



US

UNIVERSITY  
OF SUSSEX

**BIODIVERSITY BASELINE  
ESTIMATE  
DECEMBER 2021**

# Measurable steps for biodiversity Plus +

## OBJECTIVES

1. Understand the importance of the University of Sussex site campus for wildlife and biodiversity; and
2. Quantify the baseline value of Biodiversity to measure the progress of becoming "*The most biodiverse campus in the United Kingdom*".

## AIMS

1. Undertake a desktop review of the species and habitat records
2. Undertake a review of the biodiversity actions and strategies currently in place at the campus
3. Determine the potential of the site to support protected habitats and species
4. Assess the current ecological and biodiversity value of the site
5. Map the recorded locations of protected species and habitats
6. Assess the current ecological value of the site according to DEFRA 3.0 metric
7. Support existing biodiversity-led management regimes to understand where site can improve according to DEFRA metric

# HEADLINES

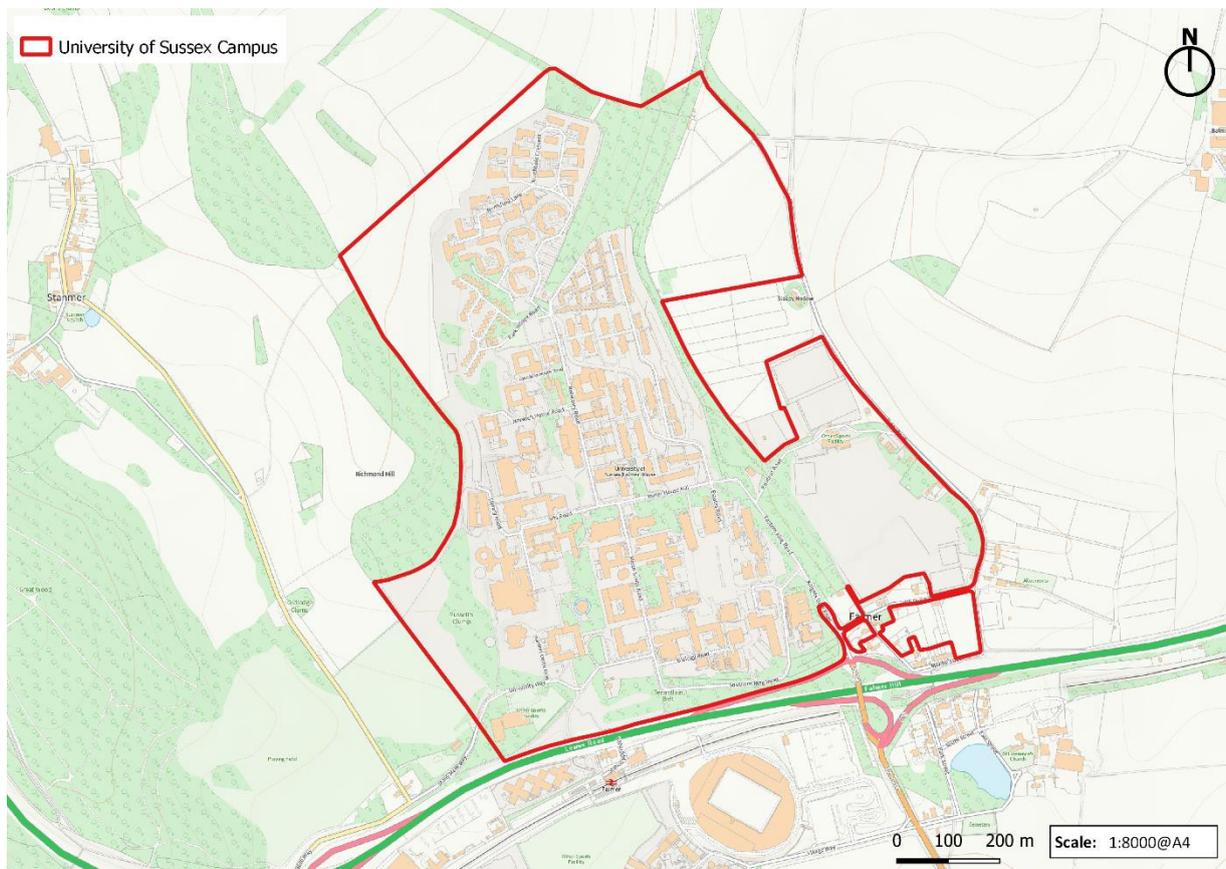
## Summary of desktop results

<b>Sites and habitats</b>	<b>Statutory sites</b> <b>Non-statutory sites</b> <b>Section 41 habitats</b> <b>Ancient woodland</b>	<b>1 National Park / 3 LNRs</b> <b>10 LWS / 1 LGS</b> <b>3 habitats</b> <b>Present</b>
<b>Protected and designated species</b>	<b>International designations</b> <b>National designations</b> <b>Other designations</b> <b>Total</b>	<b>45 species 691 records</b> <b>165 species 9,920 records</b> <b>420 species 14,508 records</b> <b>447 species 15,117 records</b>

# INTRODUCTION

The University of Sussex occupies approximately 96 ha, comprising a mix of campus buildings, many of which are listed, and associated greenspace and hardstanding, with woodland and meadows surrounding the site. The campus is situated adjacent to the village of Falmer, between Brighton and Lewes.

The campus lies within a valley at the foot of the South Downs, an Area of Outstanding Natural Beauty (AONB), and Stanmer Park, a Local Nature Reserve and Grade 2 Registered Historic Park, lies to the west. The site is centred on OS grid reference TQ 34726 09329.



## BIODIVERSITY STRATEGY AND DATA COLLATION

Data to inform the project was collated in several ways to support the full understanding of the biodiversity and ecological value of the site.

