



Biodiversity Plan

2019 - 2024

**University of Suffolk
Biodiversity Plan
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Introduction

As part of its Sustainability Policy, the University of Suffolk is committed to ensuring that sustainability and biodiversity opportunities are identified and implemented when considering land use, development, and construction practices in the way in which the Campus and University Estate is managed.

This Biodiversity Plan is designed to ensure that biodiversity becomes an integral part of the University and wider regional habitat networks through the application of projects and plans that meet the ambitions of the University Strategy and the United Nations Sustainability Development Goals (SDG's). This plan places a particular emphasis on SDG's 4, 14, 15 and 17.

The key objectives of the Biodiversity Plan are:



- To enhance the quality of habitat biodiversity on the Estates under which the University has management and operational function;
- To meet and where possible exceed the Wildlife and Country Side Act and associated UK Wildlife and Habitat regulations; with an emphasis on biodiversity net gain;



- To enhance the quality of life and wellbeing for staff and students and expand the student experience, making the University of Suffolk a desirable place to live, work and study;



- To create additional Living Lab curriculum and research opportunities as a valuable teaching resource, for undergraduate and postgraduate research projects;
- To further develop partnership links with industry, initiating and implementing knowledge exchange;



- To comply with Section 40 of the Natural Environment and Rural Communities Act (2006) requiring public bodies to conserve biodiversity through both conservation and enhancement;
- To further develop community links and engagements with local schools, charities and wildlife groups, and continue to increase awareness of the natural environment;

Biodiversity and in particular urban biodiversity is a complex and frequently undervalued asset within decision-making. To assist in identifying core values and directing funding and resources activity with accountability, the Estates Department will adhere to the following three core priorities in the implementation of the Plan.

Biodiversity Core Priorities

- *Priority 1:* Protect existing biodiversity, ensuring understanding of condition and species value;
- *Priority 2:* Enhance biodiversity and ecological corridors where possible, ensuring the inclusion of biodiversity decision – making within all construction, maintenance programmes and projects where applicable, whilst furthering our ambitions and those of the Ipswich Borough Council, Open Space and Biodiversity Policy 2013 – 2023 and the Ipswich Wildlife Network;
- *Priority 3:* Promote engagement, research and education, ensuring the inclusion of students, staff and the wider community where appropriate.

Context

The University of Suffolk is an urban Campus, located in Ipswich, Suffolk in the East of England. The quality of the natural environment in Suffolk is reflected by the area of land protected for wildlife. Many of Suffolk's nationally designated wildlife sites are designated for their European and International importance and 8% of the county is nationally protected as Sites of Special Scientific Interest (SSSI) due to the importance of the species and habitats found here. A further 5% of the county is locally designated as County Wildlife Sites (CWS). Without these sites, much of Suffolk's wildlife would have been lost or severely depleted. Protected sites, habitat areas and greenspaces are not only hotspots for biodiversity providing crucial homes for wildlife; they also provide a range of important ecosystem services on which we all depend through;

- **Provisioning services:** such as food, fresh water, wood, fibre, genetic resources and medicines.
- **Regulating services:** obtained from the regulation of ecosystem processes such as climate regulation, natural hazard regulation, water purification and waste management, pollination or pest control.
- **Habitat services:** to provide habitat for migratory species and to maintain the viability of gene pools.
- **Cultural services** including non-material benefits that people obtain from ecosystems such as spiritual enrichment, intellectual development, recreation and aesthetic values.

Suffolk's Biodiversity Action Plan (BAP), which comprises our list of priority species and habitats, is embedded in local planning policies. Impacts on legally protected species are a material consideration in the planning process whilst impacts on priority species and habitats are also capable of being material considerations. The National Planning Policy Framework (NPPF) includes a range of requirements to conserve and enhance the natural environment as well as requiring local council plans to promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations.

Those who live within 500 metres of accessible green space are 24% more likely to meet recommended levels of physical exercise. Department of Health and UK National Ecosystem Assessment figures suggest that adequate access to greenspace can lead to reductions in sedentary behaviour, providing £2 billion/yr. savings to treatment of coronary heart disease, cancer and strokes. Urban green space can facilitate social contact and give rise to strong neighbourhoods and reductions in crime. Ipswich has 500 hectares of green space and wildlife habitats within the town, which in addition to providing areas for recreation and well-being are also important for the management of water and flooding within the town.

