

Caerphilly County Borough
2nd Replacement Local Development Plan 2020-2035

EB38: Green Infrastructure Assessment: Technical Methodology

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INTRODUCTION

This method statement sets out the adopted approach for undertaking the Green and Blue Infrastructure Assessment (GIA) which has been published to support the Deposit Plan as part of the 2nd Replacement Local Development Plan (2RLDP).

It outlines the national planning policy and guidance framework that underpins the assessment, including the requirements of Future Wales: The National Plan 2040, Planning Policy Wales, and Natural Resources Wales (NRW) guidance on Green Infrastructure Assessments (GIAs).

Together, these documents promote a strategic, evidence-led approach to understanding, protecting and enhancing Green and Blue Infrastructure (GBI) networks as an integral part of sustainable placemaking, ecosystem resilience and climate adaptation.

The statement also describes the assessment approach adopted, including the process used to identify, map and evaluate GBI features, functions, constraints and opportunities across the County Borough.

This comprises a spatial analysis of the best available datasets for environmental, landscape, recreational and ecological features to establish a robust evidence base and identify opportunities for the protection, enhancement and expansion of GBI networks.

Finally, the statement details the data sources used within the assessment, including national, regional and local datasets, together with the methods employed for GIS mapping and analysis.

The resulting evidence base provides a consistent and transparent framework for assessing the quality, distribution and connectivity of GBI features and for informing future planning policy, site allocations and development management decisions.

POLICY CONTEXT

Planning Policy Wales (PPW) Edition 12 (2024)

PPW requires GIAs to provide a comprehensive understanding of existing GBI assets, networks and functions within the County Borough. Assessments should identify and map key GBI features, evaluate their condition, connectivity and multifunctional benefits, and consider their contribution to biodiversity, ecosystem resilience, climate adaptation, flood management, landscape quality, recreation and health and well-being.

The assessment should also identify the pressures affecting these assets and the opportunities available to protect, enhance, restore and expand GBI networks. In doing so, GIAs provide a strategic evidence base to inform development plans, site allocations and development management decisions, ensuring that green infrastructure is integrated into placemaking and contributes to the

sustainable management of natural resources.

Future Wales, the National Plan (up to 2040)

Future Wales promotes a strategic and proactive approach to GBI, recognising its importance in delivering sustainable placemaking, climate resilience, ecosystem recovery and community wellbeing.

Although it does not prescribe a detailed GIA methodology, it supports the preparation of robust, map-based evidence that identifies existing green infrastructure assets, ecological networks, opportunities and constraints.

GIAs are therefore intended to provide a spatial evidence base that informs development plans and investment decisions, ensuring that growth contributes to the protection, enhancement and connectivity of GBI networks and supports wider environmental, economic, social and cultural objectives across Wales.

EXISTING GUIDANCE

Guidance Note 42: Green Infrastructure Assessments (2021)

Guidance Note 42: Green Infrastructure Assessments proposes a strategic, evidence-led and spatially based approach when undertaking a GIA. The guidance emphasises that GBI should be considered as a multifunctional network of natural and semi-natural features that deliver a wide range of environmental, economic, social and cultural benefits.

Rather than focusing solely on biodiversity or open space provision, a GIA should evaluate how GBI contributes to biodiversity and ecosystem resilience, climate adaptation and mitigation, flood management, health and wellbeing, active travel, recreation and landscape quality.

Baseline Review

The recommended starting point is the establishment of a comprehensive baseline assessment. This involves collating and mapping existing green infrastructure features and ecological networks using the best available evidence, including national datasets, local authority information, environmental designations, and landscape resources.

The assessment should be based on Geographic Information Systems (GIS) wherever possible, enabling a clear understanding of the distribution, condition and connectivity of GBI throughout the County Borough. Such an evidence base provides the foundation for informed planning and decision-making.

Threats and Challenges

Once the baseline has been established, the assessment should identify the key environmental, social, economic and cultural challenges affecting the County Borough. These may include a range of issues such habitat fragmentation, biodiversity loss, flood risk, climate change impacts, deficiencies in green space provision

and barriers to public access. Understanding these pressures enables the assessment to move beyond a simple inventory of assets and towards a more strategic consideration of how GBI can address local needs and contribute to wider sustainability objectives.

