



UCL

GREEN

**BIODIVERSITY
STRATEGY &
ACTION PLAN**

**Championing
biodiversity
across an urban
estate**

UCL

1. Introduction

The UCL urban estate comprises main teaching and research campuses, halls of residence, and other sites spread across London.

Ecological assessments of the Bloomsbury and Fitzrovia estate situated in the London Borough of Camden were undertaken in 2012/13 where, unsurprisingly, the most dominant habitat found was bare artificial habitat made up of the roads, paths, buildings and street furniture, but little green space.

The estate overall can be considered a priority habitat within the Camden and Westminster Biodiversity Action Plans which outline target aspirations around the enhancement of the built environment for biodiversity and improvements to ecological connectivity.

The UCL urban estate is conveniently located adjacent to and within easy reach of green spaces and so can support these targets and create stepping stones which ultimately form wildlife corridors.

UCL published its sustainability strategy reflecting the values and guiding principles set out in the 2011-21 UCL White Paper. The core aims are:

1. To create a campus which supports UCL's academic, research and enterprise activities in a sustainable way
2. To enable, empower and support all UCL communities to address our environmental sustainability impacts
3. To provide the education, advancement, dissemination and application of sustainable development
4. To maximise the wider impact of UCLs environmental sustainability activities at local, regional, national and international level through collaboration, partnership and communications
5. To become a leader across the HE sector in terms of environmental sustainability

Developing a Biodiversity Strategy and Action Plan will help to shape a set of deliverables against some of these aims. This Biodiversity Strategy and Action Plan will be a tool to ensure the protection, enhancement and promotion of the natural environment within the estate and to provide guidance to estates managers on the biodiversity interventions appropriate to support the planning process as the estate develops.

2. Why biodiversity is important in an urban environment

Every living thing has a place in what we call the 'balance of nature', and upsetting that balance can have untold effects where changes in biodiversity can influence the supply of ecosystem services.

At its most basic level, biodiversity is the existence of a wide variety of plant and animal species in their natural environments¹ and therefore sustains all life. For humanity biodiversity provides food, fuel, raw materials for shelter, clothing, and medicines. Added to that is its essential function of recycling carbon dioxide into oxygen. Biodiversity also benefits the wider environment which people inhabit.

On 22nd May 2013 the *State of Nature* report was published which highlights the decline of biodiversity across the UK and therefore the importance of redressing the balance.

'Of the 658 urban species for which we have data, 59% have declined and 35% have declined strongly. Invertebrates are doing particularly poorly in urban environments with 42% (183) showing strong declines^{2,1}

Contact with nature has many proven physical and mental benefits. Since more than 80% of the UK's population live in urban areas, it is essential that people living there are provided with sufficient opportunities to experience nature

Within Greater London, there are a number of nationally important habitats which can provide vital places to live for a wide variety of species. Some species are very common, like blackbirds, while others are nationally rare, such as the tower mustard plant and the stag beetle (over 30% of whose national population is found in London). Some once common species, such as the house sparrow, are now becoming rarer in the capital, while other species have special legal protection, especially bats and reptiles.

London's rich and diverse wildlife is under constant pressure from human activity. Climate change will further increase this pressure. By devising this Biodiversity Strategy and the action plan to maintain and enhance the

'Of the 658 urban species for which we have data, 59% have declined and 35% have declined strongly. Invertebrates are doing particularly poorly in urban environments with 42% (183) showing strong declines.'

State of Nature report published 22 May 2013



¹ Collins English Dictionary

² State of Nature 2013

wildlife value of its urban estate, UCL can contribute towards the capital's 2015 habitat targets.

3. Biodiversity Action Planning

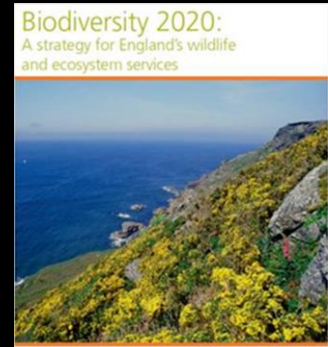
This Biodiversity Strategy and Action Plan sets objectives and actions for the conservation of biodiversity, with measurable targets following the UK Biodiversity Action Plan and in this case meeting London's regional needs.

