



# *Nature in the City a guide to Biodiversity in Cork City*

**Nature in the City a guide to Biodiversity in Cork City**  
Nádúr sa Chathair, treoir ar an mBithéagsúlacht i gCathair Chorcaí

**An Action of the Cork City Biodiversity Plan 2009-2014**

## Acknowledgements

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The booklet was researched and written by Mr Rick Mundy, RPS Group, Cork.

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The significant contribution of Mr Dennis MacGarry, late of the Planning Dept, to this booklet, and many other Cork City Council publications over the years, is acknowledged. Dennis' images, particularly those of nature in Cork City, has greatly enhanced the many Heritage publications in which he was involved. Ar dheis Dé go raibh a anam.

Táimád fíor-bhuíoch dóibh san go léir a thug lámh chúnta d'fhon an saothar a thabhairt chun críche.



An Chomhairle Oidhreachta  
The Heritage Council



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## Message from the Lord Mayor



I am delighted to be associated with this interesting booklet "Nature in the City".

I wish to congratulate those members of staff who prepared this document particularly Niamh Twomey, Heritage Officer and acknowledge the support of the Heritage Council.

I hope this booklet will provide useful information to members of the public and specialists alike on the amazing wealth of wildlife and nature that exists in Cork City as well as highlighting the importance of biodiversity in the city.

**Councillor Dara Murphy, Lord Mayor**

## Message from the Manager



Cork City Council is committed to Biodiversity in the City through the implementation of the Cork City Biodiversity Plan (2009-2014). I am delighted to welcome the publication, "Nature in the City" which is a valuable addition to the existing series of interesting and worthwhile Heritage publications produced by the Heritage Officer, Ms Niamh Twomey.

I believe that this publication will highlight natural heritage as a positive element of life in the city and will give the reader an insight into the vast array of wildlife which thrive in Cork City.

**Mr Joe Gavin, City Manager**

## Foreword

As Chairman of the Cork City Heritage Forum I welcome the interesting and informative booklet "Nature in the City" This publication is an action from the Cork City Biodiversity Plan

Biodiversity means the variety of life on earth and encompasses everything from the smallest insect in our gardens to the largest whales in the ocean. It includes all living plants and animals whether rare or common. The term biodiversity is an attempt to represent in a single word the rich tapestry of life on earth.

Cork City supports a wide and varied array of plants and animals. The green spaces of the city such as gardens, parks, and areas such as the ponds and lakes, rivers and Cork harbour provide havens for many species more usually found in rural situations. Indeed many of the urban structures of the city eg the walls and buildings, also provide homes to species which specialise in living in cities.

This booklet helps to raise awareness of the wealth of nature in the city and indicates where and how nature in the city can be seen and enjoyed. This publication also gives practical tips on how to improve biodiversity and where to get further information and advice.

I would like to acknowledge the work of Mr Rick Mundy from RPS Group, Cork who wrote this publication. I would also like to thank Niamh Twomey, Heritage Officer who helped prepare this document and the Heritage Council for their financial support.

**Mr Kevin Terry, Chairman of Cork City Heritage Forum  
Director, Planning and Development and City Engineer**

## Réamhfocal

Mar Chathaoirleach ar Fhóram Oidhreachta Chathair Chorcaí cuirim fáilte roimh an leabhrán suimiúil agus faisnéiseach "Nature in the City". Is gníomh é an foilseachán seo ó Plean Bithéagsúlachta Chathair Chorcaí.

Is éard atá i gceist le bithéagsúlacht ná an éagsúlacht bheathra ar domhan agus cuimsíonn sí gach rud ón bhfeithid is lú inár ngairdíní chuig na míolta móra is mó san fharrage. Áiríonn sí gach planda agus ainmhí beo, is cuma cibé tearc nó coitianta. Is éard atá sa téarma bithéagsúlacht ná iarracht chun an taipéis saibhir de bheathra ar domhan a léiriú i bhfocal amháin.

Tugann Cathair Chorcaí tacaíocht do réimse leathan agus éagsúil plandaí agus ainmhithe. Soláthraíonn ceantair ghlasa na cathrach ar nós gairdíní, páirceanna, agus áiteanna ar nós na locháin agus lochanna, aibhneacha agus cuan Chorcaí tearmainn nádúrtha don iomaí speiceas a bhfaightear níos minice i dtimpeallachtaí tuaithe. Gan amhras soláthraíonn go leor de struchtúir uirbeacha na cathrach, m.sh. na ballaí agus foirgnimh, láthair chónaithe do speicis a gcónaíonn go speisialta i gcathracha.

