



Landscape Management Plan

Biodiversity Action Plan, 3rd Edition

2024-2029

Document record		
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Executive Summary

The campus of Brunel University of London covers around 80 hectares of land which is sub divided into seven sites with different configuration of green space, river, buildings, sports facilities, parking, roads and pathways. This document is the third edition of the Biodiversity Action Plan and forms part of the Landscape Management Plan supporting the maintenance of the green infrastructure across campus covering landscape, habitats and outdoor sports facilities. The key aims are:

- It is planned going forward to conduct further habitat surveys using the JNCC Phase 1 habitat survey guidance as a baseline for management planning.
- To produce proposals for improving the biodiversity on campus through building and landscape development projects where appropriate.
- Further species surveys to be carried out across the sites, create action plans for the enhancement and protection of key identified species.
- To meet the legislative requirements set out in '*Biodiversity 2020: A strategy for England's wildlife and ecosystem services*' Defra.
- *The Environment Act 2021 introduced a mandatory Biodiversity Net Gain (BNG) requirement for developments in England. This legislation mandates that developers ensure habitats for wildlife are enhanced and left in a measurably better state than they were pre-development.*
- To actively promote engagement with students, staff and relevant civil societies in the protection and enhancement of biodiversity.
- To meet legal obligations and compliance set out in key legislation.

To align with the London Environment Strategy - introduced by Mayor Sadiq Khan, emphasises the enhancement of green infrastructure to make over half of London green by 2050



Introduction

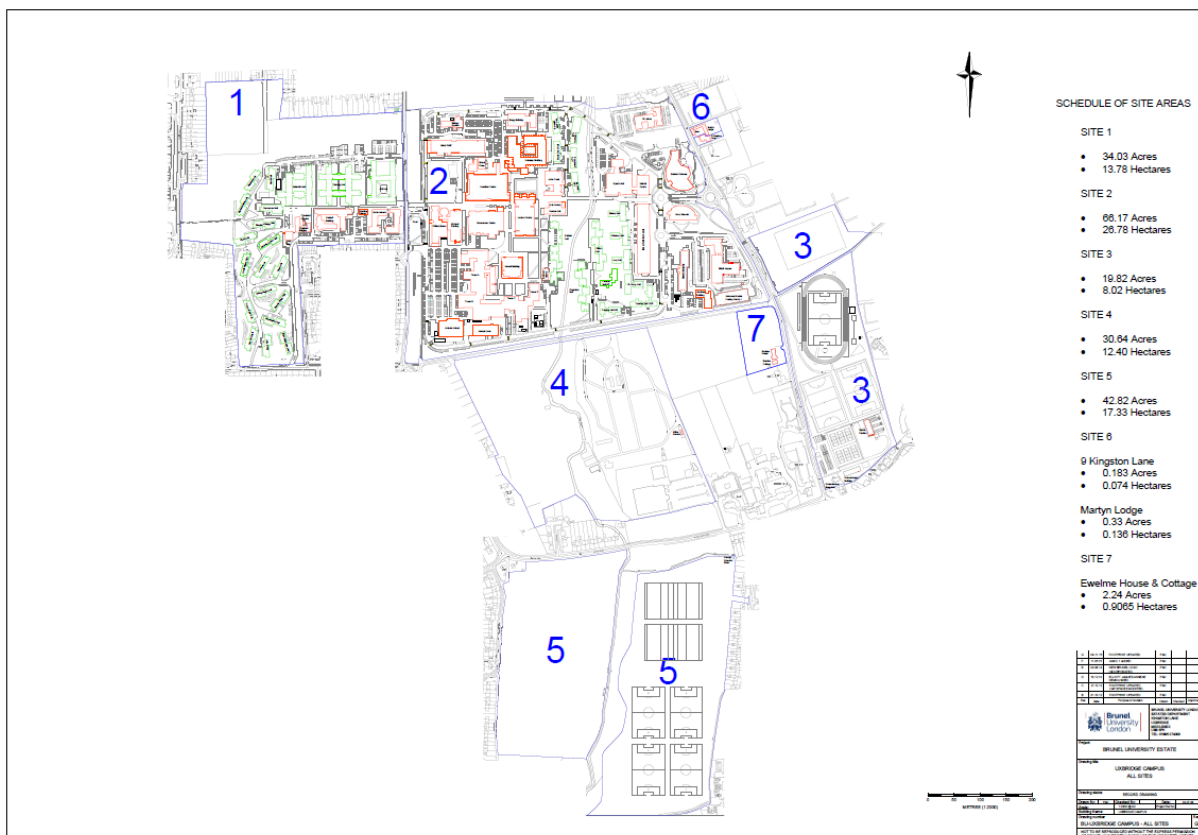
The term "Biodiversity" is normally used to describe the variety of life that exists on earth.

Biodiversity includes all animals, plants and micro-organisms which interact together in ever more complex ways to produce ecosystems full of life.

As such, biodiversity is everywhere – in our countryside, our farms, our parks and woodlands, in our cities, in the places in which we work, and right here on our campus! We ourselves form part of the vast biodiversity of this planet, and we can have a major impact on its protection and survival.

The Convention on Biological Diversity (CBD) officially defines biodiversity as:

"The variability among living organisms from all sources including terrestrial, marine and other aquatic ecosystems, and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems."



Review of Brunel University of London Biodiversity Action Plan 2018-2023

The 2018-2023 Biodiversity Action Plan was developed to ensure the University continued to meet legislative requirements and its biodiversity obligations while fostering greater awareness among staff, students, the general public, and other stakeholders. As we transition to the third action plan, this review allows us to evaluate the successes and challenges of previous actions, identify opportunities for improvement, and align with evolving environmental priorities and strategies. The plan remains integral to the University's ISO: 14001 certification, which we are proud to uphold. Key actions and projects from the second plan are outlined below, along with a brief description of their outcomes and impact.

Surveys

A Phase 1 habitat survey carried out across all seven sites formed a baseline from which a management plan could be written. Key areas identified where improvements could be made to enhance biodiversity especially on site one and two, the most densely populated areas.