In 1992, the UK government signed the Rio Convention and committed to halting biodiversity loss through the UK Biodiversity Action Plan.

London's Biodiversity Action Plan was developed from 1996 by the London Biodiversity Partnership (LBP), comprising of public bodies, statutory organisations, NGOs and private companies which subsequently published an audit of the regions habitats and species which incorporated an assessment of their status, threats and requirements. *Our Green Capital* (2000) and *The Action* (2001-04) followed, setting into place 31 Action Plans which included 11 habitats, 12 species and 8 generic issues such as site management and communications.

The delivery of London's Action Plans and subsequent monitoring was overseen by Working Groups within the LBP and a national Biodiversity Action Reporting System established in 2004. All were reviewed between 2007-08 following recommendations from Strategic Targets for Priority Habitats in London (2006). This led to HAPs incorporating targets to increase habitat by 2015 and a measurable SAP target population recovery by 2015.

Local Biodiversity Action Plans (LBAPs) for individual boroughs emerged in the late 1990s and aimed to reflect regional and national objectives. Since then a number of documents have been produced which embed and strengthen London's BAP activity. The Mayor's *Biodiversity Strategy* (2002) aimed to achieve this within the GLAs strategic planning arrangements. Since then other guidance and policy have had an additional bearing in and outside London including the *Millennium Ecosystem*



Assessment (2005), UK National Ecosystem Assessment (2011) and Biodiversity 2020: A strategy for England's wildlife and ecosystem services (2011).

The Government launched *The Natural Choice*, the Natural Environment White Paper (NEWP), in June 2011. This sets out an ambitious set of recommendations based on taking landscape scale conservation as the framework, and a range of policy ideas, such as ecosystem services, to help embed it. The BAP process, in some respect, has changed – the view that the key elements are now in place, and that it is for local providers and delivery agents to meet the various species and habitat targets at a local level. London Wildlife Trust is currently auditing the status of biodiversity conservation delivery in London, which will include setting these within the existing structures and the ambitions of the NEWP.

UCL could therefore be considered to be a local delivery agent able to enhance biodiversity contributing to continued improvements on a London-wide scale.

The estate overall can be considered to fit the designation 'The Built Environment' priority habitat for the Camden and Westminster Biodiversity Action Plans and some of the more open areas can be considered to fit the designation 'Parks and Open Spaces' priority habitat in the London Biodiversity Action Plan.

There are a number of targets associated with these designations to which UCL could contribute.

Parks and urban spaces

- Raise awareness of how site management can be improved to enhance access to nature
- Increase the number of volunteers recording wildlife
- Co-ordinate and deliver biodiversity enhancements to grounds

The Built Environment

- Improve the condition of the built environment for biodiversity through the incorporation of green roofs, living walls and Sustainable Urban Drainage Systems (SUDS) into existing and new developments



City of Westminster



Species

- Contribute to an increase in the number of:
 - common swift
 - house sparrow
 - bats

The London Borough of Camden's BAP specifically has targets for the built environment:

- **To enhance the built environment for biodiversity and improve ecological connectivity within the urban landscape;**
- **To encourage planners, developers and building owners to design for biodiversity and install features beneficial to wildlife.**

The City of Westminster BAP is also concerned with the built environment

- **To protect and enhance biodiversity in the built environment. To create opportunities for biodiversity in new developments.**

4. UCL Biodiversity Strategy and Action Plan

Vision

We will enhance biodiversity across our urban estate to create corridors of wildlife connectivity

Strategic aim

To work with stakeholders to deliver phased enhancements in partnership as part of a holistic approach which delivers opportunities for teaching, research, engagement, working with local communities and improves the estate for both people and wildlife

Action planning

1. **target species** that can be attracted onto UCL estates
2. create new **habitats** and **food** sources to attract the target species
3. provide **guidance** for biodiversity improvements in masterplans
4. **involve** students and staff in delivering the improvements
5. **monitor** the interventions