Existing site information for University of Sussex comprises high quality data collated by staff and students. This includes:

- Biomass Audit (A.Wilcox), which includes habitat compartments mapped of the entire campus
- Biodiversity Strategy and Draft Biodiversity Policy (July 2021)
- Wildflower survey (2018)

Collation of supporting data by Biora ecologists was conducted in November 2021, which included:

- A desktop study in accordance with the British Standard for Biodiversity to identify any nearby sites of nature conservation designation and protected or notable species from within 2km of the site boundary.
- A walkover survey to broadly assess UKhab habitat compartments on site, judgement of condition and the potential of each to support protected and notable species. As this survey was conducted during sub-optimal season for flowering plants, this was noted as a constraint and, so, focus was instead on broad habitat types.

## DESKTOP STUDY

Data retrieved from Magic Maps, Sussex Biodiversity Record Centre, Aerial maps in 2021.

Several protected sites are found on-site or adjacent to the site:

- Local Wildlife Sites 'Tenant, Lain & Moon's Gate Woods' and 'Stanmer Park', and Local Geological Site 'Stanmer Village' encroach onto the site.
- South Downs National Park is also within the UoS boundary.

Table 1: Statutory sites in the local area

	<i>Designation</i>	<i>Location</i>
Stanmer Park/Coldean	LNR	W (Immediately adjacent)
Wild Park	LNR	W
Bevendean Down	LNR	S
Ladies Mile Open Space	LNR	W
Whitehawk/Race Hill	LNR	S
Withdean and Westdene Woods	LNR	W
Castle Hill	SAC/ SSSI/ NNR	SE
Kingston Escarpment and Iford Hill	SSSI	SE
Offham Marshes	SSSI	NE
Clayton to Offham Escarpment	SSSI	NE

Within 2km of the site boundary, the following species records were identified:

### Amphibians

Great Crested Newt, Common Newt, Palmate Newt, Smooth Newt, Common Toad and Frogs. The most recent GCN record was in 2002, located 1.8km north of the campus.

## Reptiles

Slow Worm, Grass Snake, Adder, Common Lizard

## Mammals

Harbour Seal, Beaver, Brown Hare, Hazel Dormouse, Beaver,  
European Rabbit, Hedgehog

Bats – Serotine, Daubenton's, Whiskered, Brandt's, Natterer's, Lesser  
Noctule, Common and Soprano Pipistrelle, Brown Long-eared, and  
several known roosts in the local area