– A new comprehensive tree survey was conducted across all campus sites in 2024, carried out across campus using an Arboricultural consultant, the Visual Tree Assessment method (VTA) was used including health and safety duty of care. Resulting in the development of a detailed five-year action plan to guide future care and management.

Bird surveys carried out at key times during the year using student volunteers and members of Brunel Wildlife and Environment Conservation Society (BWECS).

Ongoing badger surveys have and will be carried out across the University campus, findings logged and recorded for space management and future development needs.

Bat field surveys carried out and data logged with The London Bat Group. Brunel University of London is part of the National Bat Monitoring Programme.

Butterflies, stag beetle, dragonflies, damselflies and hedgehog surveys carried out using student volunteers and through BWECS.

area and seating have been added to encourage community use and relaxation.

Landscape Management

Site one meadows are cut to ensure buffer zones have been created in identified areas to increase habitat for various insects. New wildflower areas are maintained at Mary Seacole and the meadows to encourage bees and other pollinating insects.

Benjamin Zephaniah Square - New shrub beds and a living wall now enhance biodiversity and provide habitats. Extra trees and expanded grass areas benefit from a pop-up irrigation system, which also supports some bedded trees. A large, paved

Control of invasive species along the river has been carried out under agreement with the Environment Agency year on year.

Floating reed beds and plantings continue to be maintained in the pond, which serves as a habitat haven for zooplankton. This aids control of certain types of algae & will also provide breeding areas for dragonflies

Student Engagement

There have been a number of projects that have been carried out engaging students as volunteers or through the Student Union and Societies. These include help with several surveys across campus collecting data, bulb planting sessions working with the Grounds Department.

A local bee keeping group maintain bee hives on site. A bat detecting training course have and will be run through the Bat Conservation Trust where students learned bat ecology and how to use recording software.

Geology and soils

The area is underlain by glacial gravel existing on London clay. The gravel is covered by a layer of river-brick earth. The soil is compacted and can be vulnerable to summer drought. Topsoil for the new landscaped areas should have been graded to BS 3882 'General Purpose' however this varies considerably in quality depending on the project and in many cases is more 'economy grade'. Depth of top soil also appears to have been ignored in places with depths well below 150mm making healthy

Vegetation

1. Trees



The University has a responsibility for maintaining its establishment difficult in some areas. Various types of mulches are used including graded bark in various sizes and landscape grade mulch –a product which is produced from the green waste material that has been processed through an open windrow system by an external company and a screened product brought back in specified grades meeting PAS 100 certification.

Tree population from both a biodiversity and health and safety perspective. This is done by carrying out, with an arboricultural consultant, a tree survey using the Visual Tree Assessment method (VTA) and various tools to ascertain the health of a tree. This survey also covers recommendations of any work that may be required to keep the trees in a safe condition. Trees are dynamic living organisms which can be affected by external stresses as well as biological and non-biological influences therefore they are regularly inspected and assessed for risk, this is carried out everywhere there are high risk trees identified, they are managed and re-assessed annually. The University campus has in excess of over 2500 trees of which are surveyed on campus wide. In the more densely populated areas and where the risks are higher an action plan is in place to manage these. The canopy tree species are predominately various Maple, Ash, Willow, Birch, with a few oaks dotted across the sites.



2. Grasslands

There are a number of different grassland types across the campus which can be categorised as;

(i) Neutral grassland-Typically enclosed and intensively managed encompassing a wide range of communities occurring on neutral soils. E.g. hay meadow.

(ii) Amenity grassland- Comprising of intensively managed and regularly mown grass typical of lawns and sports pitches.

(iii) Semi improved grassland- a transition category made up of grassland which have been altered by artificial fertilisers, intensive grazing herbicides or drainage.

3. Scrub

Scrub is climax vegetation dominated locally by native shrubs usually less than 5m tall, possibly with a few scattered trees mixed through the area.

4. Bracken

These are areas dominated by *Pteridium aquilinum* or with scattered patches of this species.

5. Tall ruderal

This comprises of stands usually more than 25cm high of perennial or biennial dicotyledons.

6. Running water

This covers rivers and streams-the River Pinn flows through the campus from site 2 through to site 5 with mixed vegetation on the banks.

7. Standing water

This covers the ponds on campus located in site 2.

8. Ephemeral/short perennial

Short patchy plant associations typical of derelict urban sites, the land tends to be free draining and usually shallow stony soil. Normally there is no clear dominant species but consists of a mixture of low growing plants.

9. Hedgerow with trees

Usually, native mix with trees growing within the hedgerow.

Continue cutting regime to support wild flower diversity and early season pollinator feeding, and to incorporate a plan for leaf pile management as winter shelter for insects.