Opportunities

A central component of the NRW methodology is the identification of opportunities for enhancement. The guidance promotes a proactive and place-based approach that seeks opportunities to strengthen ecological networks, improve habitat connectivity, enhance climate resilience, increase access to nature and deliver multiple benefits through targeted GBI interventions.

These opportunities should be spatially mapped and linked to local priorities, ensuring that investment and policy interventions are directed towards areas where they can achieve the greatest benefit.

Site Assessment

Building on the evidence collected through the preceding stages of the assessment, consideration should be given to the GBI features present within and surrounding proposed development sites. This should include an evaluation of the most important ecological, landscape, hydrological and recreational features, together with an assessment of the principal threats and pressures affecting these areas.

Particular attention should be paid to opportunities for avoiding adverse impacts, maintaining existing GBI functions, and securing enhancements that contribute to the long-term resilience and multifunctionality of the GBI network.

In addition to this strategic assessment, it is important to undertake a more detailed, site-specific evaluation of opportunities for the protection, enhancement and integration of GBI within future development proposals. Such an approach enables opportunities for GBI enhancement to be identified at an early stage, ensuring that development contributes positively to ecological networks, landscape character, natural resource management and the delivery of multiple environmental and community benefits.

Monitoring and Review

Monitoring and review are also important elements of the process, ensuring that GBI interventions remain effective and continue to contribute towards long-term environmental resilience and sustainable development objectives. GIAs should therefore be reviewed every few years, this includes updating the baseline data and reviewing threats and opportunities.

ADOPTED METHODS

Based on the existing guidance provided by NRW and the requirements set out within PPW and Future Wales. The Council undertook its GIA based on the following stages.

- ***Baseline Review*****:** A review of the existing GBI features within the County Borough, using national and local datasets, which have been analysed using GIS and mapped. These resulting supporting maps (SM) have been published in ***EB36: Green Infrastructure Assessment Supporting Maps.***

- ***Threats and Challenges*****:** the report identifies the main threats and challenges facing the County Borough at the strategic and local levels. These include climate change, ecological decline, pollution, agricultural intensification, land use change, and invasive non-native species.

- ***Opportunities:*** the report identifies the areas of the County Borough where nature-based solutions can provide opportunities to enhance the existing GBI network.

- ***Site Assessment:*** The report details how development sites must take a nature-based approach to identify important areas that have an important GBI function, and how they should be incorporated into any development design from the outset, to enhance the GBI network.

- ***Monitoring and Review:*** the report will be reviewed and updated regularly to allow for new and updated datasets to be considered.

SUPPORTING DATA AND INFORMATION

The GIA has drawn on a range of spatial data from both external and internal sources. All datasets were mapped using GIS system QGIS.

The following tables provide an overview of spatial data which has been used to inform the GIA from external sources. Datasets not listed were part of information already held by the Local Authority. This applies to datasets such as the County Borough boundary, Adopted Local Development Plan (LDP), 2RLDP, and other information held by departments such as parks, countryside, highways and environmental health.

Each dataset that has been mapped has a reference number (SM) in the tables below, highlighting which supporting map it has been used for and where it can be found within *EB36: Green and Blue infrastructure Assessment: Supporting Maps.*