Site Characteristics

The University of Suffolk estate is a multi-building, located on an urban site; with private access roads and a public highway. The site can be roughly segmented into two sections, separated by Fore Street, which splits the recently developed areas on the waterfront of Neptune quay, from the older area of our campus to the north. Both the North Campus and the Waterfront sites have several public entrances/exit, as can be observed in Figure 1; Figure 2 identifies university buildings on the site map.

Figure 1: *University of Suffolk location context*



Figure 2: *Simplified University site map*



The Estate is bounded to the southwest by the Waterfront a predominantly mixed residential and business pedestrianised development and to the north by New Suffolk College.

East of the Estate is Alexandria Park, accessed via Back Hamlet and residential areas beyond. Duke Street runs north to south with the Waterfront building situated to the west. Long Street and New Street are privately owned by UoS and situated on North Campus. To the east of North Campus lies Brickmakers Wood, owned by the University and currently under charity lease.

Site characterisation forms the preliminary stages of our wider Biodiversity Strategy and it is important to highlight the challenges of bio-ecological assessments within an urban landscape; as heterogeneity in both natural and urban ecosystems is relative to block patches of habitat on a variety of scales. This biodiversity Plan and it's resultant implementation programs will therefore use a nested hierarchical approach based upon overall site compartmentalisation assessments, on-going monitoring and improvement within the constraints of the biophysical landscape, the built environment and soil cover types. Underpinned by the overarching requirement to establish ecological corridors in support of our objectives and principles where possible.

Currently the site and its land use, with the exception of Brickmakers Wood, can be defined as light commercial; with a mixture of multiple office buildings and hard surfaces, with small areas of amenity shrubs and grassland, exhibiting a low biodiversity value.

Historic Land Use

North Campus: Historic map searches confirm that the North Campus site where Brickmakers Wood is situated was from the 1670's a clay pit. The woodland escarpment is one of the key topographical features now to be found in the Wood and owes its history to the Brick and Tile Works that fully established itself there possibly at some time before the 1850's. During WWI and WWII the woodland and area to the west of Brickmakers was used for aircraft part engineering manufacture and later for the storage of vehicle and gas associated with barrage balloon filling.

The remaining part of North Campus was originally a tightly packed early Victorian residential area referred to as The Potteries, until 1939 when the houses were demolished, with the majority of the inhabitants moved prior to the outbreak of WW2. After siting vacant, in poor condition, the land was regenerated for educational purposes in the late 1960's.

Waterfront: The Waterfront area, including the James Hehir building and associated car parks, sits on the Ipswich wet dock, which opened in 1842; although a dock and harbour have been present on this site for centuries. Historically this area has been densely packed with heavy to light industrial use associated with businesses servicing the dock, in addition to the manufacture of gas, fertilisers and engineering parts.

Geology

The geology across the Campus is variable and site investigations carried out in 1986, show that made ground exists at variable depths over alluvium and terrace gravels, over glacial valley infill and upper chalk, with no London clay. Groundwater lies at an average of about 2 to 3m.

Key Designations

The following table summarise the key ecological and habitat designations either on site, or within 1 km of the University of Suffolk

Table 1: Key Designations

Statutory Designation	Description	Distance from Site
RAMSAR	Stour and Orwell Estuary	>1km
SSSI	Stour and Orwell Estuary	>1km
<i>University falls within the Impact Risk Zone for both of the above</i>		
SSSI	Stoke Tunnel	1km
Nitrate Vulnerable Zone	On site – all areas	On site
Designated Habitats		
Deciduous Woodland/ National Forest Inventory	Brickmakers wood	Onsite
Deciduous Woodland/ National Forest Inventory	Alexandra Park	Site Boundary East
Deciduous Woodland/ National Forest Inventory	Holywells Park	527m SE
Deciduous Woodland/ National Forest Inventory	Finbars Walk	540m NE
Species		
Identified by MAGIC Defra/SBIS - Common Names		
Birds	Curlew, Lapwing, Redshank, Turtledove, Yellow Wagtail, Hedge Accentor (Dunnock)*, Common Starling*, Song Thrush*, House Sparrow*, Herring Gull, Swift, Raptors	(*Suffolk Priority species)