Key Biodiversity work

Site 1

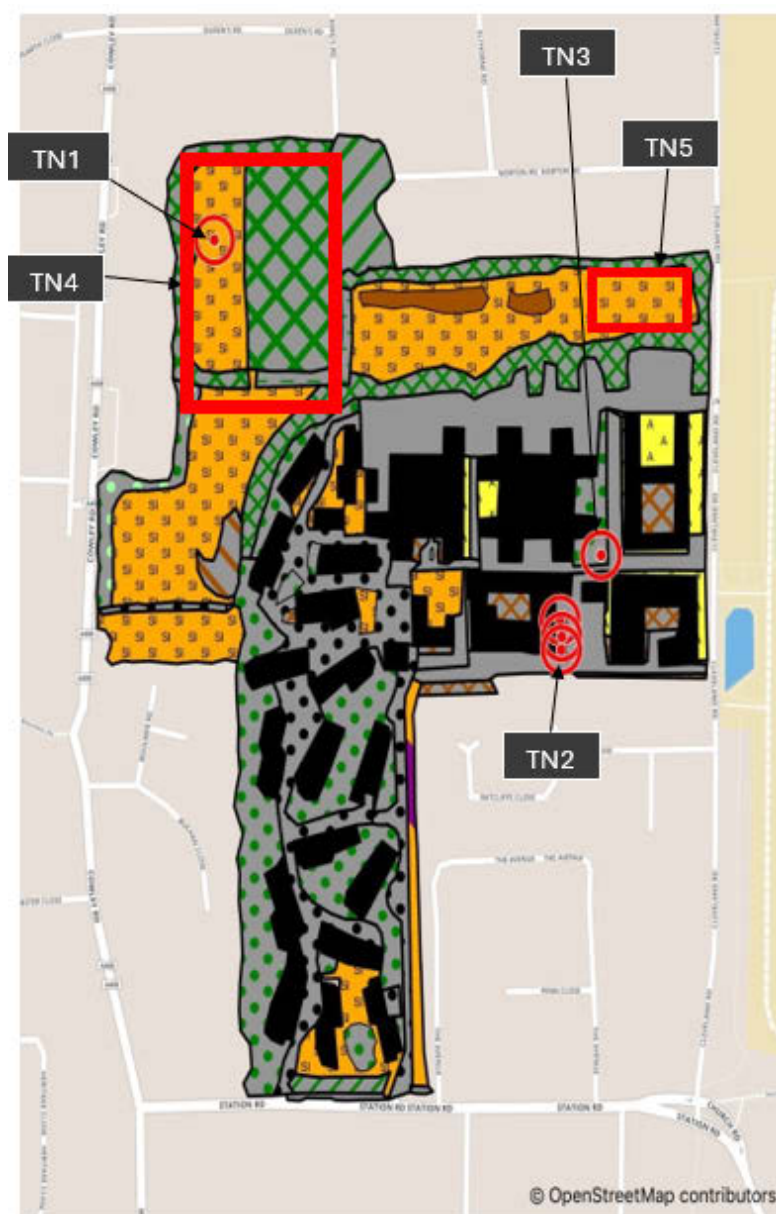
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To continue to increase the diversity across the site especially in the meadow areas along the north and east sides by:

- Reinforcing a green edge and strengthening the boundary to Cowley Road. (Paul to confirm)
- Develop even greater diversity in the species mix in the grassland areas where feasible.
- To re-introduce features such as a bug hotel in identified areas.
- To increase the number of bat and bird boxes in key locations across the site.
- Maintain buffer areas along margins around the mixed hedgerows giving structural diversity.



Site 1



Polygons

	A1.1.2	Broadleaved woodland - plantation
	A2.1	Scrub - dense/continuous
	A3.1	Broadleaved Parkland/ scattered trees
	A3.3	Mixed Parkland/ scattered trees
	B2.2	Neutral grassland - semi-improved
	B5	Marsh/marshy grassland
	C1.1	Bracken - continuous
	C3.1	Other tall herb and fern - ruderal
	J1.2	Cultivated/disturbed land - amenity grassland
	J1.4	Introduced shrub
	J2.1.2	Intact hedge - species-poor
	J2.2.2	Defunct hedge - species-poor
	J3.6	Buildings
	J4	Bare ground
	J5	Other habitat

TN 1

Wildflower meadow-see separate list

Crataegus monogyna (Hawthorn) - DAFOR: Dominant

TN 2

Robinia pseudoacacia 'Frisia'-non-native look at replacing as failure and dieback a concern

TN 3

Tibetan cherry *Prunus serrula*- Non-native monitor with a view to phasing out as they decline, replace with native species

Prunus spinosa (Blackthorn) - DAFOR: Abundant
Rosa spp. (Rose) - DAFOR: Frequent
Rubus fruticosus agg. (Brambles) - DAFOR: Frequent
Salix caprea (Goat Willow) - DAFOR: Frequent

TN 4

This area will be surveyed for suitability to site a solar facility. Pollinator friendly planting will be established under the solar arrays if constructed.

TN 5

Proposed location for soil health experimentation facility.

Site 2

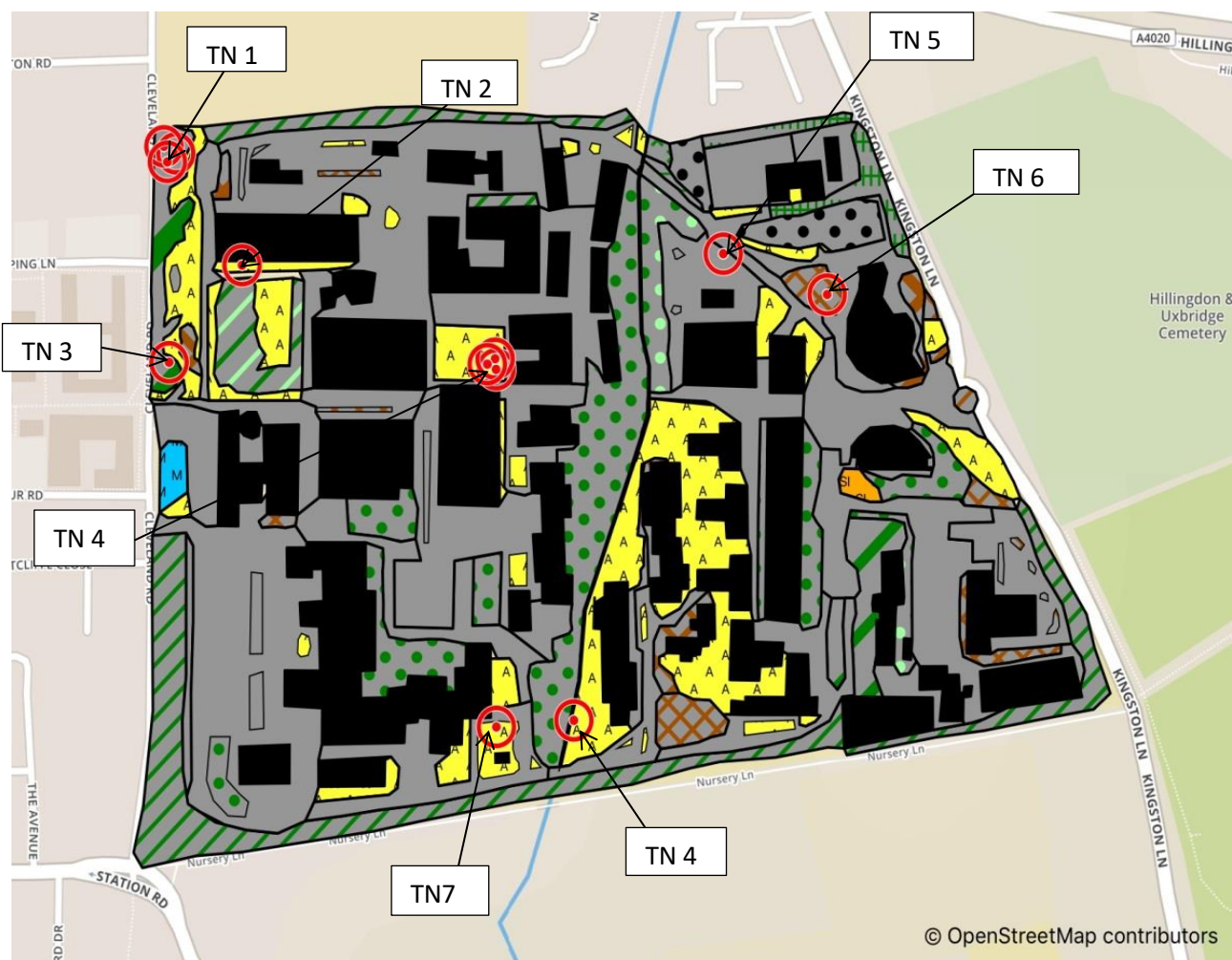
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Continue to improve habitats, especially along the River Pinn and around buildings and introduce wild flowers where appropriate.