6. **communicate** the benefits and achievements of biodiversity improvements
7. **identify** academic projects that integrate biodiversity into the learning framework

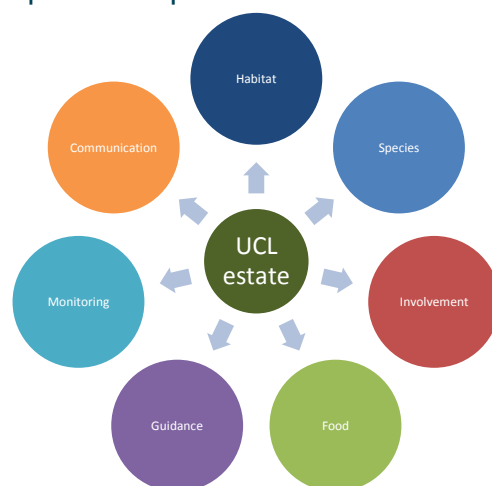
Benefits

UCL can benefit from enhancing biodiversity in a number of ways:

- a) More biodiverse outdoor spaces can provide **enjoyment and wellbeing** to students and staff;
- b) Involving students and staff in improving biodiversity may **inspire** them to be more engaged with the wider sustainability agenda;
- c) Biodiversity projects provide a chance to **partner** with many different **stakeholders** and could also see normally separate internal groups collaborating;
- d) Implementing this Biodiversity Strategy and Action Plan will provide **opportunities** for academic engagement
- e) Enhancing and conserving biodiversity will deliver some of the **targets** in local Biodiversity Action Plans (London, Camden and Westminster BAPs);
- f) Improving biodiversity will help the University meet **planning conditions** for new developments; this includes maximising credits under BREEAM assessment by demonstrating a campus-wide commitment to biodiversity
- g) This move forward of addressing biodiversity will further enhance the University's **lead** on sustainability and demonstrate its **responsibility** to the natural environment
- h) Providing **impetus** for interaction across disciplines to feed into existing research and academic programmes such as the UCL Grand Challenge of Sustainable Cities

It is important to recognise that most UCL sites are within an intensively built up environment but we can create biodiverse pockets which, when linked, can become corridors between key spaces from Queens Square to Fitzroy Square.

In order to meet these objectives, we will focus on 7 key workstreams that in combination and partnership will how incremental improvements year on year.



5. Workstreams

Target species

Despite the abundance of artificial (concrete, brick, glass and metal) surfaces, the built environment can be a valuable habitat for some species that have adapted to co-exist with people. The presence of trees and vegetated spaces help to provide foraging areas and shelter for species.

For UCL it is appropriate to enhance the estate to attract some of the more common London species. These species may already be in some of the surrounding open spaces:

Bats (forage only)

pipistrelle, *Pipistrellus pipistrellus* and *P. pygmaeus*
noctule, *Nyctalus noctula*

Birds

swift, *Apus apus*
common starling, *Sturnus vulgaris*
wren, *Troglodytes troglodytes*
blackbird, *Turdus merula*
song thrush, *Turdus philomelos*
blue tit, *Cyanistes caeruleus*
great tit, *Parus major*
long tailed tit, *Aegithalos caudatus*
house sparrow, *Passer domesticus*
robin, *Erithacus rubecula*

Butterflies

gatekeeper, *Pyronia tithonus britanniae*
meadow brown, *Maniola jurtina*
painted lady, *Vanessa (Cynthia) cardui*
comma, *Polygonia c-album*
peacock, *Aglais [Inachis] io*
red admiral, *Vanessa atalanta*
small tortoiseshell, *Aglais urticae*

Dragonflies (generic)

Bumblebees

buff-tailed bumblebee *Bombus terrestris*
white-tailed bumblebee *Bombus lucorum*
garden bumblebee *Bombus hortorum*
early bumblebee *Bombus pratorum*
common carder bee *Bombus pascuorum*
red-tailed bumblebee *Bombus lapidarius*
tree bumblebee *Bombus hypnorum*
heath bumblebee *Bombus jonellus*



New habitats and food sources

Key to attracting species is to create a range of habitats and food sources suitable for London's wildlife. By creating these strategically across sites, green corridors will be created linking UCL to neighbouring green spaces.

