

Biodiversity Net Gain Plan



Biodiversity Net Gain Plan for the proposed renovation of the play area adjacent to Rudyard Lake Visitor Centre, Rudyard Reservoir, Lake Rd, Rudyard, Leek ST13 8XB,

12/11/2025

Document Control Sheet

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1. Introduction

This Biodiversity Net Gain (BNG) Plan has been prepared by Hewitt & Carr Services (HCS) on behalf of the Rudyard Lake Trust to accompany the planning submission for the proposed renovation of the Rudyard Lake Visitor Centre play area. The purpose of this report is to quantify the ecological value of the site using the Statutory Biodiversity Metric, identify opportunities for on-site enhancement, and set out a 30-year management and monitoring framework to ensure measurable biodiversity gains are achieved and sustained.

The assessment follows relevant legislation and best practice, including the Environment Act 2021, the Biodiversity Gain (Statutory Metric) Regulations 2024, the Biodiversity Gain (Planning Permission) Regulations 2024, and BS 8683: 2021 Process for designing and implementing Biodiversity Net Gain. The Plan also draws upon CIEEM, CIRIA and IEMA's Biodiversity Net Gain Good Practice Principles (2019) and the Staffordshire Moorlands Local Plan Policy NE1 (Biodiversity and Geodiversity).

1.1 Legislative and Policy Context

The Environment Act 2021 introduces a statutory requirement for developments in England to deliver a minimum of 10% measurable net gain in biodiversity value, secured for at least 30 years.

The Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 protect habitats and species of principal importance.

The Natural Environment and Rural Communities (NERC) Act 2006, Section 40, places a duty on public authorities to conserve and enhance biodiversity. Locally, the Staffordshire Moorlands District Council Local Plan (2014–2033) requires that developments conserve, restore, and enhance ecological networks and the integrity of designated sites.

2. Site Context and Development Description

The site lies at the southern end of Rudyard Lake, off Lake Road, Leek, Staffordshire. It comprises a sloping wooded bank located adjacent to the existing visitor centre car park.

To the west and northwest are ancient woodland blocks forming part of the wider Rudyard Lake woodland corridor, and to the east the site overlooks the lake margin habitats.

The play area lies immediately above a small spring-fed stream which flows downslope into Rudyard Lake.

The proposed development involves the sensitive renovation of the existing children's play area, including:

- Replacement of existing timber play equipment with new natural play structures
- Installation of bound rubber-mulch surfacing and connecting pathways
- Installation of gabion retaining baskets to stabilise the bank
- Retention and enhancement of the surrounding woodland and watercourse habitats

All works will be undertaken by hand within Root Protection Areas (RPAs), following the recommendations of the Arboricultural Impact Assessment (Hamps Valley Ltd, 2025).



