



# Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

## Designing buildings that protect biodiversity

A UCL team is devising ways to encourage construction companies to consider the benefits of incorporating the natural environment within building design and project delivery.

Dr Alex Opoku (UCL Bartlett School of Sustainable Construction) worked with the University College of Northern Denmark and UK construction industry practitioners to understand the perspectives of industry on tackling land degradation and biodiversity loss in their work.

“Some developers are already including green infrastructure, such as living walls, green roofs and green space in their designs, but many others are unaware of the advantages biodiversity can bring,” says Dr Opoku.

Dr Opoku is helping bring biodiversity to the heart of policies and strategies to create a sustainable built environment, by encouraging architects and engineers to consider including green infrastructure and use more sustainable building practices.



Photo: Hugh Clark / www.bats.org.uk

“Green spaces help to purify the air from pollutants and access to such green areas offers psychological benefits including improved mental health,” he adds.



## A smart approach to biodiversity monitoring

World leading experts at the UCL People and Nature Lab are joining forces with urban land managers to devise new ways to monitor bat species, with a pilot deployment across Queen Elizabeth Olympic Park, in Stratford, East London.

The centre is a cross-disciplinary hub that brings together ecologists, computer scientists, city planners, economists and social scientists, to gather evidence on how natural resources can be best managed for a sustainable future.

The centre has devised a novel smart sensor to monitor bat populations in the park. It captures high-frequency sounds, such as bat calls, and converts them into an image called a spectrogram. Computer algorithms built into the sensor then scan the images to identify the presence of different bat species by their calls.

“Bat species are a good indicator of the general health of the natural environment in a particular area,” explains Professor Kate Jones (UCL Centre for Biodiversity & Environment Research), Director of the People and Nature Lab. “They are the top predator of nocturnal insects, so the impact of any changes in land use on the insect species has a knock-on impact on bats.”



*“The project is delivering and supporting pond restoration in Norfolk, so that its agricultural landscape supports more and better-quality ponds to help boost local aquatic biodiversity.”*

**Professor Carl Sayer**  
(UCL Geography)



### Restoring Norfolk’s farmland ponds to support biodiversity

Geographers at UCL are working with farmers and conservation groups across Norfolk to restore farmland ponds.

The county once had over 31,000 ponds, many of which were in farmland and date back to the 17th and 18th centuries. But thousands of these small waters have been filled in, or fallen into disrepair and become overgrown by trees.

The Norfolk Ponds Project was established by the UCL Pond Restoration Research Group in partnership with several wildlife conservation groups to restore neglected pond habitats for a wide variety of plants and animals, including amphibians, farmland birds, bats, rare fishes and even pollinators.

“The project is delivering and supporting pond restoration in Norfolk, so that its agricultural landscape supports more and better-quality ponds to help boost local aquatic biodiversity,” says Professor Carl Sayer (UCL Geography), the project’s lead researcher.

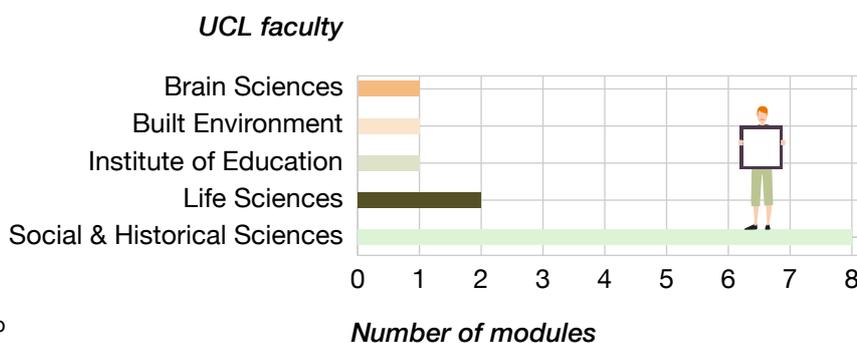


### Evidence-based solutions to prevent biodiversity loss

In partnership with the World Wildlife Fund, UCL experts are studying some of world’s most precious ecosystems to understand how conservation interventions can help reduce the impacts of human activity on the world’s biodiversity. ▶

### Taught modules at UCL supporting SDG15 in 2021–22

Source: PPMI, a partner in the UN AI Lab – more details in the [methodology](#)



# 383

SDG15-related policy citations in 2016–20

Source: Overton – see [methodology](#)

◀ The project is exploring the effects of human activities on four distinct biomes (large areas of interconnected ecosystems that can be characterised by local climate and environmental conditions). The team is studying: sub-tropical dry forest in Nepal; coral reefs in Fiji; tropical forest in Malaysian Borneo; and savanna grassland in Kenya.

“Complex ecosystems of vegetation and wildlife around the world are under pressure from human influences such as climate change and land management,” says Guilherme Braga Ferreira (UCL Centre for Biodiversity &

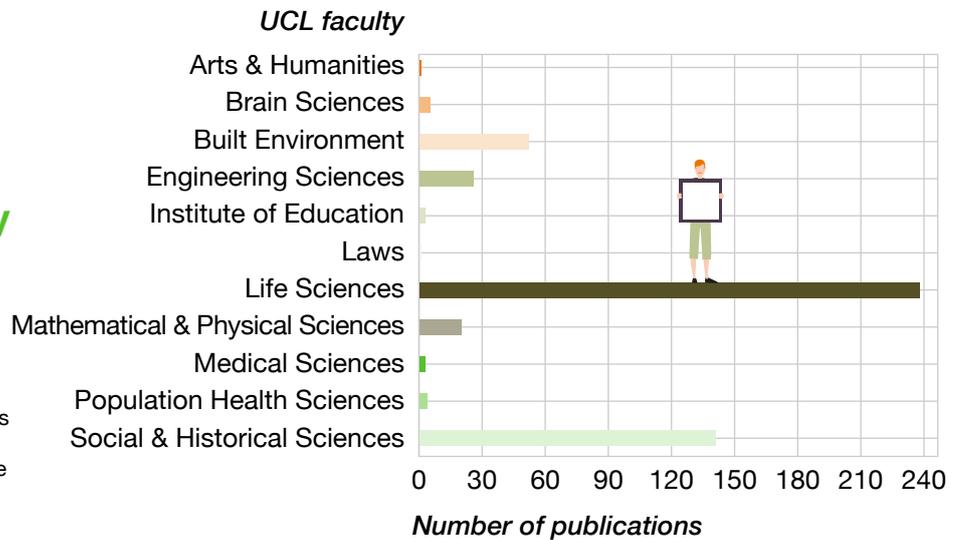
Environment Research), who is overseeing the data collection and analysis from the four sites.

In collaboration with local partners, the team is designing a field-based study system that will help uncover how biodiversity responds to human influence, and how conservation activities can help reduce the impacts of these pressures.



## Number of UCL’s research publications supporting SDG15 by faculty in 2016–20

Graph based on keyword searches of publication databases using a set of SDG keywords developed by Elsevier. Read more about the methodology used on the [SDGs Initiative website](#)



# 29.3%

of UCL’s SDG15-related publications are in the top 10% most cited for all research of similar papers in 2016–20

Source: Scopus and Clarivate – see [methodology](#)

# 77.9%

of UCL’s SDG15-related research publications are international collaborations, 2016–20

Source: Scopus and Clarivate – see [methodology](#)

## DISCOVER MORE

Read more on these activities and other examples of how UCL is helping to achieve SDG15 are on the [UCL SDGs Initiative website](#).