NUI Galway
OÉ Gaillimh

## COLLEGE PARK

**Location:** Directly in front of the main entrance to the Quadrangle building

**Look out for:** Sycamore and horse chestnut trees, pipistrelle bats at sunset in the summer

## EGLINTON CANAL

**Location:** Visible by standing on the O'Shaughnessy Bridge

**Look out for:** Trout, kingfishers and otter

## HERB GARDEN

**Location:** Outside Moffetts Restaurant in the Orbsen building

**Look out for:** Bees and other pollinators visiting flowers in summer

## THE RIVER CORRIB

**Location:** Along the river path

**Look out for:** Yellow iris and common spotted orchids in summer, mute swans and grey heron year around

## ENGINEERING LAWN

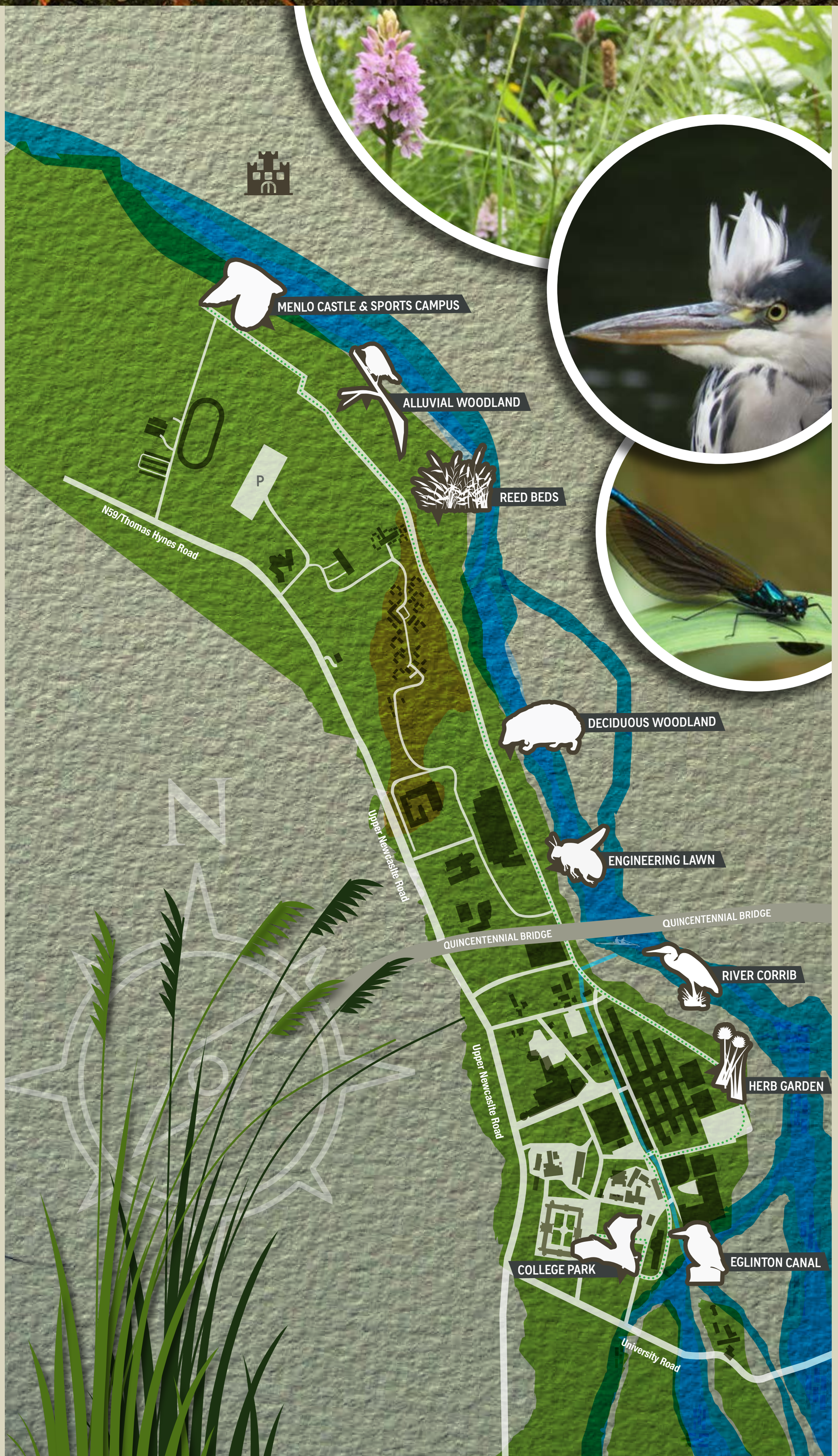
**Location:** In front of the Alice Perry Engineering Building