- Enhanced landscapes – changes to management of existing vegetation, providing greater structural diversity
- Ponds – standing water can attract flying insects and mammals
- Green walls – provide shelter and potential nesting for birds and invertebrates
- Biodiverse roofs – secluded areas for birds and invertebrates to colonise
- Insect 'hotels' – specifically designed overwintering homes for invertebrates
- Additional planters in selective areas – will encourage more active involvement
- Wildlife-friendly planting – native and selective non-native species to provide nectar and seeds for wildlife
- Bird feeding stations – extra food source for birds during the winter
- Planting trees - broad-leaved trees will cool surrounding buildings and provide nesting sites, food and shelter for wildlife

Guidance

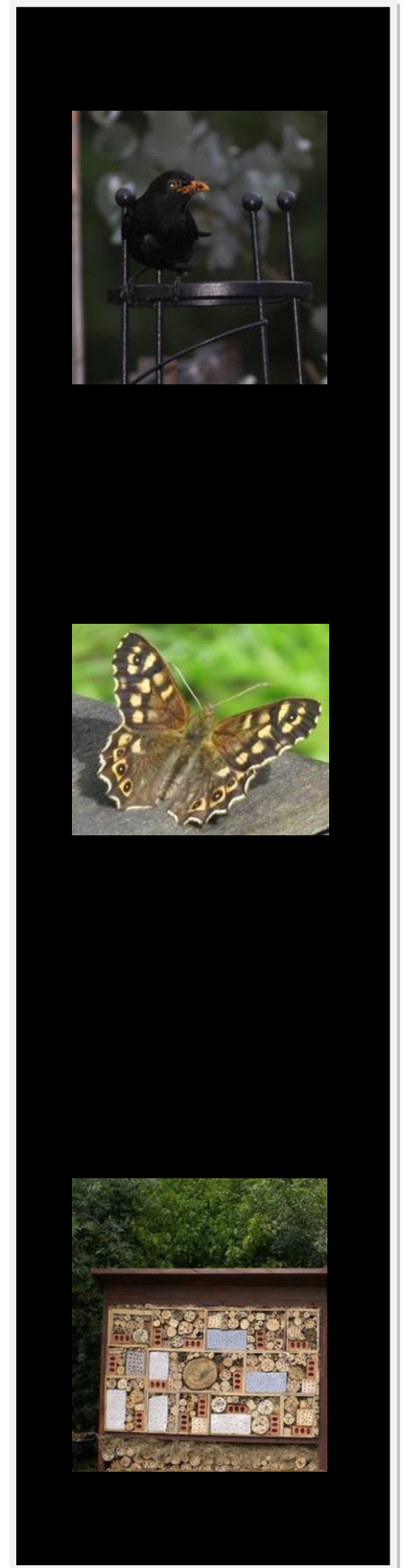
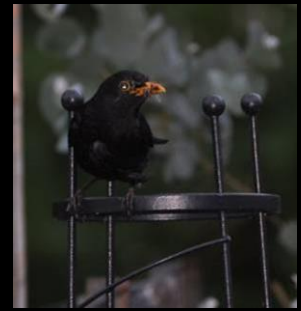
A step-by-step kit of parts on biodiversity interventions

Links to industry best practice

Involvement

UCL estates alone can only do so much. Without the involvement and commitment of stakeholders and partners, our vision cannot be met;

- UCL Estates including outsourced partners
 - Strategy & Programme Delivery
 - Property & Accommodation
 - Facilities & Infrastructure
 - Portfolio & Business Services
 - Safety & Sustainability



Academic Departments

- Bartlett
- Centre for Biodiversity and Environmental Research
- Civil, Environmental & Geomatic Engineering
- Genetics, Evolution and Environment
- Geography
- Slade
- Grant Museum of Zoology
- Volunteering Services Unit
- UCL Alumni
- External Stakeholders
 - Bat Conservation Trust
 - Camden Council
 - City of Westminster
 - Fitzrovia Business Improvement District
 - Inmidtown Business Improvement District
 - Kings Cross Partnership
- Student Stakeholders
 - Bentham's Farm
 - UCL Union
- UCL Nurseries
- Staff and Student Green Champions

Monitoring

Set up a Bioblitz programme to educate 'Biodiversity Champions' on how to recognise and then record the results of interventions.