Cabhraíonn an leabhrán seo chun feasacht a mhéadú i leith saibhreas an nádúir sa chathair agus léiríonn sé cá háit agus conas is féidir nádúr sa chathair a fheiceáil agus taitneamh a bhaint as. Sa bhreis ar sin tugann an foilseachán seo leideanna praiticiúla ar conas an bhithéagsúlacht a fheabhsú agus cá háit ar féidir teacht ar bhreis eolais agus chomhairle.

Ba mhaith liom aitheantas a thabhairt don obair a rinne an tUasal Rick Mundy ón nGrúpa RPS, Corcaigh, a scríobh an foilseachán seo. Ba mhaith liom buíochas a ghabháil chomh maith le Niamh Twomey, Oifigeach Oidhreachta, a chabhraigh le hullmhú na cáipéis seo agus leis an gComhairle Oidhreachta as ucht a cuid tacaíochta airgeadais.

**An tUas. Kevin Terry  
Cathaoirleach ar Fhóram Oidhreachta Chathair Chorcaí  
Stiúrthóir, Pleanáil agus Forbairt agus Innealtóir na Cathrach**

*One touch of nature makes  
the whole world kin.*

William Shakespeare



Swallows

## Introduction

### What is biodiversity?

• Biodiversity is short for 'biological diversity'. Biodiversity is the variety of living things on earth, from the smallest insect to the largest mammal and tree. Biodiversity includes the variation between species, the variation between individuals of the same species and the variation between the communities or ecosystems in which these species live. The biological diversity we see today is the result of millions of years of evolution. Biological diversity is constantly changing and evolving as some species adapt to new surroundings, become extinct, and others, over time, evolve into new species. We as human beings are a part of the earth's biodiversity and our activity can influence it in a positive or negative way.

### Why is it important that we protect and enhance biodiversity?

Biodiversity is the basis of all life on earth, including human existence; it is our life support system. Ecosystems regulate climatic processes, breakdown waste, recycle nutrients, filter and purify water, buffer against flooding, maintain soil fertility, purify air, and provide natural resources such as wood, textiles, and of course food. All agriculture and marine and freshwater resources depend fundamentally on Biodiversity. To allow continued biodiversity loss means losing the essential 'services' that biodiversity provides, both for us and for future generations.

Ireland is a signatory of the international 'Convention on Biological Diversity' one of the stated aims of which is "to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on Earth."



Badger

### **Biodiversity & Health**

The diversity of life provides important checks and balances, keeping populations of disease-causing pests and viruses in check. Biodiversity also keeps air and water clean; essential requirements to human health. Plant extracts and derivatives form the basis of most traditional and many modern medicines. It is estimated that plant-based medicines provide more than 3 billion people with their primary health care. With the loss of global biodiversity, we could be losing important undiscovered plant species that can be used to fight illnesses.

### **Biodiversity & Agriculture**

Biodiversity provides us with a varied food supply, which is needed for balanced human nutrition. Conservation of genetic biodiversity is essential to ensure that domestic plants and animals can be selectively bred in order to adapt to farming in different local conditions in different parts of the world and as climates change. Organic and other non-intensive farming techniques rely on fundamental ecological principles to produce our food. This requires a healthy diversity of organisms to be present within the farmed ecosystem.

### **Why is biodiversity important in cities?**

Whilst many of the essential functions of biodiversity are discussed above, an equally important, if less easily measured function of biodiversity is simply that it enriches our lives. Imagine a world without wild bird song, a spring without Swallows and Swifts appearing in the sky, a summer without wild flowers and butterflies. Most of us live in cities and the plants and animals that share our urban areas with us are therefore the ones that most of us come into contact with most often.



Meadow brown butterfly

## The Biodiversity of Cork City

### Plants (Flora) and Animals (Fauna) of Biodiversity Importance in Cork City

Cork supports a wide range of plants and animals. Some are common species, some rare, some legally protected and some are seen as pests. The green spaces of the city provide havens for species more usually found in rural situations whilst the structures of the city, the walls and buildings, provide homes to specialist species which specialise in living in cities. The following section of the booklet provides some information on the plants and animals of Cork City.

#### Flora

Most species of plant have specific environmental requirements in terms of water, light, soil conditions, the amount of disturbance they can tolerate, the level of competition with other plants that they can tolerate, and so on. For this reason most plants inhabit specific locations with respect to the physical world and to other plants, and many species are 'specialists' found only in a particular habitat where the conditions suit them perfectly such as particular types of woodland or grassland. In Cork, The Douglas Estuary area offers some of these specialist habitats, but elsewhere, the number of different habitat types on offer to plants in Cork's urban environment is quite limited and therefore the number of different plant species present in the city tends to be low and most of the species we do see are 'generalists' rather than 'specialists'. Gardens, parks, allotments and other green spaces will support a range of plant species, but these are mostly species that are much more abundant in rural areas where their preferred habitats are more extensive and are usually of better quality. One scarce woodland plant is however known from the city; Ivy Broomrape grows parasitically on Ivy and can be found, for example, in the Distillery Fields area of the city.

