

UNIVERSITY OF SUSSEX
30 MAY 2023



BIODIVERSITY STRATEGY AND BIODIVERSITY POLICY

US

UNIVERSITY
OF SUSSEX

OUR BIODIVERSITY STRATEGY

Vision: The most biodiverse campus in the United Kingdom.

Objectives

1. Achieve a biodiversity net gain¹; and
2. Increase the percentage of the University of Sussex campus set aside for nature² from the 2022 baseline of 38% to 42% by December 2027.

Aims

We will achieve these objectives by:

- a) Continuing to implement the good practice principles set out in the Biodiversity Policy (at **Annex A** of this document)
- b) Setting targets each year within our annual grounds management plan by summer 2024 for achieving both biodiversity net gain and an increase in the percentage of land set aside for nature
- c) Putting in place new operational guidelines on accessibility, functionality and aesthetic enjoyment for the conversion of existing campus land into areas of increased biodiversity
- d) Continuing to enable the delivery of a series of practical biodiversity projects proposed by staff and students, (these include but will not be restricted to the list of projects set out (at **Annex B**) of this document).



To improve understanding of the proposals set out within our Biodiversity Strategy and Biodiversity Policy, a glossary of biodiversity related terms is provided (at **Annex C** of this document)

Please note that this biodiversity strategy interlinks with other areas of the University's **Sustainable Sussex Strategy**. For example, our water conservation and net zero carbon work. Therefore, additional actions that promote biodiversity in relation to these areas can also be found in relevant companion policies, and the overarching Sustainable Sussex Strategy Document and Action Plan.



¹ Biodiversity net gain refers to an increase in the amount or quality of biodiversity in a defined area over time.

² Set aside for nature refers to areas of land that are left and not managed, to allow nature to decide how the habitat develops over time. This may be through passive rewilding.

OUR BIODIVERSITY POLICY

This Biodiversity Policy sets out the key institutional principles that we are adopting in order to realise our strategic vision of being the most biodiverse campus in the United Kingdom. They are designed to help us achieve a biodiversity net gain through specific actions such as protecting endangered species and local water quality.

These principles will be used in parallel with an annual grounds management plan and operational guidelines on accessibility, functionality and aesthetic enjoyment of the green spaces within our campus, which sits within the South Downs National Park and designated UNESCO Biosphere area.

This policy was approved by the University's Vice-Chancellor on 28 March 2023. It replaces the previous Biodiversity Strategy and Draft Policy that were published in June 2021.

BACKGROUND

The biodiversity crisis refers to the current unprecedented level of biodiversity loss that is occurring as a result of human activity, such as habitat loss through agriculture and urban development. In response to this crisis, we want to protect and enhance the biodiversity of our campus. Our biodiversity policy and strategy go above and beyond the UK government's 2020 commitment to manage 30% of UK land for nature by 2030.

In 2022 we undertook environmental surveying that confirmed that 38% of our campus is currently set aside for nature and we estimate that approximately a further 20% of the campus is managed as amenity grassland. In undertaking this work, we used categories of land management intensity (which are explained at **Annex D**) to confirm precisely which types of land could be classified as being set aside for nature.



Included within this baseline are over ten wildflower areas which we have seeded around campus that not only look colourful and attractive, but also support pollinators.

We have several low management meadow and bank areas, such as the area behind the Attenborough Centre for Creative Arts where up to 40 wildflower species have been recorded.

Towards the rear of our campus our School of Education and Social Work are currently growing a Forest Food Garden and we have a much-loved student allotment managed by the Roots Society, which the University is committed to supporting.

The Grounds Management Team have also carried out extensive enhancements to chalk grasslands on our campus, such as the creation of a chalk grassland site on the west side of the campus in 2018.

Our work to support and raise awareness of pollinators by growing pollinator-friendly plants in our wildflower areas and meadows, as well as building 'bee hotels', led to us winning a Bees' Needs Champions award in 2022 for the fourth year running.

The Grounds Management Team's ongoing work with grassland and woodland, as well as their management policies and practices, including a grounds management plan which is updated annually, have resulted in us winning a prestigious Green Flag award, for well-managed green spaces, for the fifth year running.



MISSION STATEMENT

Our biodiversity policy is to become the most biodiverse campus in the UK and to achieve a biodiversity net gain through the following actions that will be formally embedded within our annual grounds management plan and linked to measurable targets from Summer 2024:

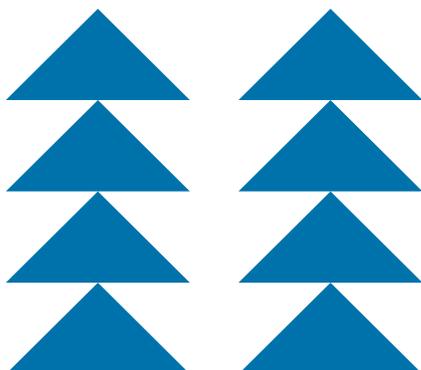
- A. Increasing the percentage of land set aside for nature.
- B. Enabling the delivery of staff and student-led biodiversity projects (at **Annex B**).
- C. Adopting the following good practice principles to guide campus management.