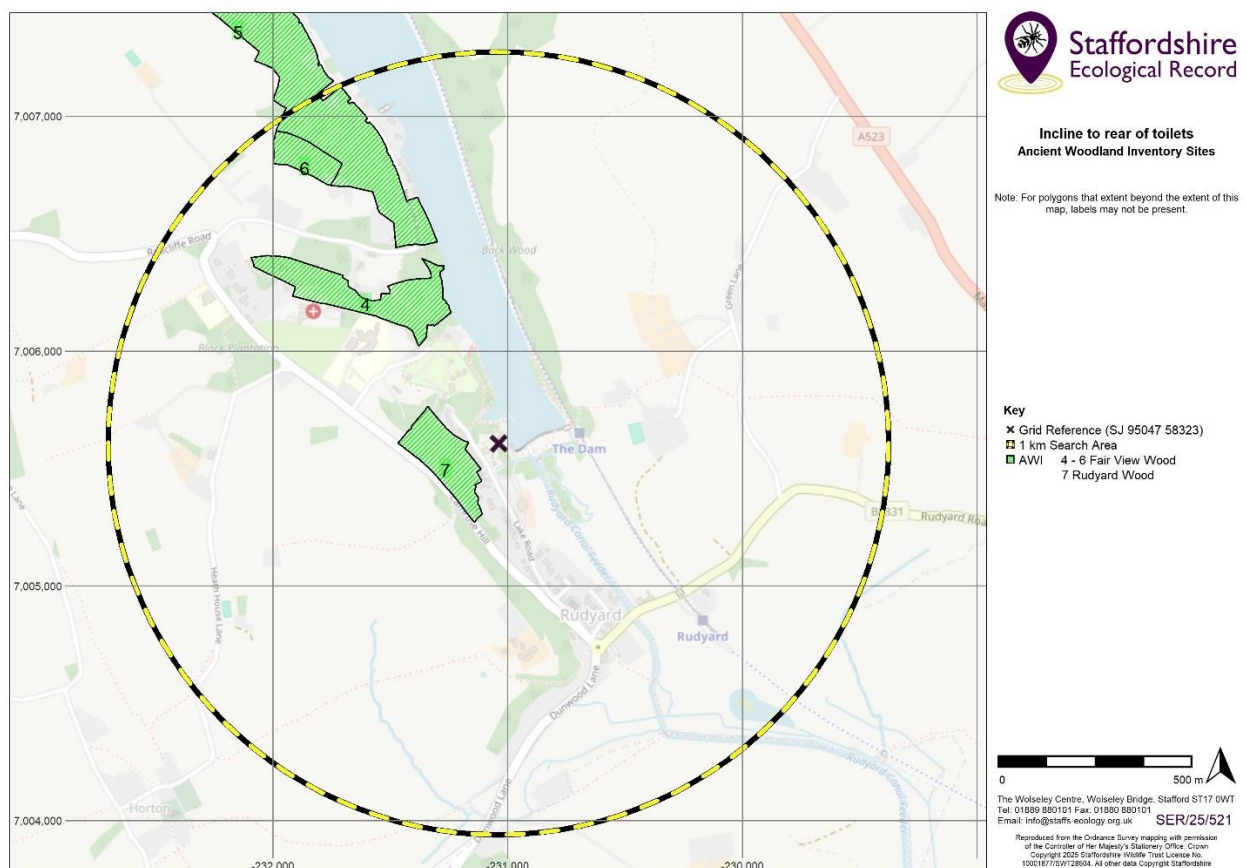
3. Desk Study and Designated Sites

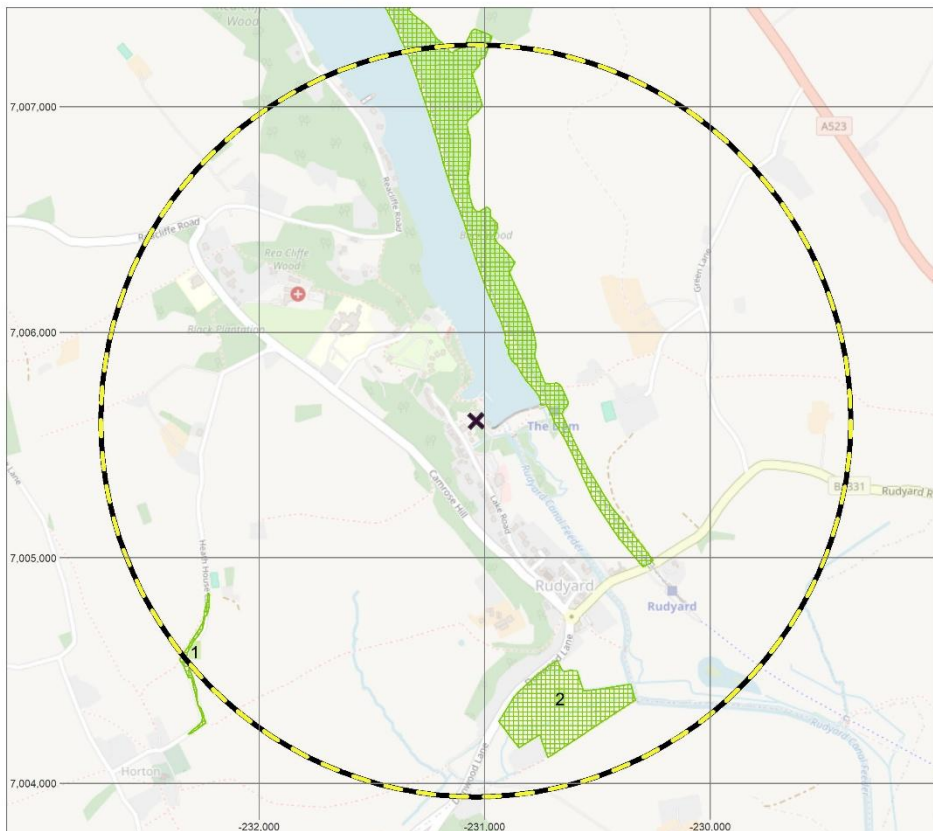
A search of the Staffordshire Ecological Record (SER/25/521) identified several nearby ecological designations and protected species records relevant to the site.