Cities do however offer habitats to some plant species that are rare or absent in rural areas in the form of hard surfaces such as walls, and specialist species of this habitat find a home in the city.

In many ways walls 'mimic' natural cliffs and many plant species that are naturally adapted to life on a cliff will readily make use of man-made walls. Similarly, bare areas of rubble and gravel with little soil cover mimic certain natural habitats such as the scree slopes found beneath cliffs. Because natural rock cliffs and screes are relatively rare habitats in Ireland, the



Peacock Butterfly



Common Blue



*Think Native! If you plant a native Irish tree such as oak, rowan or birch, it will support more birds, animals and insects than an exotic tree would. For example, a native oak tree growing in Ireland by providing them with food and shelter, can support about 290 different species of animals and other plants.*

most important habitat for many of these species are the artificial walls and stony areas of our towns and cities. Furthermore, the lime-based mortar of walls is highly calcareous and provides an attractive habitat to plants that naturally inhabit limestone areas.

Many of the walls of Cork are home to an array of plants Ferns are well represented and include Maidenhair Spleenwort, Wall Rue, Hart's-tongue Fern and Rustyback Fern. Mosses, lichens, grasses and other flowering plants such as Pellitory-of-the-wall can also be found here. The naturalised (not native to Ireland), but not invasive species Ivy-leaved Toadflax exists in a rare white-flowered form (instead of its usual purple) is also found on some of Cork walls.

Two very rare plant species, both Geraniums, occur in this habitat in Cork: These are Round-leaved Cranesbill and Little Robin. These are listed as nationally 'Vulnerable' in the Irish Red Data Book.

Little Robin is very similar and closely related to the common woodland plant Herb-robert and is considered to be of very high biodiversity value. It is only known from walls and waste ground in Cork City and in Dungarvan Co Waterford. It has not been recorded recently at Dungarvan so its only known remaining sites are probably all within Cork City.

Round-leave Cranes-bill is found in very few sites in Ireland, one of which is waste ground areas around the city, where it has been recorded in greater numbers than at any of its other sites in Dublin and Wexford.

## Fauna

### Bats

Everybody knows that bats inhabit buildings and caves, which they use as roosting sites during daylight hours, but most people's view of the type of building favoured by bats is of church towers and old abandoned mansions and castles. Whilst bats will use these buildings, most of our commoner species love nothing more than a dry, warm modern house in which to shelter and to raise their young. Cities provide an abundance of such buildings and are therefore very attractive places to bats. Bats eat flying insects so in addition to a roost site, they need to have access to an area rich in flying insects. Such areas are rather limited in the urban environment so bats in cities tend to congregate in places where a food supply does exist, particularly in areas close to water where flying insect numbers are often high.



Brown Long Eared Bat

In Cork, the River Lee and Cork Lough provide such sites rich in insect food and support healthy bat populations.



Harbour Seal

Smaller numbers of bats can however be found all over the city. The western part of the North Channel of the River Lee, from the Distillery Fields and Fitzgerald Park to the Lee Fields and Lee Road is an excellent area for bats, as is the South Channel where it passes through UCC. The Marina, Atlantic Pond and Blackrock area also supports good bat populations. Cork Lough is probably the easiest place to see bats, and on warm, calm, summer evenings it is a great place to observe them swooping through the swarms of midges and other flying insects over the perimeter path.

Six of Ireland's ten species of bat occur in Cork City: Leisler's bat, common pipistrelle, soprano pipistrelle, brown long-eared bat and Daubenton's bat. Common pipistrelles can be found all over the city, usually associated with areas of trees. Leisler's bats are also widespread and fly higher above trees and garden areas. Brown long-eared bats are also associated with trees and are found in more extensive 'green' areas such as cemeteries parks and large gardens. Daubenton's bat is closely associated with water where they skim the surface for insects. Soprano pipistrelle also tends to be found in wetter areas but is not exclusive to this habitat and is widespread in the city.

### Other mammals

Mammals are cautious of humans and are rarely seen, but the city is home to many species. Some we are all too familiar with and are considered pests, these include the brown rat and house mouse, which are found throughout the city.

Other mammals such as the otter are not usually associated with cities but Otters are quite common along the River Lee throughout its course through the city and people have been lucky enough to see them swimming in the river from busy city centre bridges on occasion. The shoreline from Blackrock around Mahon to the Douglas Estuary also provides excellent otter habitat.

The river can throw up other surprises. Both Common and Grey Seals occasionally venture upstream from the harbour in pursuit of Salmon and Mullet; and who can forget the summer of 2001 when the Orcas came to town? Three of these magnificent whales swimming up the South Channel as far as City Hall on a busy Saturday night is not a sight that the inhabitants of many cities can claim to have seen.