Measures include:

- Structural diversity in new planting schemes encouraging different canopy layers.
- Mixed planting covering evergreen, herbaceous and deciduous to widen habitat opportunities while still meeting design objectives.
- Introduce further ground cover plants where appropriate to reduce areas of bare soil or large areas of mulch.
- Wildflower areas where appropriate especially on slope and banks, reducing the need for regular mowing.
- Maintain pedestrian access in the north corner next to school playing field with suitable layered planting bearing in mind safety.
- Maintain bat and bird boxes where placed.
- Create suitable habitats for hedgehogs and pollenating insects at identified areas.





TN 1

Quercus robur (Pendunculate oak)
DAFOR: Occasional

TN 2

Trachycarpus fortunei (Chusen palm) DAFOR:
Occasional

TN 3

Fraxinus excelsior (Ash) DAFOR: Frequent

TN 4

Salix alba 'Tristis' (Weeping Willow) DAFOR:
Frequent

TN 5

Populus spp. (Poplar)
DAFOR: Frequent

TN 6

Eucalyptus gunni (Eucalyptus)

TN 7

Prunus 'Kanzan' (Flowering Cherry)
DAFOR: Occasional

Site 3

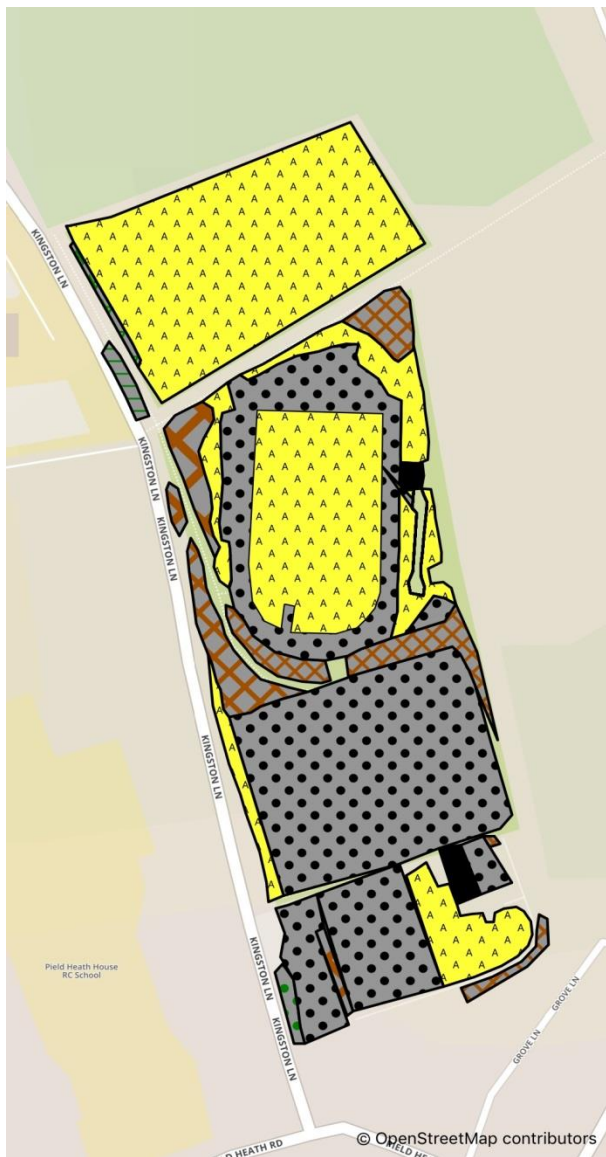
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To improve where possible the habitats around sports facilities and running track areas.

- Maintain buffer strips along fence lines allowing grass and broad leaf perennials to grow where appropriate.
- Maintain wild flowers on slopes using an insect pollenating friendly mix.
- Add bird boxes in optimal locations.