OUR GOOD PRACTICE BIODIVERSITY PRINCIPLES

We will achieve a biodiversity net gain by adhering to the following principles. We will:

1. **Comply with relevant UK, European, and international legislation and statutory codes of practice**, such as the Wildlife & Countryside Act (1981); Natural Environment and Rural Communities Act (2006); Conservation of Habitat & Species Regulations (2017); Environment Act (2021); and other legislation relevant to the university's location within a National Park.
2. **Plan for net gain**: The annual campus grounds management plan will strive for a net increase in biodiversity each year in response to the ongoing biodiversity crisis.
3. **Plant native species and reduce the impact of alien species**: All planting and seeding on campus will, within reason, be native species that are from regional/national sources, as native species have been found to be more beneficial to our pollinators. We will also protect the native biodiversity on our campus by actively identifying and monitoring any species that are listed in the DEFRA guidance on invasive non-native species.
4. **Aim to be a pesticide, peat and synthetic fertiliser free campus**: We will aim to become pesticide free, where possible, and use zero peat or synthetic fertiliser, with exceptions to meet Health and Safety legislation.
5. **Be a zero green waste campus**: We will make green waste into compost, mulch or biochar. Leave grass cuttings on mowed area to allow nutrients to return to the soil. Leave dead wood standing on site for its habitat provision and organic matter benefits.
6. **Manage surface water to the benefit of biodiversity and water quality**: We will use sustainable drainage systems to create more opportunities for groundwater recharge and protection of water quality, as well as creation of water habitats.
7. **Use water conscious planting practices**: We will select plants that do not have high water requirements, planting in shade, using mulch, and minimal watering of plants.
8. **Support nationally important chalk grassland habitat**: We will continue support for chalk grassland habitats across the campus, such as chalk banks and the West Slope chalk grassland area.
9. **Protect threatened species**: We will actively identify, monitor, and protect any IUCN Red Listed³ species categorised as Vulnerable, Endangered, or Critically Endangered with habitats on the Sussex campus by summer 2024 (as set out at **Annex E**).
10. **Continue to involve students and staff in increasing biodiversity**: We will engage students, staff, and other interested parties, including members of the public, in direct action to increase biodiversity on our campus and raise awareness of the importance of protecting and enhancing biodiversity.

³ www.iucnredlist.org



ENABLING THE DELIVERY OF PRACTICAL BIODIVERSITY PROJECTS

The University of Sussex is committed to continuing to support student and staff-led practical biodiversity initiatives on campus.

The following list of projects are currently already being actively planned and/or delivered.

They were proposed and selected by staff and students during the **Big Biodiversity Conversation** which took place in 2022. Voluntary project teams have formed to oversee the delivery, and they have been supported with seed corn funding.

These projects represent the first set of initiatives to support biodiversity on the Sussex campus in association with our Sustainable Sussex Strategy and the University will look to actively support additional projects in the future.

Love Your Scrub

This is a project that aims to facilitate the regeneration of scrub habitats on the Jubilee Woodland area on the northeast of the Sussex campus.



Pollinators

This project will build bee hotels and hoverfly lagoons on multiple sites across campus. These will be monitored and provide an opportunity for use in research and teaching.

Psychology School Garden

This project has created a garden in the Psychology School courtyard at Pevensey I on campus. This garden will be used by psychology students and faculty and will facilitate studying the effects of gardening on mental health and wellbeing.



Swift and Bat Boxes

This project will install sets of bird and bat boxes on buildings around campus. These will be monitored to assess their impact on local species.

Orchards and Food Production

This project will plant an orchard of old Sussex varieties of fruit trees on campus.

GLOSSARY OF BIODIVERSITY TERMS

Alien species refers to species that have spread or been introduced into an environment where they are not normally found. This is often damaging to the new environment.

Amenity grassland is an area of grass, or lawn, that is managed for use by people, such as for walking, sitting on and playing sports. It is usually closely mown and managed to avoid the growth of other plants that reduce its value for recreation.

Bee hotels are structures with many holes, which solitary bees can nest in. They are often used in gardens and urban areas to create habitat for bee nesting that would naturally be found in standing dead wood in more natural areas.

Biodiversity is the variety within and between species in a defined area.

Biodiversity net gain is an increase in the amount or quality of biodiversity in a defined area over time. A net gain approach means if part of the area is developed or removed, any lost biodiversity must be offset by increasing biodiversity elsewhere to the same or higher amount and quality.