**Look out for:** Blackbirds and goldfinches, clover and buttercups in summer

## DECIDUOUS WOODLAND

**Location:** Along the river path between the Alice Perry Engineering Building and Corrib Village

**Look out for:** Woodmouse, pygmy shrew, bluebells and wild garlic in spring






## ALLUVIAL WOODLAND

**Location:** Along the river path past the Dangan Park & Ride

**Look out for:** Alder trees, ivy, fox and stoat, haws in autumn

## REED BEDS

**Location:** Between the river path and the river

**Look out for:** Common reed, meadowsweet, willow warbler, reed bunting

## MENLO CASTLE AND SPORTS CAMPUS

**Location:** On the opposite bank of the river from the sports pitches

**Look out for:** Barn owl, peregrine falcon, lesser horseshoe bat at dusk

## BIODIVERSITY AUDIO TRAIL

In addition to this leaflet, we also have produced a biodiversity audio trail to guide you around the campus. This audio trail also features many of our campus community who are involved in research, teaching and stewardship of biodiversity on campus and beyond. For more information, and to access the audio tour, visit:
**www.nuigalway.ie/biodiversitytrail**

## FLORA TO FEED UPON

Our gardeners take pride in the University landscape and they love sharing the fruit of their work with our campus community and visitors. Passing through the campus, you'll find fruit trees, berries, and organic vegetable and herb gardens. Keep your eyes peeled, and help yourself to herbs, fruit and berries as you pass through!

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BIODIVERSITY TRAIL

# BIODIVERSITY TRAIL

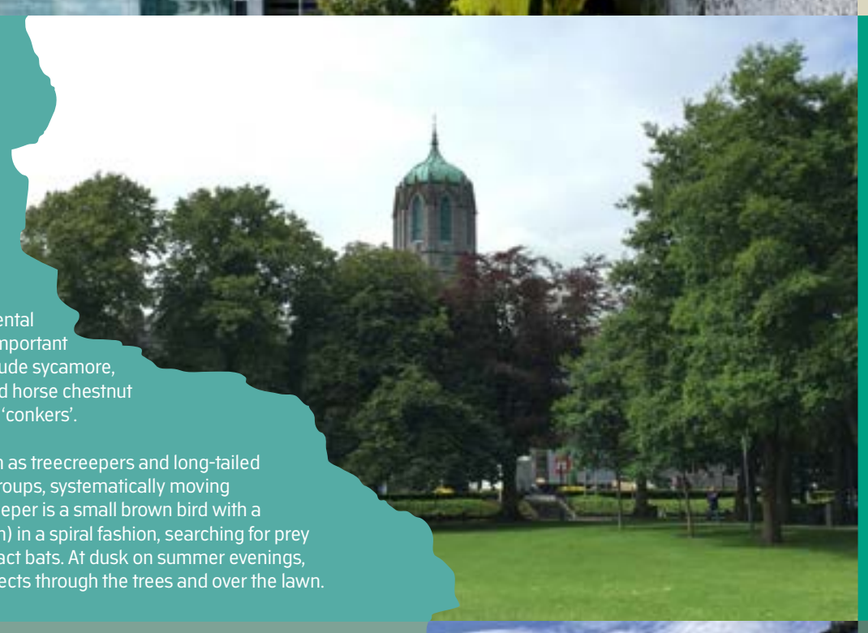
## WHAT IS BIODIVERSITY?

Biodiversity is the variety of different plants and animals that are found in an area, and is a term used to encompass all life on earth. A high level of biodiversity is often associated with a thriving and healthy ecosystem. NUI Galway's main campus extends along the majestic River Corrib, and its rich biodiversity has been highlighted through the Intervarsity BioBlitz competition, run by An Taisce and the National Biodiversity Data Centre. The campus can support high biodiversity due to its variety of habitats. These include alluvial woodland, reed beds, dry grassland, the river, and a portion of the Lough Corrib Special Area of Conservation.