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External Datasets

Dataset Name	***Organisation / Published***	***Source***	***Web Link (if available)***	***Supporting Map (SM)***
Ancient Woodland Inventory 2021 (Updated 2026)	*Natural Resource Wales (NRW) (July 2026)*	*DataMapWales*	*Ancient Woodland Inventory 2021 | DataMapWales*	*SM1.6, SM2.7*
Area of Outstanding Natural Beauty (AONB)	*Natural Resource Wales (NRW) (November 2022)*	*DataMapWales*	*Area of Outstanding Natural Beauty (AONB) | DataMapWales*	*SM1.5*
Built Up Areas (Wales) 2024 (Updated 2025)	*Office for National Statistics (ONS) (April 2025)*	*DataMapWales*	*Built Up Areas (Wales) 2024 | DataMapWales*	*SM1.2 – SM1.14*
Environmental Noise Mapping 2022 (Updated 2023)	*Welsh Government (WG) (August 2023)*	*DataMapWales*	*Environmental Noise Mapping 2022 | DataMapWales*	*SM1.10, SM2.13*
Flood Map for Planning (FMfP) – Rivers and Sea Zones 2 and 3	*Natural Resource Wales (NRW) (May 2026)*	*DataMapWales*	*Flood Map for Planning Flood Zones 2 and 3 | DataMapWales*	*SM2.16*
Flood Map for Planning (FMfP) – Rivers Zones 2 and 3	*Natural Resource Wales (NRW) (May 2026)*	*DataMapWales*	*Flood Map for Planning Flood Zones 2 and 3 | DataMapWales*	*SM2.16*
Flood Map for Planning (FMfP) –	*Natural Resource Wales (NRW) (May 2026)*	*DataMapWales*	*Flood Map for Planning Flood Zones 2 and 3 | DataMapWales*	*SM2.17*

Surface Water and Small Watercourses Zones 2 and 3				
Flood Map for Planning (FMfP) TAN15 Defended Zones	*Natural Resource Wales (NRW) (May 2026)*	*DataMapWales*	*Flood Map for Planning (FMfP) TAN15 Defended Zones | DataMapWales*	*SM2.16*
LANDMAP: Cultural Landscape Services	*Natural Resource Wales (NRW) (March 2026)*	*DataMapWales*	*Landmap Cultural Landscape Services | DataMapWales*	*Cited – Main Report*
LANDMAP: Geological Landscape	*Natural Resource Wales (NRW) (March 2026)*	*DataMapWales*	*LandMap Geological Landscape | DataMapWales*	*Cited – Main Report*
LANDMAP: Historic Landscape	*Natural Resource Wales (NRW) (September 2024)*	*DataMapWales*	*Landmap Historic Landscape | DataMapWales*	*SM1.5*
LANDMAP: Landscape Habitats	*Natural Resource Wales (NRW) (March 2026)*	*DataMapWales*	*Landmap Landscape Habitats | DataMapWales*	*Cited – Main Report*
LANDMAP: Visual Sensory	*Natural Resource Wales (NRW) (July 2026)*	*DataMapWales*	*Landmap Visual Sensory | DataMapWales*	*SM1.4, SM2.5*
Local Authorities (Wales Boundaries 2016)	*Ordnance Survey (OS) (August 2016)*	*DataMapWales*	*Local Authorities 2016 | DataMapWales*	*SM1.1 - SM1.14*
Local Nature Reserves (LNR)	*Natural Resource Wales (NRW) (December 2025)*	*DataMapWales*	*Local Nature Reserves (LNR) | DataMapWales*	*SM1.2, SM2.1*

Main Rivers	*Natural Resource Wales (NRW) (January 2022)*	*DataMapWales*	*Main Rivers | DataMapWales*	*SM1.13, SM2.15*
National Forest for Wales	*Natural Resource Wales (NRW) (March 2026)*	*DataMapWales*	*National Forest for Wales | DataMapWales*	*SM1.6, SM2.7*
National Forest Inventory 2020 (Updated 2022)	*Welsh Government (WG) (November 2022)*	*DataMapWales*	*National Forest Inventory 2020 | DataMapWales*	*SM1.6, SM2.7*
National Nature Reserves (NNR)	*Natural Resource Wales (NRW) (November 2022)*	*DataMapWales*	*National Nature Reserves (NNR) | DataMapWales*	*SM1.2, SM2.1*
National Parks	*Natural Resource Wales (NRW) (May 2025)*	*DataMapWales*	*National Parks | DataMapWales*	*SM1.1, SM1.5*
Open Access – Open Country	*Natural Resource Wales (NRW) (July 2016)*	*DataMapWales*	*Open Access - Open Country | DataMapWales*	*SM1.14, SM2.18*
Open Access – Other Statutory Access Land	*Natural Resource Wales (NRW) (July 2016)*	*DataMapWales*	*Open Access - Other Statutory Access Land | DataMapWales*	*SM1.14, SM2.18*
Open Access – Registered Common Land	*Natural Resource Wales (NRW) (April 2017)*	*DataMapWales*	*Open Access - Registered Common Land | DataMapWales*	*SM1.14, SM2.18*
Open Access – Other Dedicated Land	*Natural Resource Wales (NRW) (May 2026)*	*DataMapWales*	*Open Access - Other Dedicated Land | DataMapWales*	*SM1.14, SM2.18*