Chalk grassland is a species rich ecosystem known for its abundance of wildflowers and grasses, threatened by land use change in the UK.

Ecosystems are communities of interacting plants, animals, and their physical environment.

Habitats are places where an animal or plant lives, which provides them with food, shelter, and water.

Hoverfly lagoons are artificial bodies of water that can be used by hoverflies as a breeding site, they can be made from buckets or open topped vessels.

IUCN Red List is the world's most comprehensive record of conservation status for biological species.

Managed for nature means areas of land that are managed in a way that increases biodiversity and encourages natural processes, such as pollination.

Native species are those that have historically occurred naturally in a given area or habitat.

Passive rewilding is a process-led approach to land management that involves allowing nature to take its own course with minimal management.

Pesticides are substances used to kill harmful or unwanted organisms. They are considered key contributors to water pollution as well as posing a risk to non-target species.

Peat is a natural resource made of partially decomposed organic matter in wet acidic bogs, called peatlands. It is the world's largest on land carbon store as well as being a valuable ecosystem. It is the focus of campaigns around peat-free gardening by organisations such as the Royal Horticultural Society due to the rate at which it is being lost and the carbon emissions implications of this.

Pollination is the transfer of pollen from one plant to another of the same species.

Pollinators are the agent species, mainly insects, that carry out pollination. Common examples are bees, butterflies, hoverflies, and moths.

Rewilding is a minimal management approach that allows nature to take its own course. This may take a passive form, such as removing all management from an area, or a more active approach, such as introducing species that were historically present in a habitat.

Scrub refers to scattered or dense stands of naturally regenerated locally native tree and shrub species, generally under 5m tall. Scrub can have a high conservation value due to it providing a habitat for many different species.

Set aside for nature refers to areas of land that are left and not managed, to allow nature to decide how the habitat develops over time. This may be through passive rewilding.

Sustainable drainage systems are water management systems based on principles that make urban drainage more compatible with natural water processes.

Synthetic fertilisers are fertilisers that are made from inorganic compounds, such as those derived from products from the petrol industry. They are considered key contributors to water pollution.

CATEGORIES OF LAND MANAGEMENT INTENSITY

The following categories of land management intensity were proposed by leading academics in the field of biodiversity. We used them to understand and map our estate in relation to biodiversity, and will continue to use them to classify our estate as we take action to meet our stated objectives.



Credit: Crispin Holloway



Credit: Crispin Holloway

A. Amenity management

Land managed as required for human use, while aligning with relevant biodiversity principles, such as minimising carbon, pesticide and synthetic fertiliser use and seeking biodiversity net gain, e.g. leaving islands and paths of longer grass to provide nature corridors through amenity grassland.

B. Reduced mowing areas

Areas within the current amenity lawn area that are marked for reduced mowing (maximum three times per year, compared to a typical eight times for amenity areas).



Credit: Crispin Holloway



Credit: Ashley Wilcox

C. Low management areas (flower-rich downland and hay meadow)

Areas that are mown once a year in late summer to promote biodiversity. When funds allow, these areas should be rotavated and seeded with a hay meadow mix. Paths and patches can also be mown in to provide access to areas for sitting and to demonstrate deliberate management. Ponds that are only cleaned once a year should also be included in this category.

D. Passive rewilding

Non-intervention zones, where nature is allowed to develop freely, should be established across campus. These zones should include woodlands (other than for health and safety reasons), and woodland boundaries (e.g. 20m deep) to allow scrub and woodland expansion. Grassland sites around the periphery of campus would also be suitable. Some patches should also be established in the centre of campus to promote engagement. Ponds that are unmanaged, such as the Dew Pond, are included in this category, as are green roofs, which are left to develop on their own.

ALIEN SPECIES: DEFRA LIST OF INVASIVE NON-NATIVE SPECIES

The following lists of animal and plant species are taken from the DEFRA guidance on invasive non-native species as of February 2023. We will actively monitor our campus for the presence of these species with the aim to limit their impact on native biodiversity.