This trail invites you to explore some of the distinct habitats on main campus at your leisure. Our birdlife ranges from Ireland's smallest bird – the Goldcrest, to our largest – the Mute Swan, as well as the world's fastest animal – the peregrine falcon. The River Corrib and associated wetlands play host to many fishes, aquatic plants and waterbirds. Mammals, including the badger, fox, otter, stoat, wood mouse and pygmy shrew, also call the campus their home. Meanwhile, all of Ireland's nine bat species have been recorded patrolling the night skies above the campus.

In this trail, you will find locations and descriptions of our distinct habitats on campus, and some of the species to be found there.

## COLLEGE PARK



The College Park in front of the Quadrangle is surrounded by several species of mature ornamental trees. Although non-native, these trees provide important habitat for many insects and birds. The trees include sycamore, European lime, Italian alder and two 150-year-old horse chestnut trees. Horse chestnut seeds are better known as 'conkers'.

The trees provide a hunting ground for birds such as treecreepers and long-tailed tits. Long-tailed tits can often be seen in family groups, systematically moving through the trees hunting for insects. The treecreeper is a small brown bird with a curved beak. It climbs up tree trunks (never down) in a spiral fashion, searching for prey in the bark. The insect life in these trees also attract bats. At dusk on summer evenings, pipistrelle bats can be seen hunting for flying insects through the trees and over the lawn.

## ENGINEERING LAWN

This lawn in front of the Alice Perry Engineering building, along with all the grounds bordering the River Corrib, is managed in a biodiversity-friendly way. Herbicides and pesticides are not used and the grassy areas are cut less regularly to allow plants, like clover, daisy and dandelions, to produce their flowers. These areas in turn provide shelter and food for pollinating insects and other species.

The areas of long grass under the trees can be thought of as miniature forests that are teeming with life. They create a moist and sheltered habitat at soil level that is ideally suited to animals like earwigs and beetles. These in turn provide food for mammals such as shrew and hedgehog. The grass cover also prevents the soil from drying out.

## EGLINTON CANAL

Although it is a man-made habitat, Eglinton Canal hosts a wide variety of flora and fauna. From the O'Shaughnessy bridge, keep an eye out for wagtails, which hunt for insects along the stone canal walls. Another bird that can be seen here is the charismatic kingfisher.

In the water, plants provide food for aquatic insects, such as caddisfly larvae. There are around 150 species of caddisflies in Ireland and they are an important food source for juvenile salmon and trout. The larvae metamorphose into moth-like adults and leave the water. As adults, they can live for a few days to a couple of months.

The adult caddisflies are a food source for bats, such as Daubenton's bat. Daubenton's bats are best seen in summer months one hour after sunset. They are easily identified as they fly just above the water's surface, catching riverflies with their large feet.

## DECIDUOUS WOODLAND

Sycamore and beech are the main tree species found in this patch of deciduous woodland along the river between the Alice Perry Engineering building and Corrib Village. From early spring, plants on the woodland floor begin to emerge. These include bluebell, wood anemone and wild garlic. These plants produce leaves and flowers before the tree canopy blocks out the sunlight. Their flowers are also important for early spring pollinators.

Lords-and-ladies, a woodland plant, has a specialised way of attracting pollinators. Its poker-shaped flower emits an odour and produces heat to mimic the smell and temperature of fresh faeces. This attracts flies, such as the owl midge, that are looking for a place to lay their eggs. The plant temporarily traps the flies. In this way, they maximise the chance of fertilisation from pollen carried in by the insects. Once pollinated the flowers develop into red berries by autumn.

## HERB GARDEN

The raised bed herb garden outside Moffetts Restaurant in the Orbsen building provides edible herbs, as well as flowers for pollinating insects to feed on. The most familiar pollinators are bees; but butterflies, moths, flies and beetles are also important pollinators. Pollinators get food from the flowers but they also transfer pollen from flower to flower which allows the plant to reproduce and bear fruit and seeds. Much of the food we eat comes from plants that require insect pollination. Pollinators are attracted to flowers by colour, smell and the promise of sweet sugary nectar.

Pollinators come in all shapes and sizes, and this can determine what flowers they visit. By planting a selection of different flowers, it encourages a diverse selection of insects. Having plants that bloom at different times of the year ensures there is food for pollinators throughout the seasons. As no pesticides or herbicides are used in the herb garden, it is managed to benefit both pollinators and people. Why not have a taste?