Polygons		
	A1.1.2	Broadleaved woodland - plantation
	A1.3.2	Mixed woodland - plantation
	A2.2	Scrub - scattered
	A3.1	Broadleaved Parkland/ scattered trees
	A3.3	Mixed Parkland/ scattered trees
	B2.2	Neutral grassland - semi-improved
	G1.2	Standing water - mesotrophic
	G2.3	Running water - oligotrophic
	J1.2	Cultivated/disturbed land - amenity grassland
	J1.4	Introduced shrub
	J2.1.2	Intact hedge - species-poor
	J2.3.2	Hedge with trees - species-poor
	J3.6	Buildings
	J4	Bare ground
	J5	Other habitat



Polygons



A3.1 Broadleaved Parkland/
scattered trees



J1.2 Cultivated/disturbed
land - amenity
grassland



J1.4 Introduced shrub



J2.1.1 Intact hedge - native
species-rich



J2.1.2 Intact hedge -
species-poor



J3.6 Buildings



J4 Bare ground

Site 4

OS grid ref. (506100, 182200)

At present there is restricted access to Site 4 where permits may be required through the Estates Department

Site 4 can be divided into four areas namely;

- The Bicentennial gardens
- River Pinn corridor
- Site 4 meadowland
- Garden Centre

The Bicentennial gardens is a mosaic of habitats supporting a mix of scrub dominated by hawthorn *Crataegus monogyna*, bramble *Rubus fruticosus* with a number of other tree species including fruit trees. Tall coarse grasses dominate the grassland area including species such as false oat grass *Arrhenatherum elatius*. There are also stands of tall herb and sedge vegetation. Two types of orchids are present in a few locations, namely pyramidal orchid *Anacamptis pyramidalis* and bee orchid *Ophrys apifera*. The gardens support a variety of bird species particularly passerines also forage areas for badgers, fox, muntjac and roe deer.



Pyramidal Orchid *Anacamptis pyramida*



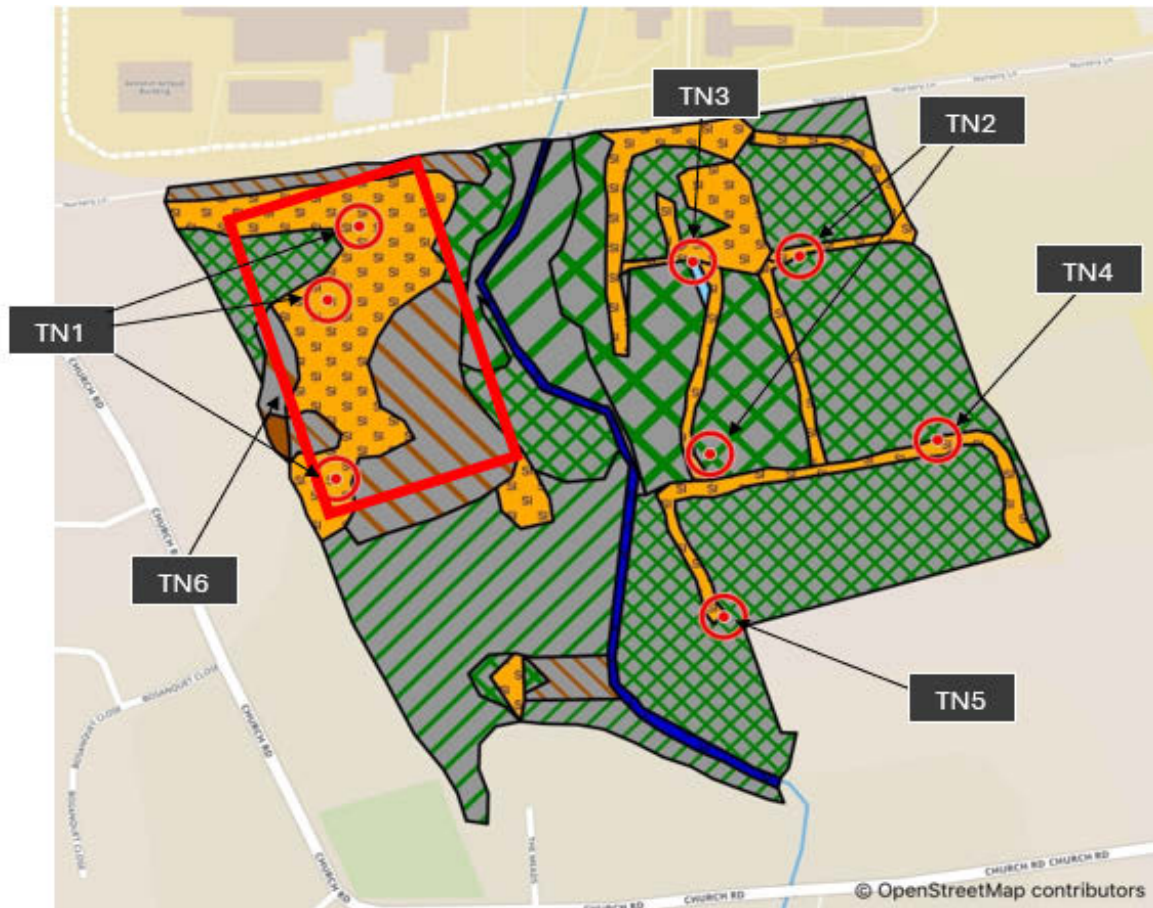
The River Pinn corridor supports a secondary woodland area with scrub. There are occasional stands of giant hogweed *Heracleum mantegazzianum* which is treated under agreement with the Environment Agency and himalyan balsam *Impatiens glandulifera*, which is managed by 'Balsam bashing' pulling before the plants set seed – both are invasive species and need to be controlled.

Currently the meadow/pasture to the west of the site supports a mosaic of agriculturally semi improved former pasture, a small bracken stand and scrub. This area will be surveyed for suitability to site a solar facility. Pollinator friendly planting will be established under the solar arrays if constructed.

The Garden Centre is mainly glass house, outhouses and car park areas with restricted access.

Species surveys are carried out as required and access paths are cut to permit survey work.

Site 4



Polygons

	A1.1.2	Broadleaved woodland - plantation
	A2.1	Scrub - dense/continuous
	A2.2	Scrub - scattered
	B2.2	Neutral grassland - semi-improved
	C1.1	Bracken - continuous
	C3.1	Other tall herb and fern - ruderal
	F1	Swamp
	G2.2	Running water - mesotrophic

TN1.