## Birds

White-fronted Goose (NERC), Tundra Swan (BD), Bewick's Swan (BD),  
Nightjar (BD), Dotterel (BD), Golden Plover (BD), Little Ringed Plover  
(WCA), Lapwing (NERC), Little Gull (Birds Directive), Mediterranean  
Gull (BD), Curlew (NERC), Whimbrel (WCA), Greenshank (WCA), Green  
Sandpiper (WCA), Little Egret (BD), Kingfisher (BD), Marsh Harrier  
(BD), Hen Harrier (BD), Montagu's Harrier (BD), Red Kite (BD), Osprey  
(Birds Directive), Honey-buzzard (BD), Merlin (BD), Peregrine (Birds  
Directive), Hobby (WCA), Quail (WCA), Grey Partridge (NERC), Crane  
(BD) Skylark (NERC), Woodlark (BD), Lapland Bunting (WCA), Snow  
Bunting (WCA), Corn Bunting (NERC), Yellowhammer (NERC), Ortolan  
Bunting (BD), Reed Bunting (NERC), Lesser Redpoll (NERC), Common  
Rosefinch (WCA), Hawfinch (NERC), Brambling (WCA), Linnet (NERC),  
Serin (WCA), Red-backed Shrike (BD), Grasshopper Warbler (NERC),  
Tawny Pipit (BD), Tree Pipit (NERC), Red-breasted Flycatcher (BD),  
Spotted Flycatcher (NERC), Black Redstart (WCA), Golden Oriole  
(WCA), Bearded Tit (WCA), Willow Tit (NERC), Marsh Tit (NERC), House  
Sparrow (NERC), Tree Sparrow (NERC), Wood Warbler (NERC),  
Dunnock (NERC), Firecrest (WCA), Starling (NERC), Dartford Warbler  
(BD), Redwing (WCA), Song Thrush (NERC), Fieldfare (WCA), Ring Ouzel  
(NERC), Short-eared Owl (BD), Barn Owl (WCA)

BD = Birds Directive A1

NERC = Natural Environment and Rural Communities Act 2006 S

41 WCA = Wildlife and Countryside Act S1 P1

## Invertebrates

Several Ants, Bees, Sawflies and Wasps on the GB Redlist and rare to Sussex, including the Black-headed Mason Wasp (NERC); Butterflies, including several listed as NERC and WCA, including the Small Blue; Common Darter dragonfly (Red List); Grasshoppers and Crickets, including the Wart-biter (WCA); Large Black Slug (Red List); several moths listed as NERC and UK BAP Priority), including the Beaded Chestnut and Garden Tiger; nationally-scarce spiders, including the Purse Web Spider; rare and NERC True Bugs, including the Chalk Planthopper; rare and NERC True Flies, including the Phantom Hoverfly;

## Flora

Higher plants include NERC species, such as Juniper, Red-Star Thistle, Cornflower, White Helleborine, Narrow-leaved Helleborine, Chalk Eyebright and Frog Orchid; Early Gentian (HD); Jersey Cudweed, Bluebell, Early Spider-orchid and Pennyroyal (WCA); and Spreading Hedge-parsley and Fly Orchid (NERC).

There are also Redlist lichens, including *Rinodina exigua* and rare mosses in Sussex, including Slender Bristle-moss.



## HABITATS – WOODLAND

There is approximately 19 ha of woodland through the site, which incorporates a 'Woodland Walk'. Some of this was previously parkland, accounting for some of the oldest trees. This is managed largely depending on its location with the site. Most areas contain important woodland features such as standing deadwood, mature and veteran trees. The main campus supports a number of mature trees mainly set within an amenity grass mix.



Species include Sycamore, Yew, Holly, Hawthorn, Oak, Ash, Beech and Lime, with ground cover of species such as Ivy, Dogs Mercury, Bramble.

Within the 19 ha of woodland, newly planted trees make up approximately 2.2 ha of the total. This habitat is located to the north-western area of the site, and, on reaching maturity, will link to existing woodland and strengthen the wildlife corridors around the campus.





## HABITATS – GRASSLAND

Several patches of calcareous grassland meadow (Sussex BAP habitat type) are located around the site and around the outer boundaries of the site, many of which are used by the university for studies.



There are also patches of amenity lawn throughout the campus, which are closely mown and managed. Some areas have been recognised as holding value for rare orchids, such as the Pyramidal orchid and White Helleborine (UK BAP priority and Redlist species), and so have been left to flower under a bespoke cutting regime.

Areas of verges and sloping banks have been purposely left to naturalise. Some of these areas, particularly the verges, have thin soil cover, with the vegetation cover of ephemeral grasses and forbs grading into scrub and introduced tree species (many of which are struggling with the thin soil cover). This range of exposed banks, bare ground, grassland and scrub provide opportunities for a wide range of invertebrates.