Designated Site	Status	Approx. Distance / Direction	Ecological Relevance
Rudyard Wood	Ancient Woodland (AWI)	95 m west	High ecological continuity and key bat foraging corridor
Fair View Wood	Ancient Woodland (AWI)	340 m north-northwest	Mature broadleaved canopy providing ecological connectivity
Rudyard Lake SBI (SBI 2)	Non-statutory Site of Biological Importance	180 m east	Sensitive aquatic ecosystem supporting otter, amphibians and bat foraging

Species data from SER confirm the presence of bats (*Pipistrellus pipistrellus*, *Myotis* species), otter (*Lutra lutra*), amphibians, reptiles, and a range of woodland and water-associated birds.

No statutory designations occur within the development boundary. However, given the proximity of ancient woodland and the hydrological link to Rudyard Lake, the site holds ecological importance at a local level.





Incline to rear of toilets Non-Statutory Sites

Note: For polygons that extent beyond the extent of this map, labels may not be present.

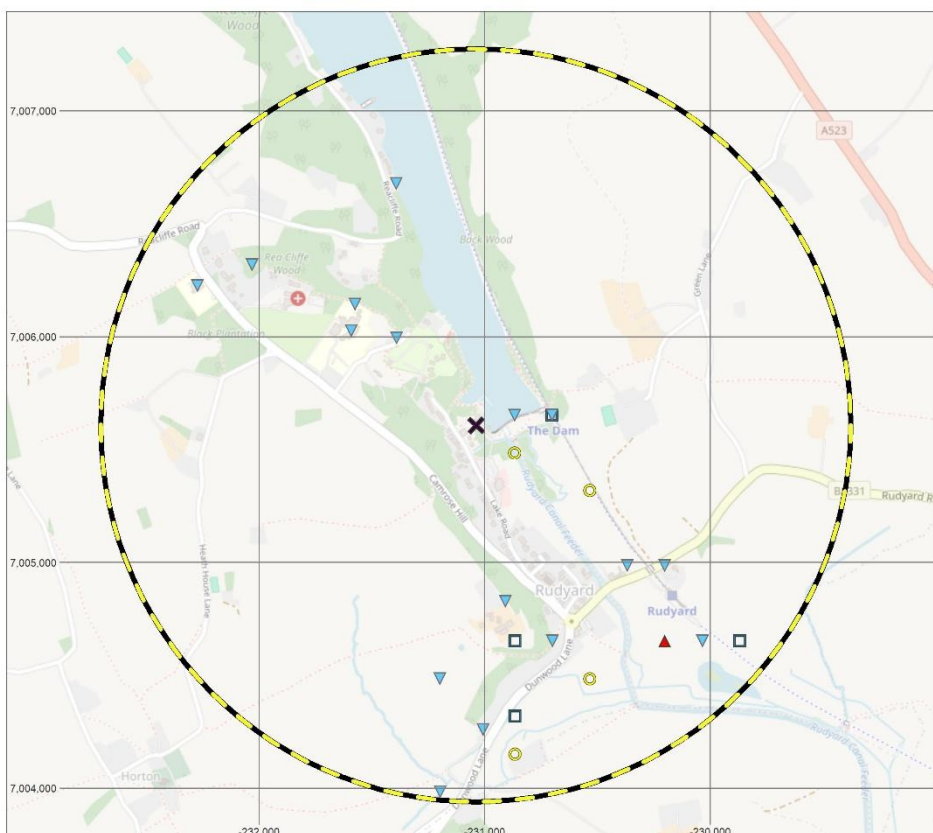
- Key**
- ✕ Grid Reference (SJ 95047 58323)
 - 1 km Search Area
 - SBI 1 95-47-26
 - SBI 2 95-57-46
 - SBI 3 96-31-75

0 500 m

The Wolsley Centre, Wolsley Bridge, Stafford ST17 0WT
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SER/25/521

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Incline to rear of toilets Protected Species

Note: Where there are multiple species records for the same grid reference, the dot for one species may obscure the dots - all species records are displayed on the accompanying spreadsheet
Badger records are excluded and only 100 m precision records are plotted.
* Excludes otherwise named species.

- Key**
- ✕ Grid Reference (SJ 95047 58323)
 - 1 km Search Area
 - ▲ Otter (*Lutra lutra*)
 - All Bat Species
 - All Bird Species
 - Amphibians & Reptiles*

0 500 m

The Wolsley Centre, Wolsley Bridge, Stafford ST17 0WT
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4. Environmental Setting

The site occupies a northeast-facing slope of approximately moderate gradient. The soils comprise loamy mineral substrates with areas of compaction due to historic play-area use.