Holcus lanatus (Yorkshire Fog)
DAFOR: Dominant
Lolium perenne (Perennial Rye Grass)
DAFOR: Abundant
Phleum bertolonii (Small Timothy)
DAFOR: Occasional

TN2.

Stand of *Anacamptis pyramidalis* (Pyramidal orchid)
DAFOR: Occasional

TN3.

Carex acutiformis (Pond sedge)
Carex pendula (pendulous sedge)
DAFOR: Occasional

TN4.

Conium maculatum (Hemlock)
DAFOR: Occasional

TN5.

Stand of *Ophrys apifera* (Bee Orchid)
DAFOR: Occasional

TN6.

Proposed location for Solar Farm Site B.

Site 5

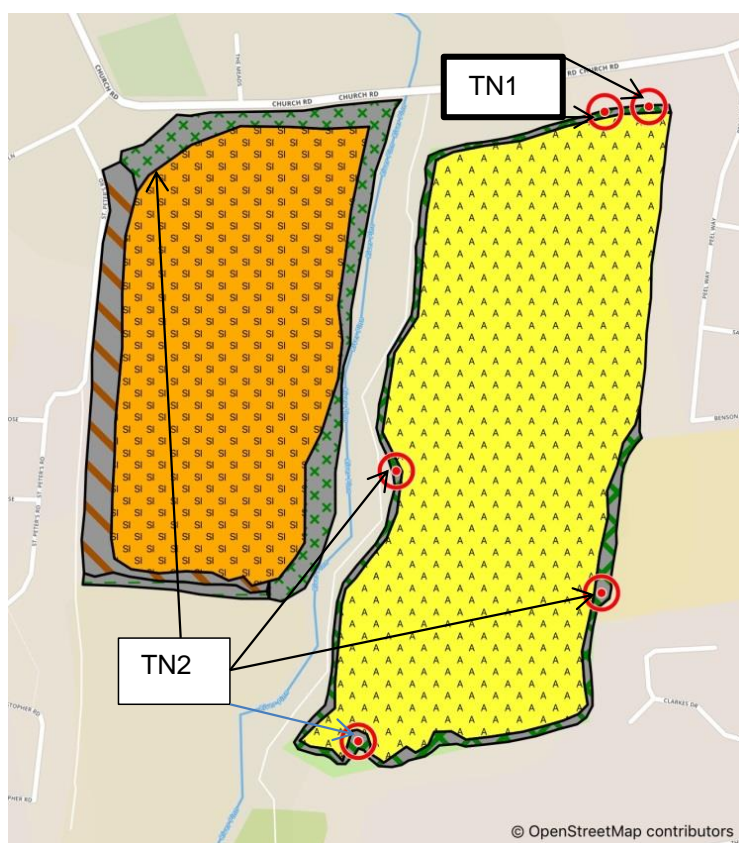
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Site 5 lies south of site 4 with Church Road leading into Field Heath Road dividing them. The site itself can be split into two distinct areas, namely outdoor sports fields and neutral grassland, with the River Pinn dissecting the two areas with the council owned celandine way running along the side.

- To maintain the habitats in both areas by managing the buffer zones with a graded height to encourage the biodiversity and protection for the various vertebrates and invertebrates etc. that may be present.
- Keep the cutting regime under review in the semi improved neutral grassland area to the west of the site.
- Continue to monitor the hedgerow with a view to maintaining the planting using a native mixture of suitable specimens.



To review possible enhancement planting along the meadow edges creating stands of mixed species similar to the stands of *Prunus cerasus* agg, to the North West edge of the neutral grassland area.



TN1 *Quercus robur* (Pedunculate Oak) - DAFOR: Frequent.

TN2 *Prunus cerasus* agg- DAFOR: Occasional.

Polygons



A2.1 Scrub - dense/continuous



A2.2 Scrub - scattered



B2.2 Neutral grassland - semi-improved



C3.1 Other tall herb and fern - ruderal



J1.2 Cultivated/disturbed land - amenity grassland

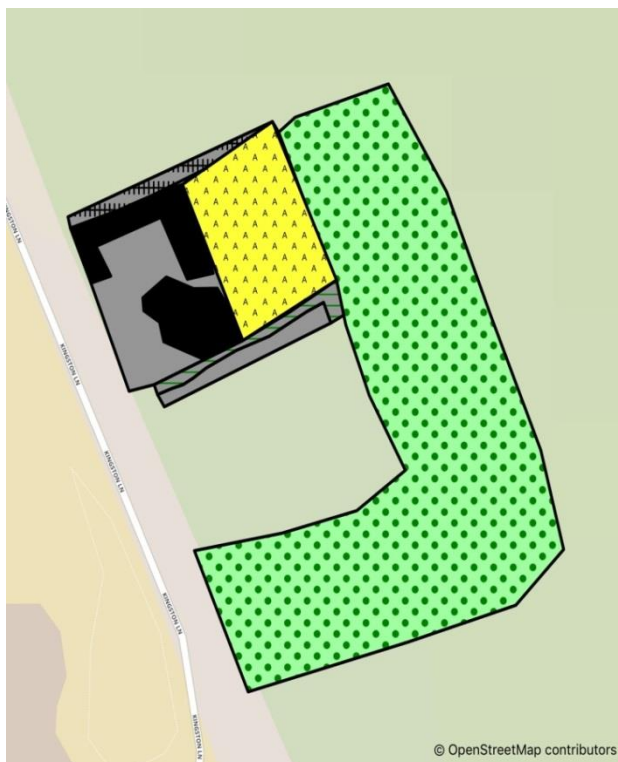


J2.2.2 Defunct hedge - species-poor

Site 6

OS grid ref. (506430, 18140)







Site 6 lies to the east of the main entrance and comprises of two residential properties and a small woodland covering the rear of the properties..



These areas are not actively managed, and no land use changes are planned. Appropriate surveys will be conducted when necessary.