## HABITATS – PONDS

There are several waterbodies around the site, two of which are located within areas of semi-natural habitat, such as the 'dew pond', which is known to support newts and a variety of invertebrates.

Other waterbodies are within the hardstanding areas of the campus itself, some of which are unplanted and unvegetated, and others which support planted vegetation and small fish.



## HABITATS – URBAN

Other habitats consist of the buildings, hardstanding walkways and roads through the site, and sports fields.

There are non-intensive green roofs on the accommodation buildings to the north of the campus.



## Amphibians

There are several ponds within the site boundaries, two ponds within/bordering the semi-natural woodland habitat, which have value and provide varied foraging habitat for amphibians.

The ponds located in the central areas of the site are surrounded by buildings/roads/modified grassland habitats, which likely limit foraging and dispersal.

## Reptiles

Several species of reptile were identified to be in the local area from the desktop data - Slow worm, Grass snake, Adder, Common lizard.

The site has many habitats of value to reptiles, with scrub, grassland, hardstanding, wood piles and woodland all contributing to a heterogeneous landscape which provides a wealth of foraging, basking and refugia opportunities. The buildings, hardstanding and roads in the central area of the site will obstruct any movement from the wider landscape, but woodland corridors around this also provide ample dispersal routes into and out of the site. The addition of waterbodies and other ephemeral habitats could better contribute towards a higher value landscape mosaic suitable for reptiles.

## Mammals

### Bats

The habitats within the central campus generally provide moderate value for foraging and commuting bats; the mature trees, parkland and woodland in particular, along with scrubby areas and variably managed grassland and wildflowers providing foraging habitat for bats. The scattered mature trees and parkland habitat contained numerous individual trees which have moderate to high bat roosting potential.

## Badger

Survey found signs of badgers on-site, with a sett found within the 'woodland walk' area. The woodland around the site presented moderate suitable habitat for sett building, especially due to the extensive and undisturbed nature of most of the area.

Within the main hardstanding/amenity campus area there was low quality foraging habitat, with a low number of fruit-bearing trees/hedgerows present which would provide a food source for badgers. Much of the site also had thin soil cover, which would mean low availability to forage on the site for earthworms, especially in the winter months when fruit is scarce, but may provide access to invertebrates beneath the stones and moss. There were no other signs of foraging found on-site during the survey.

## Hazel Dormouse

There are desktop records of Hazel Dormouse in the local area.

# BIODIVERSITY NET GAIN – BASELINE ESTIMATE

All data gathered has been used to create this Biodiversity Baseline Estimate. This includes the Biomass survey (A.Wilcox); and the habitat categories and conditions determined during the Biora walkover survey. As the walkover survey was conducted in sub-optimal season this value is approximate.

Table 2: Habitats on-site, with Biodiversity unit score of each

Habitat type		Description	Area (hectares)	Distinctiveness	Condition	Habitat units
Woodland and forest	Other woodland; mixed	'Woodland Walk'	12.8	Medium	Moderate	112.64
		'Russell's Clump'	1.9	Medium	Poor	7.60
	Other woodland; broadleaved	Tree plantation	2.28	Medium	Poor	9.12
	Wood-pasture and parkland	Scattered trees around campus	4.2	V.High	Poor	33.60
Grassland	Lowland calcareous grassland	Meadows	8.21	High	Moderate	108.37
		Wildflower area	0.96	High	Moderate	11.52
		Naturalised banks	3.76	High	Moderate	45.12
	Modified grassland	Amenity grass	13.6	Low	Poor	27.20
Lakes	Ponds	Ponds within semi-natural habitat	0.02	Medium	Moderate	0.16
	Ornamental ponds	Ponds within campus hardstanding	0.05	Low	Poor	0.10
Urban	Ground level planters	Bee hives	0.11	Low	Poor	0.22
	Extensive green roof	Green roofs on accommodation	0.51	Low	Fairly Poor	1.53
	Developed land; sealed surface	Campus hardstanding	36.5	V.Low	N/A - Other	0.00
		Sport centres	5.39	V.Low	N/A - Other	0.00
		Tenanted properties	6.51	V.Low	N/A - Other	0.00