This will enhance our own understanding of biodiversity and provide vital feedback to the Greater London population.

Communication

Bringing biodiversity out of the academic arena and making it part of the future using all the social media tools at our disposal as well as traditional communications will ensure that we are talking to the people who will make the difference.



GiGL

6. What's Happening Now?

- Habitat
 - Habitat surveys completed in:
 - Bloomsbury
 - Fitzrovia
 - Green Roofs/Walls:
 - Gordon House
 - New Hall
 - Sainsbury Wellcome Centre
 - 22 Gordon Street
 - 1-19 Torrington Place, Data Centre
 - In Planning: Bentham House, New Student Centre, Astor College
 - Biodiverse enhancements
 - Lavender border in Gordon St
 - Installation of swift nesting boxes on the SSEES, Sainsbury Wellcome Centre & School of Pharmacy buildings
 - Sparrow terrace nest boxes installed on Sainsbury Wellcome Centre and 22 Gordon Street Green Roofs
 - Bird and bat boxes in various buildings and gardens
 - Planting and trees in the new Wilkins Terrace
 - Institute of Education roof garden
- Involvement
 - Student led, monthly bird surveys have recorded 40 species of bird around campus
 - Working with project teams to implement further green roofs, walls and biodiversity enhancements through master plan designs for major projects, such as UCL East



| Ref | Aim | Action | Target Date | Lead | Other partners | Estimated Cost |
|-----|----------------|---|-------------|------------------------------|--|----------------|
| 1 | <i>Habitat</i> | Map potential locations for interventions into landscape (grounds) management to enhance biodiversity | Complete | Environmental Sustainability | Estates Strategy Facilities Services Green Champions | |
| 2 | <i>Habitat</i> | Map wall space suitable for potential usage for retro-fitting with vegetated walls | Dec-18 | Environmental Sustainability | Infrastructure Facilities Services | |
| 3 | <i>Habitat</i> | Map potential locations for green/brown roof retrofitting | Complete | Environmental Sustainability | LWT Estates Stakeholder Group | |
| 4 | <i>Habitat</i> | Introduce relevant interventions for target species in test areas across grounds | In Progress | Environmental Sustainability | Engineering, Maintenance & Infrastructure Student Accommodation UCLUnion | |
| 5 | <i>Habitat</i> | Always consider fitting vegetated walls in new-build/refurbishment projects | Ongoing | Estates Strategy | Capital Projects Engineering, Maintenance & Infrastructure | |
| 6 | <i>Habitat</i> | Create one new vegetated wall in an area that complements existing or proposed green space | Jul-18 | Estates Strategy | Capital Projects Engineering, Maintenance & Infrastructure | |

| Ref | Aim | Action | Target Date | Lead | Other partners | Estimated Cost |
|-----|----------------|--|-------------|------------------------------|--|----------------|
| 7 | <i>Habitat</i> | Relax mowing regimes around the bases of trees in lawned areas | Ongoing | Facilities Services | Satellite Estates Student Accommodation UCL Union | |
| 8 | <i>Habitat</i> | Include actions to improve biodiversity in Public Realm Strategy | Jul-18 | Estates Strategy | Environmental Sustainability LWT | |
| 9 | <i>Species</i> | Map appropriate locations for new bird/bat boxes/bricks on existing buildings and new developments | Complete | Environmental Sustainability | LWT Estates Stakeholder Group | |
| 10 | <i>Species</i> | Map potential locations for invertebrate 'hotel' installation | Jul-18 | Environmental Sustainability | LWT Estates Stakeholder Group | |
| 11 | <i>Species</i> | Create "signposts" of target species | Jul-18 | Capital Projects | UCL Stakeholders | |
| 12 | <i>Species</i> | Provide advice on most advantageous locations for bird/bat boxes for new build as part of planning process | Ongoing | Environmental Sustainability | Environmental Sustainability Estates Strategy Capital Projects | |
| 13 | <i>Species</i> | Install videocam bird boxes in high profile locations on campus | Jul-19 | Facilities Services | Estates Information Systems Information Services | |