Drainage is largely natural, with an upwelling spring at the western edge forming a shallow surface channel that empties into Rudyard Lake.

The woodland canopy provides shade and leaf litter accumulation, influencing local hydrology and soil moisture. The setting supports a natural woodland microclimate suitable for native ground flora and damp-shade fauna such as amphibians, invertebrates, and foraging bats.

5. Methodology

Habitats were classified using the UK Habitat Classification (UKHab v2.0) following a site survey conducted on 23 October 2025.

Baseline habitats were mapped using GIS referencing the Geomatic Surveys Ltd topographical drawing (03294/01). Post-development habitats were delineated using MAC Architectural drawings (1946-AL01B and 1946-AL02B).

The Statutory Metric 1.0.4 was used to calculate habitat units before and after development. Distinctiveness and condition scores followed the published metric guidance, and a realistic 10-year time-to-target was assumed for enhancements. Trading rules and spatial risk multipliers were reviewed and confirmed as satisfied.

6. Baseline Habitats

Ref	Habitat Type	Area (ha)	Distinctiveness	Condition	Strategic Significance	Units
1	Broadleaved woodland (poor)	0.0137	Medium	Poor	High	0.06
2	Broadleaved woodland (poor)	0.0352	Medium	Poor	High	0.11
3	Bare ground	0.0031	Low	Poor	Low	0.01
Total		0.0520				0.18

The baseline condition reflects a previously disturbed woodland edge with sparse understorey, limited species diversity, and localised trampling around existing play structures.



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Legend

- Boundary
- Other woodland; broadleaved
- Bare ground

Google Satellite

Client : The Rudyard Lake Trust

Project : Proposed Play Area

Title : Baseline Habitats

Date : 06/03/2026

Project No. Drawing No.
25_511 01

Rev :

7. Post-Development Habitats

Ref	Habitat Type	Area (ha)	Distinctiveness	Condition	Strategic Significance	Units
4	Artificial unsealed surface	0.0083	Very Low	Other	Low	0.00
1	Broadleaved Woodland	0.0137	Medium	Poor	High	0.06
2	Broadleaved woodland (enhanced from poor to moderate)	0.0232	Medium	Moderate	High	0.18
3-5	Bare Ground	0.0067	Low	Poor	Low	0.02
Total		0.0519				0.26

This results in a net gain of 0.03 habitat units (+11.46%), exceeding the statutory 10% minimum.



8. Mitigation and Enhancement Measures

8.1 Woodland Enhancement

The woodland will be diversified to create a three-tier canopy structure:

- Ground flora: wood anemone (*Anemone nemorosa*), dog's mercury (*Mercurialis perennis*), bluebell (*Hyacinthoides non-scripta*)
- Shrub layer: hazel (*Corylus avellana*), holly (*Ilex aquifolium*), hawthorn (*Crataegus monogyna*), dog rose (*Rosa canina*), honeysuckle (*Lonicera periclymenum*)
- Young trees: rowan (*Sorbus aucuparia*), field maple (*Acer campestre*), and goat willow (*Salix caprea*)

The layering will increase species richness, provide year-round foraging and nesting habitat, and create resilience to visitor pressure. The woodland edge will be allowed to naturalise and blend into adjacent habitats, strengthening connectivity with nearby ancient woodland.



8.2 Stream and Hydrological Stabilisation

The small spring will be planted with native hard and marginal vegetation to slow surface-water flow, prevent erosion, and filter sediment before discharging into Rudyrd Lake.

Proposed planting will include yellow flag iris (*Iris pseudacorus*), brooklime (*Veronica beccabunga*), water mint (*Mentha aquatica*), greater sedge (*Carex riparia*) and soft rush (*Juncus effusus*).

These species will provide bank stabilisation, improve water quality through natural filtration, and create habitat for amphibians and aquatic invertebrates.

Wood chips derived from felled trees will form an erosion-resistant substrate for pathways adjacent to the stream, reducing compaction and directing public access away from sensitive soil zones.

8.3 Access and Visitor Management

To prevent informal desire paths and trampling of enhanced woodland, rope-and-post barriers will define walkways, and interpretive signage will inform visitors that the area beyond is being managed for nature.

This will direct movement along designed paths and encourage public understanding of habitat protection. Regular monitoring will ensure that barriers and signage remain effective.