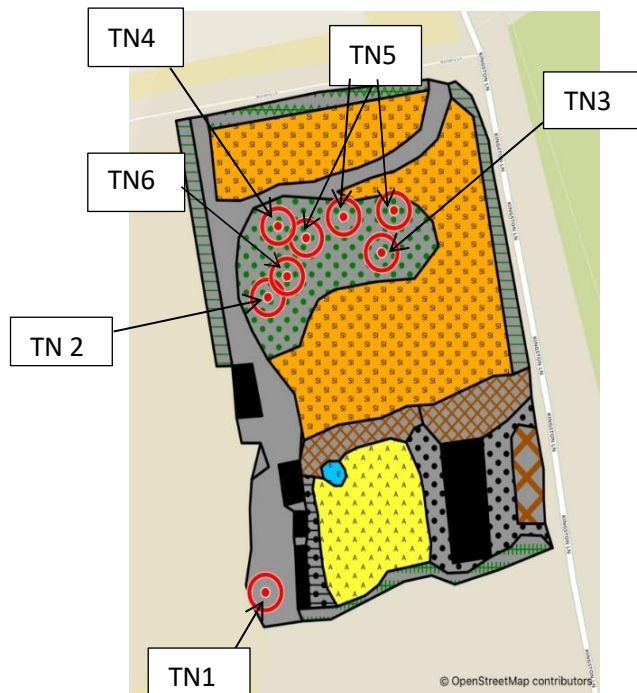
Polygons

	A1.3.1	Mixed woodland - semi-natural
	J1.2	Cultivated/disturbed land - amenity grassland
	J2.1.2	Intact hedge - species-poor
	J2.4	Fence
	J3.6	Buildings
	J5	Other habitat

Site 7

OS grid ref. (506500, 182400)

Site 7 lies to the east of site 4 along Kingston Lane forming the northern boundary to the allotments. There is a large, detached house with a smaller detached annexe, a formal landscaped garden with various outbuildings adjacent to a paddock area.



Polygons

	A3.1	Broadleaved Parkland/scattered trees
	B2.2	Neutral grassland - semi-improved
	G1.1	Standing water - eutrophic
	J1.2	Cultivated/disturbed land - amenity grassland
	J1.4	Introduced shrub
	J2.1.1	Intact hedge - native species-rich
	J2.1.2	Intact hedge - species-poor
	J2.3.2	Hedge with trees - species-poor
	J2.8	Earth bank
	J3.6	Buildings
	J4	Bare ground
	J5	Other habitat

TN1 *Salix alba* 'Tristis' (Weeping willow)

TN2 *Aesculus hippocastanum* (Horse chestnut)

TN3 *Corylus avellana* (Hazel)

TN4 *Pinus* spp (Pine)

TN5 *Malus domestica* (Apple)

TN6 *Cedrus atlantica* 'Glauca' (Blue Atlas cedar)

To monitor and improve habitats by:

- Maintain the cutting regime in paddock area to protect wild flower meadow
- Carry out further bat surveys across site.
- Continue to encourage buffer zones along hedgerow edges.
- Continue to promote longer grass species under tree plantation.
- Maintain existing wood piles as haven areas for wildlife.

Priorities and key actions

Site	Project	Actions	Timescale	Progress
Site 1 Tree Management	Update tree survey-monitoring identified concerns	Survey document updated using Arboricultural consultant	2024-2029	Annual
Site 2 Tree Management	Update tree survey-monitoring identified concerns	Survey document updated using Arboricultural consultant	2024-2029	Annual
Site 3 and 7 Tree Management	Carry out Visual Tree Assessment	Identify priority trees – more detailed survey where required	2024-2029	Annual
Site 6 Tree Management	Carry out Visual Tree Assessment	Identify priority trees – more detailed survey where required	2024-2029	Annual
Site 2 Landscape Management	Continue to improve and enhance selected areas for pollinating insects	Maintain identified areas, and sow wildflower mixes as necessary	2024-2029	Ongoing. Wildflower areas created by Mary Seacole, Crank Garden.
Site 1 and 2 Landscape Management	Regeneration of shrubberies	Maintain shrubberies and replant where necessary to enhance biodiversity	2024-2029	Ongoing. Elliott Jaques and Russell Building
Site 2 and 4 River Pinn	Control of Invasive species. River management - see separate action plan	Control of Giant Hogweed under agreement with the Environment Agency	2024-2029	Ongoing
Site 2 Pond Management	Maintain habitats at the pond to reduce algal blooms	Maintain floating reed beds	2024-2029	Ongoing
Site 1 Maintenance of the meadow areas as laid out in the 106A agreement with Hillingdon Borough Council	Bi-annual cutting regime implemented removing arisings, created more open access for students, staff and public. And enhanced the natural boundaries	Continue to cut Meadow in April and September, access paths cut at least 8 times a year to keep open. Over-sow with wildflowers. Drum cut grassland and wildflower meadow as required.	2024-2029	Ongoing
Site 1 and 2	Biodiversity Signage	Ensure signage is in-situ and information boards are updated on a regular basis.	2024-2029	Ongoing
Site 7	Beehive for campus	Working with the beekeeper to assist with beehive location and maintenance	2024-2029	Ongoing Bees and hive on site managed by grounds team and local beekeeper
Site 1, 2 and 4	Bat boxes	Maintain bat boxes in identified areas to enhance habitat for bats	2024-2029	Ongoing
Campus wide	Bat surveys	Historical bat surveys have taken place and will continue as and when required	2024-2029	Ongoing
Campus wide	Hedgehog Survey Badger Survey	Carry out survey Carry out survey	2025,2026 2025,2026	Ongoing
Site 1 meadows wildflower area	Enhancement of wildflower area	Maintain wildflower area with species mix required to include yellow rattle	2024-2029	In progress
Site 2 Pond	Pond improvements including aeration	Further investigate options on diffuser aeration, additional planting and reduction	2026	In Progress

		of fish. Introduction of predator - Perch		
Site 2 River Pinn	Riverbank and channel improvements	Fluvial erosion issues, further investigate soft engineering options include bank re-stabilisation and redefinition ,in-channel and substrate improvements	2026-2027	In Progress
Site 4	East Side of site 4 proposal (under review) for increased Biodiversity project and habitat refuge	Introduce nature friendly fencing around boundary, adding wood piles, bird boxes, insect hotels, plant new trees, to attract new wildlife.	2025-2026	Ongoing

Surveying and Monitoring

Introduction

Regular monitoring is a key element of the management of the biodiversity on campus and combined with ecological surveys carried out when changes in land use are proposed, forms an integral part of the Biodiversity Action Plan.

