CONCLUSIONS

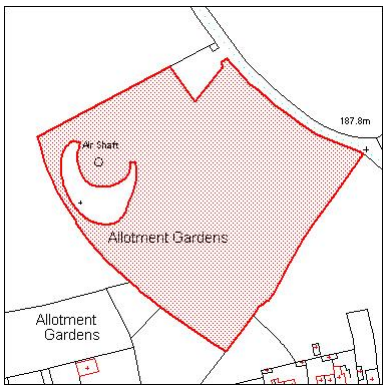
Appendix C - GIS Requirements

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/polylines.
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

Field Name	Type and Length	Explanation of the entry/text required
Unique_Parcel_ID	Character (10)	Use a site code and number unique to the site. Do not use just 1,2,3
Project_Name	Character (250)	Name of the project
District	Character (10)	The name of the local planning authority that the polygon falls within, for example, Manchester, Salford
Habitat	Character (250)	UK Habitat Classification habitat type OR Phase One habitat type. Do not use different classification systems on the same project.
Source	Character (250)	Source of data, for example, from Phase 1 survey, aerial photography
Irreplaceable_Habitat	Logical	Is the habitat classed as irreplaceable Y/N
Type_of_Irreplaceable_Habitat	Character (250)	For example, ancient semi-natural woodland (ASNW)
Area_ha	Decimal (20,3)	Area in hectares of habitats/polygons. 3 decimal places is maximum required
Length_m	Decimal (20.3)	For lines/polylines of hedgerows and water course
Baseline_Condition	Character	Use condition type taken from most up to date DEFRA metric
Survey_Date	Date	DD/MM/YYYY
Consultancy	Character (250)	Name of the ecological consultancy who undertook the survey

Post Development

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

Field Name	Type and Length	Explanation of the entry/text required
Unique_Parcel_ID	Character (10)	This should match the ID used in the Baseline table
Project_Name	Character (250)	Name of the project
District	Character (10)	The name of the local planning authority that the polygon falls within, for example, Manchester, Salford
Habitat	Character (250)	UK Habitat Classification habitat type OR Phase One habitat type. Do not use different classification systems on the same project.
Area_ha	Decimal (20,3)	Area in hectares of habitats/polygons. 3 decimal places is maximum required
Length_m	Decimal (20.3)	For lines/polylines of hedgerows and water course
Target_Condition	Character (250)	Use condition type taken from most up to date DEFRA metric
Start_Date	Date	DD/MM/YYYY – Start date for habitat restoration or creation works
Completion_date	Date	DD/MM/YYYY – Date target condition should be reached for the particular habitat.
Consultancy	Character (250)	Name of the ecological consultancy who undertook the survey

Appendix D – Management Plan Template

Site name		**Location (grid reference)**	
Organisation responsible for management			
Date management started		**Date this plan was last updated**	

Habitat parcel	**Area (ha) / length (Km)**	**Starting habitat type**	**Starting distinctiveness**	**Starting condition**	**Target habitat type**	**Target distinctiveness**	**Target condition**
1. example		B4 – improved grassland	Low (2)	Poor (1)	Semi improved grassland	Medium (4)	Moderate (2)

Present habitat type	**Present distinctives**	**Present condition**	**Time remaining to target condition**	**Management actions required**
Semi Improved grassland	Medium (4)	Poor (1)	5 years	- Summer hay cut and the cut in autumn. - Seeding with yellow rattle and native meadow species