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Legend

- Potential Trample Zones
- Boundary
- Proposed Habitats**
- Artificial unvegetated, unsealed surface
- Other woodland; broadleaved
- Bare ground

Google Satellite

Client : The Rudyard Lake Trust

Project : Proposed Play Area

Title : Possible Areas of Footfall Damage to Proposed Ground Flora

Date : 06/03/2026

Project No. Drawing No.
25_511 01

Rev :



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Legend

- Fencing
- Boundary
- Proposed Habitats**
- Artificial unvegetated, unsealed surface
- Other woodland; broadleaved
- Bare ground

Google Satellite

Client : The Rudyard Lake Trust

Project : Proposed Play Area

Title : Reccomended Fencing Positioning

Date : 06/03/2026

Project No. Drawing No.
25_511 01

Rev :

8.4 Use of On-Site Resources

All trees felled for safety reasons will be chipped on-site for use as surfacing along the play-area pathways. This closed-loop approach avoids the import of materials, reduces erosion, and protects tree roots from compaction while promoting sustainable resource use.

Felled trunks or limbs unsuitable for chipping will be retained as standing or fallen deadwood habitat, where safe to do so.

8.5 Bats

No trees within the site contained potential roost features. Lighting levels will remain unchanged, and the risk of disturbance to foraging or commuting bats is low. Enhancement planting of flowering and fruit-bearing species such as honeysuckle, hawthorn, and goat willow will increase nocturnal insect abundance, improving bat foraging potential along the woodland edge.

8.6 Water Quality and Construction Safeguards

A Reasonable Avoidance Measures (RAMS) protocol will be followed:

- No cement or washout water to enter the stream or lake
- Silt fencing or straw bales to intercept surface runoff
- Fuel and materials to be stored on hardstanding at least 10 m from the stream
- Spill kits to always be available on site

These measures will ensure water quality in Rudyard Lake remains unaffected throughout construction and operation.

8.7 Hedgehog and Amphibian Protection

- Works will take place during daylight hours only
- Excavations will be covered or provided with escape ramps overnight
- Vegetation will be cleared gradually, allowing fauna to disperse naturally
- Hedgehogs or amphibians found will be relocated by the ecologist to the adjacent woodland cover
- Materials will be stored on pallets to prevent sheltering fauna from entrapment

8.8 Deadwood and Nest Features

Retain cut timber within shaded woodland edges to form log piles for saproxylic invertebrates.

Install three Schwegler 2F bat boxes and four small bird nest boxes on retained mature trees facing south-east to south-west.

These features will provide immediate roost and nesting opportunities within the managed woodland.

9. Governance, Monitoring and Community Engagement

The Rudyard Lake Trust will act as the responsible body for implementing and maintaining the enhancement and management measures.

A suitably qualified ecologist will provide initial supervision and will undertake periodic ecological audits at the end of the prescribed works and every 3 years thereafter to verify condition targets until year 30.

Community engagement will be encouraged through interpretive signage and educational displays near the visitor centre explaining the biodiversity improvements, woodland management, and the importance of native planting. Volunteer participation from local groups may be facilitated for understorey planting and monitoring, providing long-term stewardship and public appreciation of biodiversity.

All works will be documented through brief annual reports outlining habitat condition, maintenance undertaken, and any adaptive management recommended.

10. 30-Year Management and Monitoring Plan

Years	Objective	Management Actions	Indicators
1–5	Establishment of planting and control of trampling	Install barriers and signage; undertake woodland planting; apply mulch and woodchip; monitor vegetation survival; control bramble above 30%	80% plant survival; no erosion along paths
6–10	Develop structural diversity	Selective thinning; maintain deadwood; replant gaps; monitor use of boxes	Clear shrub and canopy layering; increased faunal presence
11–20	Maintain moderate condition woodland	Periodic understorey replanting; monitor canopy health; invasive control	Stable canopy cover above 70%; plant diversity maintained
21–30	Long-term sustainability	Ecological audits every 3 years; adapt management if condition declines	Net gain $\geq 10\%$ retained; habitats functioning as intended

11. Conclusions

The Rudyard Lake Play Area proposals represent a sensitive redevelopment within an existing recreational footprint adjacent to ancient woodland and Rudyard Lake. No significant habitat loss or disturbance to protected species will occur.

The combination of woodland diversification, stream planting, trampling control, sustainable material use and long-term management delivers a measurable biodiversity uplift of 43.88% area habitat units, substantially exceeding statutory requirements.

The management plan ensures the enhancements are sustained for 30 years, securing ecological resilience, improved water quality, and enhanced visitor engagement with nature in accordance with the Environment Act 2021 and Staffordshire Moorlands Local Plan Policy NE1.