| Ref | Aim | Action | Target Date | Lead | Other partners | Estimated Cost |
|-----|--------------------|---|--------------|------------------------------|--|----------------|
| 14 | <i>Involvement</i> | Create academic projects around urban biodiversity | Ongoing | Academic Stakeholders | Environmental Sustainability LWT | |
| 15 | <i>Involvement</i> | Build planters in dead spaces identified close to student activity | Jul-18 | Facilities Services | LWT Student Volunteers | |
| 16 | <i>Involvement</i> | Promote schedule of planned interventions with opportunities for active participation | Jul-18 | Volunteering Services Unit | UCLUnion UCL Communications | |
| 17 | <i>Involvement</i> | Run training sessions on urban biodiversity issues, opportunities and enhancements | Ongoing | Academic Lead | Student Volunteers | |
| 18 | <i>Involvement</i> | Recruit students to maintain new planters | Ongoing | UCLUnion | Volunteering Services Unit Bentham's Farm | |
| 19 | <i>Involvement</i> | Map areas where interventions can be introduced and create rolling programme of introductions | Jul-18 | Environmental Sustainability | LWT UCL Stakeholders | |
| 20 | <i>Involvement</i> | Set up active volunteering sessions to create various habitats e.g. insect hotels, loggeries | Jul-18 | Volunteering Services Unit | UCLUnion Student Accommodation | |
| 21 | <i>Food</i> | Identify suitable location for bird-feeding station(s), and implement | Ongoing | Environmental Sustainability | LWT Facilities Services | |
| 22 | <i>Food</i> | Wildlife friendly planting – new plants to be introduced to existing beds when planted re-planting required | Over 5 years | Facilities Services | Student Volunteers Student Accommodation | |

| Ref | Aim | Action | Target Date | Lead | Other partners | Estimated Cost |
|------------|----------------------|---|--------------------|------------------------------|--|-----------------------|
| 23 | <i>Food</i> | Construct new planters in areas identified in mapping exercise | Jul-18 | Facilities Services | LWT Student Accommodation | |
| 24 | <i>Guidance</i> | Produce "kit of parts" for biodiversity interventions | Complete | Environmental Sustainability | LWT Estates Strategy Capital Projects Engineering, Maintenance & Infrastructure | |
| 25 | <i>Guidance</i> | Signpost to latest best practice advice via internal channels | Ongoing | Environmental Sustainability | LWT | |
| 26 | <i>Monitoring</i> | Create monitoring tool (based on green infrastructure tool) | Jul-19 | LWT | UCL Stakeholders | |
| 27 | <i>Monitoring</i> | Set up Citizen Science programme to allow volunteers to identify and record wildlife | Jan-18 | Environmental Sustainability | LWT GIGL | |
| 28 | <i>Monitoring</i> | Submit records via iGIGL | Dec-18 | Environmental Sustainability | LWT GIGL | |
| 29 | <i>Communication</i> | Set up micro-site for up-to-date information on sightings, new developments, projects | Aug-18 | Environmental Sustainability | Estates Information Systems UCL Communications | |
| 30 | <i>Communication</i> | Include monitoring reports on progress towards BAP targets within key internal publications | Annual | Environmental Sustainability | | |

| Ref | Aim | Action | Target Date | Lead | Other partners | Estimated Cost |
|------------|----------------------|---|--------------------|---------------------|-----------------------------|-----------------------|
| 31 | <i>Communication</i> | Use screens to live broadcast videocam footage once inhabited | Jul-19 | Facilities Services | Estates Information Systems | |
| 32 | <i>Communication</i> | Maximise exposure via social media channels | Ongoing | Student Volunteers | UCLUnion | |