Mammals	Common Pipistrelle, Soprano Pipistrelle, daubentons, Hedgehog	Associated Suffolk Priority Species
Reptiles and Amphibians	Great Crested Newt , Common Toad	As above
Bees and Wasps	Weevil Hunting Wasp, 5-Banded Tailed Digger Wasp	As above
Beetles	Necklace Ground Beetle, Stag Beetle	As above
Butterflies and Moths	Wall, Goat Moth, Four Spotted Moth	As above
Mosses and Liverwort	Thatch Moss, Chalk Screw Moss	As above
Plants	Broad-leaved Cudweed, Red Hemp-nettle, Annual Knawel, Fine-leaved sandwort, Ash, Elm	As above

Biodiversity Compartments

The University Campus has been divided into site compartments, as indicated, for targeted management and specific habitats. These are as follows recorded in Table 2: UOS Biodiversity Master Designations. Condition status has been ranked using the following determinations:

- **Favourable:** Area is well managed and in continuous improving condition, enhanced biodiversity evident;
- **Favourable improving:** Area is well managed, with condition improving;
- **Adequate:** Area is managed, has some evidence of biodiversity, but further improvement programmes require implementing;
- **Inadequate:** Area has maintenance management, with low biodiversity value

Table 2: UOS Biodiversity Master Designations

Campus Location	Site Location	Site Description	Condition
North Campus	Brickmakers Wood TM 17221 44171	4+ acres deciduous urban woodland, with Ash tree's, newly developed pond area. Stag beetle population. Joint ERC and UOS Management Programme 1	
	Amenity Area Arts 1 TM17171 44251	Amenity grassland and shrubs – Management Programme 2	
	Amenity Area Arts 2 TM 17158 44189	Amenity landscaping Management Programme 3	
	Atrium East TM 17662 44242	Amenity grassed - bushes, 5 trees	
	Atrium West TM 16975 44242	Amenity Grassed – bushes, <5 trees Management Programme 4	
Waterfront	WF Coprolite street TM 17035 44051	Amenity grassed <5 trees	
	WF Greenroof TM 17013 44078	Green roof with 5x Sedum species planting	
	James Hehir (JH) TM 17063 43820	Made ground, with partial bee friendly native species seed planting Management Programme 5	
	JH Green Roof TM 17029 43841	Greenroof: semi-intensive, with a moderate vegetation planting including, sedum, herbs, grasses and wild flowers. Nesting box for Peregrine Falcon Management Programme 6	

Living Laboratories

Since 2016 the University Estates department has driven the University's commitment to embedding sustainability across the organisation through the creation of onsite Campus Living Laboratories. Living Labs are a recognised means of replicating real- life sustainability challenges within a physical framework, that facilitates student, operational and academic staff knowledge transference; through engagement, internal and external partnership collaboration and the testing of innovative management practices and technology.

Many of these include programmes for biodiversity restoration, and enhancement and seek to not only meet the Biodiversity Plan objectives, but to provide a platform for the acquisition of insights into the practical application of a biodiversity based program of works and provide opportunities for research and curriculum engagement in assessment and surveying work to obtain metrics and measure performance. This is an integral approach into ensuring the Biodiversity Plan's success and ensuring a campus wide translation into ecological gain.

The University has developed 3 main Ecological Living Labs for biodiversity, with a fourth in the pipeline at the Adastral Park, Digitech Hub.

- Brickmakers Wood
- James Hehir: Living Roof – Living Lab
- Amenity Spaces

Brickmakers Wood

Brickmakers Wood is a University owned 3.5 acre brown field urban woodland on North Campus abutting Alexandra Park. Following an audit in 2015 the site was found to be in deleterious condition, with evidence of substance misuse and anti-social behaviour. As part of our Estates commitment to sustainability a long term peppercorn lease was extended to ERCT; a regional cancer care and well being woodland charity whose exemplary work in social sustainability and biodiversity align with the Universities strategic vision to seek to address the SDG's within it's own activities and research.



Establishing a Woodland Living Lab within the context of the work ERCT undertake and set against the connected framework of the SDG's, has enabled the creation of a transdisciplinary, multistakeholder resource where innovations and learning possibilities can take place. Where activities are mutually beneficial; with a shared investment in deepening knowledge, widening research application and enhancing the well-being and skills acquisition of the communities both organisations serve.