## REED BEDS

From Corrib village onwards, reed beds stretch between the path and the river. Reed beds form an important habitat on flood plains. Here they are composed of stands of common reed, branched bur-reed and bulrush. Their roots stabilise the riverbanks and prevent erosion. The bacteria that are associated with the roots of these plants remove excess nutrients from the water and prevent organic pollution. The tall leaves provide nesting sites for water birds, such as mallard and moorhen. Moorhen chicks can dive for food between the reed stems within a week of hatching but will not be able to fly until they are a month-and-a-half old.

In winter, the habitat is important for migratory birds, which take advantage of milder Irish winters compared to those in other parts of Europe. For instance, the Corrib hosts large flocks (or coverts) of Eurasian coot during the winter months. The European population is thought to be in decline, so this Irish winter stronghold is important.

## THE RIVER CORRIB

The River Corrib is designated as a Special Area of Conservation (SAC) under EU and Irish law as it contains several ecologically important habitats and species. The important species include salmon, sea lamprey and white-clawed crayfish. The River Corrib also has an extensive collection of stonewort algae.

Salmon and sea lamprey use the river to get to their spawning grounds further upstream. Both species hatch and develop in fresh water before migrating to the sea. Salmon famously return to the exact river where they hatched, while lamprey have a different tactic, and detect chemical signals produced by larvae already in the river. This signal tells the adults that the river has the right conditions for developing young. Both species are hunted by otter, which are found on campus and in the waterways of Galway city.

## ALLUVIAL WOODLAND

This patch of woodland along the riverbank is classified as an alluvial woodland habitat. The main tree species found here are ash and alder. Ash trees need a lot of sunlight and can orientate their leaves to face the sun. They are one of the last trees to get their leaves in spring and one of the first to lose them in autumn.

Alder may have been one of the first trees to arrive in Ireland after the last ice age. They have bacteria in their roots that improve soil quality. Both ash and alder are important food plants for certain species of moth caterpillars, such as the aptly named alder moth and the ash-bud moth. The damp and shaded nature of this woodland habitat promotes the growth of moss and fern species. The bird species found here include blackbird, chiffchaff and blackcap.

## NUI GALWAY

Welcome to the West of Ireland's largest and oldest university. NUI Galway offers many opportunities to connect with nature, including our field research stations in the Burren (Carron & Finavarra) and Connemara (Carna). But did you know our main campus in Galway city is also home to a wealth of wildlife? This campus trail is designed to guide you through our natural habitats, which are often also used for teaching and research. We hope you enjoy discovering what makes our riverside campus so special!


EUROPEAN GREEN LEAF
An initiative of the European Commission

An initiative of the European Commission


**Community and University Sustainability Project (CUSP):**
NUI Galway aims to establish the campus as one of the greenest, healthiest, smartest campuses worldwide. The NUI Galway Sustainability Strategy 2017-2020 will help realise this vision. This biodiversity trail was produced under the "Nature and Ecosystems" part of this strategy.


Funding was provided by CUSP and the Climate Change and Environment Section of Galway City Council, as part of Galway City's European Green Leaf 2017 designation. Galway is the first Irish city to receive this European Commission designation, which recognises a city's commitment to better environmental outcomes.



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**www.nuigalway.ie/sustainability**
**www.nuigalway.ie/visitors**
**Audio Tour: www.nuigalway.ie/biodiversitytrail**


## MENLO CASTLE AND SPORTS CAMPUS

The chimneys and alcoves of the ruins of Menlo Castle provide roosts for two important Irish species, the barn owl and the lesser horseshoe bat. The lesser horseshoe bat is so named due to the horseshoe-shaped flap of skin which surrounds its nostrils. In Ireland, they are only found in the West due to the relatively frost-free conditions here. Lesser horseshoe bats like to forage for insects in woodlands and vegetation associated with watercourses, which the NUI Galway campus provides in abundance.

Barn owls are rarely seen but they have a long harsh screech that reveals their presence. They like to hunt on open ground and woodland edges, particularly where the grass is long. They hunt for prey by using their impressive hearing to hone in on prey.

The northern part of campus is also home to stoats. These small carnivores can hunt prey much larger than themselves.