PLANT SPECIES – WIDELY SPREAD

| Common name | Scientific name |
|------------------------|----------------------------------|
| American skunk cabbage | <i>Lysichiton americanus</i> |
| Chilean rhubarb | <i>Gunnera tinctoria</i> |
| Curly waterweed | <i>Lagarosiphon major</i> |
| Floating pennywort | <i>Hydrocotyle ranunculoides</i> |
| Giant hogweed | <i>Heracleum mantegazzianum</i> |
| Himalayan balsam | <i>Impatiens glandulifera</i> |
| Nuttall's waterweed | <i>Elodea nuttallii</i> |
| Parrot's feather | <i>Myriophyllum aquaticum</i> |

PLANT SPECIES – NON WIDELY SPREAD

| Common name | Scientific name |
|--------------------------|------------------------------------|
| Alligator weed | <i>Alternanthera philoxeroides</i> |
| Asiatic tearthumb | <i>Persicaria perfoliata</i> |
| Balloon vine | <i>Cardiospermum grandiflorum</i> |
| Broadleaf watermilfoil | <i>Myriophyllum heterophyllum</i> |
| Broomsedge bluestem | <i>Andropogon virginicus</i> |
| Chinese bushclover | <i>Lespedeza cuneata</i> |
| Chinese tallow | <i>Triadica sebifera</i> |
| Common milkweed | <i>Asclepias syriaca</i> |
| Crimson fountaingrass | <i>Pennisetum setaceum</i> |
| Eastern baccharis | <i>Baccharis halimifolia</i> |
| Fanwort | <i>Cabomba caroliniana</i> |
| Floating primrose-willow | <i>Ludwigia peploides</i> |
| Golden wreath wattle | <i>Acacia saligna</i> |
| Japanese hop | <i>Humulus scandens</i> |
| Japanese stiltgrass | <i>Microstegium vimineum</i> |
| Kudzu vine | <i>Pueraria lobata</i> |

PLANT SPECIES – NON WIDELY SPREAD (CONTINUED)

| Common name | Scientific name |
|-----------------------|-----------------------------------|
| Mesquite | <i>Prosopis juliflora</i> |
| Perennial veldt grass | <i>Ehrharta calycina</i> |
| Persian hogweed | <i>Heracleum persicum</i> |
| Purple pampas grass | <i>Cortaderia jubata</i> |
| Salvinia moss | <i>Salvinia molesta</i> |
| Senegal tea plant | <i>Gymnocoronis spilanthoides</i> |
| Sosnowsky's hogweed | <i>Heracleum sosnowskyi</i> |
| Tree of Heaven | <i>Ailanthus altissima</i> |
| Vine-like fern | <i>Lygodium japonicum</i> |
| Water hyacinth | <i>Eichhornia crassipes</i> |
| Water-primrose | <i>Ludwigia grandiflora</i> |
| Whitetop weed | <i>Parthenium hysterophorus</i> |

ANIMAL SPECIES – WIDELY SPREAD

| Common name | Scientific name |
|---|---------------------------------|
| Chinese mitten crab | <i>Eriocheir sinensis</i> |
| Egyptian goose | <i>Alopochen aegyptiacus</i> |
| Grey squirrel | <i>Sciurus carolinensis</i> |
| Muntjac deer | <i>Muntiacus reevesi</i> |
| Signal crayfish | <i>Pacifastacus leniusculus</i> |
| Terrapins – all subspecies including red-eared slider, yellow-bellied slider, Cumberland slider and common slider | <i>Trachemys scripta</i> |

ANIMAL SPECIES – NON WIDELY SPREAD

| Common name | Scientific name |
|------------------------------|--|
| Asian hornet | <i>Vespa velutina nigrithorax</i> |
| Chinese sleeper/Amur sleeper | <i>Percottus glenii</i> |
| Coati | <i>Nasua nasua</i> |
| Common myna | <i>Acridotheres tristis</i> |
| Coypu | <i>Myocastor coypus</i> |
| Fox squirrel | <i>Sciurus niger</i> |
| Indian house crow | <i>Corvus splendens</i> |
| Marbled crayfish | <i>Procambarus fallax f. virginalis (Procambarus virginalis)</i> |
| Muskrat | <i>Ondatra zibethicus</i> |
| New Zealand flatworm | <i>Arthurdendyus triangulatus</i> |
| North American bullfrog | <i>Lithobates (Rana) catesbeianus</i> |
| Pallas's squirrel | <i>Callosciurus erythraeus</i> |
| Pumpkinseed | <i>Lepomis gibbosus</i> |
| Raccoon | <i>Procyon lotor</i> |
| Raccoon dog | <i>Nyctereutes procyonoides</i> |

ANIMAL SPECIES – NON WIDELY SPREAD (CONTINUED)

| Common name | Scientific name |
|---|---------------------------------------|
| Red swamp crayfish | Procambarus clarkii |
| Ruddy duck | Oxyura jamaicensis |
| Sacred ibis | Threskiornis aethiopicus |
| Siberian chipmunk | Tamias sibiricus |
| Small Asian mongoose / Javan mongoose | Herpestes javanicus |
| Spiny-cheek crayfish | Orconectes limosus (Faxonius limosus) |
| Striped eel catfish | Plotosus lineatus |
| Topmouth gudgeon (also known as stone moroko) | Pseudorasbora parva |
| Virile crayfish | Orconectes virilis (Faxonius virilis) |

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