The Living Lab Project has provides curriculum access for Wildlife, Radiotherapy, Oncology and Teacher Training students, affording them designated curriculum time to work within the woodland on team building conservation activities along with clinical representatives from all four partner NHS Trusts, academic SEN and nature conservation specialists.

With assistance from a Postcode Lottery grant a new wildlife pond and heritage orchard has been created to support user groups outside of academia and to act as a research site for evaluating localised improvements to Urban Biodiversity in the Alexandra Ward. This resource forms the basis of a longitudinal study, working with the new Wildlife, Ecology and Conservation undergraduates, targeting indicator species and evaluating improvements to local air quality and the broader Ipswich habitat.

James Hehir: living Roof

The Living Roof – Living Lab is situated on the green roof section of the University James Hehir building. Green roofs have been widely recognised as providing significant private and public benefits to urban environments. These benefits include improved stormwater control, better air quality, lower energy consumption, enhanced biodiversity, natural urban heat sinks and healthier, more beautiful skylines. And as such form an important part of the University Biodiversity Plan.

A preliminary Condition Review was conducted by Estates on both the James Hehir and Waterfront roofs in September 2017. The review sought to broadly assess the green roof infrastructure and undertake a basic quadrat inventory of flora species as verification for restoration work and a qualified specialist Survey in 2018. The green roof infrastructure condition was observed to be in poor repair in parts, however, self-seeded native species such as Geranium, Bloody Cransbill and White Stone Crop were evident, with a variety of non-native grasses and sedums surviving from the original planting scheme. Raptor and sea bird activity was also evident, with a good range of insect species in the south eastern corner.



Over the AY 2018/19 a number of exciting initiatives saw the Installation of a Living Roof Living Labs project; supported by the University of Suffolk Foundation Board, Buglife, Hawk and Owl Trust and the Wildlife Ecology and Conservation Science degree staff and students. Since 2014, a pair of peregrines has nested in a specially built box on top of the Mill tower, but after the box was destroyed by wind, and with building work underway, the University approached the Hawk and Owl Trust to build a new box on the James Hehir.

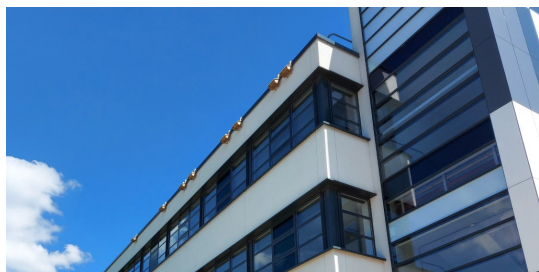
Following extensive collaboration and with help from the Hawk and Owl Trust, the first stage of Management Programme 5 (MP5), has now been completed, with a Peregrine nesting box, feeding table and wildlife camera installed.

In addition to the nesting box on-going restoration works are underway on the green roof beds, with supplemental planting of a 22 species wildflower seed mix.

Amenity Space

There are a number of amenity spaces as identified in the Biodiversity Designation Table, across both North Campus and the Waterfront. Biodiversity improvement works are

currently underway across this part of our estate. Management Programme 2 is being undertaken with a student intern, to create a wildlife area and extend the ecological corridor from Brickmakers Wood into the Campus. Management Programme 3, has seen some wildlife naturalisation planting with Buglife to introduce native bluebells and wild garlic, with further works underway through to upgrade the amenity planting across this area to balance a visual aesthetic with wildlife supporting planting schemes.



Management Programme 4, is also in progress, with the installation of Swift nesting boxes and call system on the Atrium Roof and a proposed wildflower meadow to be sown in AY2020/21 once the Hold Building works are completed.

Biodiversity Action Plan

The University of Suffolk Biodiversity Action Plan is the implementation document that underpins the Biodiversity Plan 2019 to 2024. It sets out the broader University Objectives and identifies a wide range of Management Programs and initiatives for implementation to drive forward our strategic aims.

This Action Plan will be reviewed on an annual basis.

The Action Plan is available at **Annex A** to this document.

Aim

To ensure that biodiversity becomes an integral part of the University and wider regional habitat networks through the application of projects and plans that meet the ambitions of the University Strategy and the United Nations Sustainability Development Goals (SDG's).