Open Access – Dedicated Forests	*Natural Resource Wales (NRW) (August 2026)*	*DataMapWales*	*Open Access - Dedicated Forests | DataMapWales*	*SM1.14, SM2.18*
Peatlands of Wales	*Welsh Government (WG) (April 2022)*	*DataMapWales*	*Peatlands of Wales | DataMapWales*	*SM1.3, SM2.2*
Predictive Agricultural Land Classification (ALC)	*Welsh Government (WG) (December 2019)*	*DataMapWales*	*Predictive Agricultural Land Classification (ALC) Map 2 | DataMapWales*	*SM1.7, SM2.8*
Priority Ecological Networks (PENs)	*Natural Resource Wales (NRW) (July 2026)*	*DataMapWales*	*Priority Ecological Networks (PENs) | DataMapWales*	*SM1.3, SM2.2, SM2.3, SM2.4*
RAMSAR Wetlands of International Importance	*Natural Resource Wales (NRW) (November 2022)*	*DataMapWales*	*Ramsar Wetlands of international importance | DataMapWales*	*SM1.2*
Sites of Special Scientific Interest (SSSI)	*Natural Resource Wales (NRW) (August 2026)*	*DataMapWales*	*Sites of Special Scientific Interest (SSSI) | DataMapWales*	*SM1.2, SM2.1*
Special Areas of Conservation (SAC)	*Natural Resource Wales (NRW) (November 2022)*	*DataMapWales*	*Special Areas of Conservation (SAC) | DataMapWales*	*SM1.2, SM2.1*
Special Landscape Areas (SLAs) Wales	*Natural Resource Wales (NRW) (January 2023)*	*DataMapWales*	*Special Landscape Areas Wales | DataMapWales*	*SM1.5, SM2.6*
Special Protection Areas (SPA)	*Natural Resource Wales (NRW) (November 2022)*	*DataMapWales*	*Special Protection Areas (SPA) | DataMapWales*	*SM1.2,*

Tranquil Areas Wales	*Natural Resource Wales (NRW) (June 2017)*	*DataMapWales*	*Tranquil Areas Wales | DataMapWales*	*SM1.9, SM2.12*
Tranquillity and Place - Dark Skies	*Natural Resource Wales (NRW) (April 2025)*	*DataMapWales*	*Tranquillity and Place – Dark Skies | DataMapWales*	*SM1.11, SM2.14*
Trees Outside of Woodlands	*Welsh Government (WG) (March 2026)*	*DataMapWales*	*Trees Outside of Woodlands | DataMapWales*	*SM1.6, SM2.7*
Urban Tree Cover 2018 (Updated 2023)	*Natural Resource Wales (NRW) (January 2023)*	*DataMapWales*	*Urban Tree Cover 2018 | DataMapWales*	*SM1.6, SM2.7*
Wales Boundary (High Water Mark)	*Welsh Government (WG) (December 2016)*	*DataMapWales*	*Wales (High water mark) | DataMapWales*	*SM1.1*
Water Framework Directive (WFD) River Basin Districts Cycle 2	*Natural Resource Wales (NRW) (April 2015)*	*DataMapWales*	*Water Framework Directive (WFD) River Basin Districts Cycle 2 | DataMapWales*	*SM1.12*
Water Framework Directive (WFD) River Waterbody Catchments Cycle 1	*Natural Resource Wales (NRW) (December 2013)*	*DataMapWales*	*Water Framework Directive (WFD) River Waterbody Catchments Cycle 1 | DataMapWales*	*SM2.15*
Welsh Index of Multiple Deprivation (WIMD) 2025	*Welsh Government (WG) (November 2025)*	*DataMapWales*	*Welsh Index of Multiple Deprivation (WIMD) 2025 | DataMapWales*	*SM1.8*