Baseline data has been recorded for habitat definitions across the seven sites, mammals, birds, invertebrate data has also been collated and forms part of the review process for future management and land use..



Badger (*Meles meles*) There are several setts located and identified across the campus which are protected under the Protection of Badgers Act 1992.



Six species of bats have been recorded foraging across campus including; Common pipistrelle (*Pipistrellus pipistrellus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), Nathusius pipistrelle (*Pipistrellus nathusii*) Serotine (*Eptesicus serotinus*) Noctule (*Nyctalus noctula*) Brown long-eared bat (*Plecotus auritus*). All bats and their roosts are protected under the Wildlife and Countryside

Act (1981) (as amended) and the Conservation of Habitats and Species Regulations (2010)



Kingfisher (*Alcedo atthis*) have been recorded nesting along the banks of the River Pinn and are often seen patrolling along the river through campus.



Hedgehog (*Erinaceus europaeus*) are also listed as a UK 'Priority Species' under S41 of the NERC Act (2006) and have been monitored and surveyed on site.

Appendices.

List of the Avifauna at Brunel University of London from 1980 to 2024

Species	Status
Cormorant	O
Grey Heron	R
Little Egret	R
Mallard	R Br
Mandarin 30/4/14 – small flock on river	O
Tufted Duck	O
Canada Goose	O
Mute Swan	O
Common Buzzard	R
Sparrowhawk	R
Red Kite	R
Peregrine	O
Hobby	SM
Kestrel	R (former Br)
Moorhen	R Br
Lapwing	O
Woodcock	WV
Lesser Black Backed Gull	R
Herring Gull	R
Common Gull	R
Black headed Gull	R
Common Tern (seen feeding from pond)	O SM
Wood Pigeon	R Br
Stock Dove (A pair in Bicentenary Gardens once)	O
Feral Pigeon	R Br
Turtle Dove (1 record in 2006)	PM
Collared Dove	R Br
Swift	SM
Kingfisher	R
Green Woodpecker	R
Great Spotted Woodpecker	R
Lesser Spotted Woodpecker	O
Skylark	O
Swallow	SM
House Martin	SM
Carrion Crow	R
Rook	O
Jackdaw	O
Magpie	R Br
Jay	R
Great Tit	R Br
Blue Tit	R Br
Long tailed Tit	R Br
Nuthatch	O
Wren	R Br
Mistle Thrush	R Br
Fieldfare	WM
Song Thrush	R Br
Redwing	WM
Blackbird	R Br
Wheatear	PM
Whinchat	PM
Redstart	PM
Robin	R Br
Nightingale (1 record in 2010)	PM
Sedge Warbler (1 record in 2006)	PM

Blackcap	SM Br	
Garden Warbler	SM Br	
Whitethroat		SM Br
Lesser Whitethroat	SM Br	
Willow Warbler	SM Br	
Chiffchaff	SM Br	
Wood Warbler (1 record in 2010)	PM	
Goldcrest	R	
Spotted Flycatcher	SM (former Br)	
Pied Flycatcher (1 record in the 1990's)	SM	
Dunnock	R Br	
Meadow Pipit		WV
Pied Wagtail		R Br
Grey Wagtail		R
Starling		R Br
Waxwing (Kingston Lane in Feb'09)	WM	
Greenfinch		R Br
Goldfinch	R Br	
Lesser Redpoll		WV
Common Redpoll (Mealy)	WV	
Siskin		WV
Linnet		R Br
Bullfinch	R Br	
Chaffinch	R Br	
Reed Bunting		O
House Sparrow		R
Ring Necked Parakeet		R
Great Grey Shrike	WV	

Abbreviations:

R: Regular

O: Occasional

Br: Breeder

SM: Summer Migrant

WM: Winter Migrant

WV: Winter Visitor

PM: Passage Migrant

Red list – species globally threatened species, in severe decline in UK (at least 50%) in the last 30 years.

Amber list – Moderate decline (25-50%) in the last 30 years other various factor taken into consideration.

Green list – Occur regularly in the UK but do not qualify under the above criteria.

Butterflies recorded on Brunel University of London campus (including the Bicentenary Garden) from 1980 to 2024.

Small Skipper*	Holly Blue
Large Skipper*	Red Admiral
Clouded Yellow	Painted Lady
Brimstone	Small Tortoiseshell
Large white	Peacock
Small White	Comma
Green-veined White	Speckled Wood
Orange Tip	Marbled White*
Purple Hairstreak	Gatekeeper
Small Copper*	Meadow Brown
Brown Argus*	
Common Blue*	

*only recorded in Bicentenary Gardens

Site 1 wildflower mixes

Centaurea nigra (Knapweed) Malva moshata (Musk Mallow)
Daucus carota (Wild carrot)
Galium verum (Ladys bedstraw)
Leucanthemum vulgare (Ox-eye daisy)
Prunella vulgaris (Self Heal)
Ranunculus acris (Meadow buttercup)
Rhinanthus minor (Yellow rattle)

Rumex acetosa (Common Sorrel)
Knautia arvensis (Devil's Bit Scabious)
Lotus corniculatus (Common Bird's Foot trefoil)
Plantago lanceolata (Ribwort Plantain)
Achillea millefolium (Common Yarrow)
Vicia cracca (Tufted vetch)

Stachys officinalis (Betony)
Silene silaus (Pepper Saxifrage)
Sanguisorba officinalis (Common Burnet)
Lychnis flos-cuculi (Ragged Robin)