Several other mammal species are known from the city. Hedgehogs are present in larger gardens and parks, and can be quite common in suburban areas preferring places with both undergrowth in which to shelter and open areas rich in earthworms, slugs, snails, beetles and other invertebrates on which to feed. Red Foxes occupy similar habitats and are becoming increasingly well adapted to city life, taking advantage of our wasteful ways, scavenging our discarded food.



Little Grebe



Red Squirrels are mainly a rural species occupying woodland areas, but probably enter the edges of the city on occasion along tree lines and mature hedgerows. Similarly, Stoats probably occur in areas at the edges of the city on occasion. Pygmy shrew, Ireland's smallest mammal prefers dense ground cover and hedgerows and can be found in areas of the city that provide this habitat.

## Birds

Urban habitats have been shown to be of great importance to many bird species. In Britain, the British Trust for Ornithology estimate that gardens and built-up areas support 33% of all Blackbirds in Britain; 54% of Starlings; 38% of Greenfinches and 62% of House Sparrows. In Ireland, where there is a relatively much smaller area of urban habitat these figures are likely to be substantially lower, however they give an indication of just how important towns and cities can be for some of our birds.

In a typical year more than 100 species of bird will be seen in Cork City. Of these approximately 40 breed regularly in the city and a further 10 or 15 may breed occasionally in small numbers. The remainder are mainly passage migrants seen in spring and autumn including the thousands of waders that can be seen on the outskirts of the city at the Douglas Estuary and Lough Mahon and birds such as Sand Martin and Willow Warbler which can occur anywhere; or winter visitors such as the ducks, Pochard and Shoveler and the various species of gull that can be seen at The Douglas Estuary, Lough Mahon, The Lough, along the river and elsewhere. Some of the more unusual and interesting species that can be found in the city are discussed below.

One of the most spectacular birds that nests in Cork City is the Peregrine. This large and magnificent falcon has used a few sites in the city to nest and can be seen regularly in the skies above the city. Peregrines are ferocious hunters, taking other birds such as Pigeons, Jackdaws and Ducks on the wing. The Peregrine population was decimated during the second half of the 20th century as a result of over use of DDT and other pesticides which entered the food chain and caused thinning and breaking of eggshells in Peregrines and other birds of prey. Thankfully these chemicals have been banned and Peregrine numbers have made a remarkable recovery.

The Peregrine's smaller relative the Kestrel also occurs in the city, nesting on old buildings and cliff faces. Kestrels eat mainly small mammals and catch them by hovering. A small bird of prey hovering determinedly, unmoving from the same spot for minutes on end, will invariably be a Kestrel.



Black headed Gull



The Blue Tit is one of our most familiar garden birds and is one of the first that will be attracted to a bird table or feeder.



Perhaps a more surprising breeding species within the city is the Barn Owl which has bred at one or two traditional sites for many years, surviving on a diet of rats. Both the Barn Owl and the Peregrine are scarce species in Ireland and even the small numbers that occur in Cork City are therefore of some biodiversity importance on a national scale.

The Pied Wagtail is a bird that is very much at home in the city and is seen commonly on rooftops, in car parks and similar open areas where they hunt insects. They nest in crevices in walls often close to rivers or other water. In common with many towns and cities these birds have taken to roosting in the very heart of the city, in Cork's case, in the trees on Grand Parade where hundreds of Pied Wagtails gather in the branches and on nearby ledges of buildings every night during the winter, apparently oblivious to the noisy human traffic below. This apparently strange choice of roost site probably has two advantages for the wagtails. Night time predators such as cats will be deterred precisely because of the human disturbance; and it is probably a tiny but vital degree or two warmer here in the city centre than elsewhere.

Stock Dove is a smaller more elegant cousin of the Woodpigeon. Stock Doves usually nest in holes in large mature trees but unusually, at the distillery on the North Mall; they have taken to nesting in holes in the large retaining wall below Sunday's Well Road. Stock Doves may occur elsewhere in the city where large trees with dead branches occur.

Little Grebe, a diving bird, is the smallest of our waterbirds and looks like a tiny duck or coot (although not closely related to either). They are rare in the city, but can be seen at the Atlantic Pond and at The Lough. During spring and summer the 'song' of the Little Grebe, a loud high-pitched whinnying trill can sometimes be heard at these sites, an indication that they may be nesting or that they may do so in the future. [Photo X]

Whilst Kingfishers probably do not breed regularly within the city limits, they can be seen occasionally in autumn and winter along the River Lee. The Distillery Fields section of the North Channel and the Lee fields are particularly favoured areas.

Many people will have noticed one of the most recent additions to Ireland's birdlife the Little Egret. Graceful white birds with black legs and conspicuous yellow feet, members of the heron family, they first bred in Ireland during the 1990's and are becoming quite common around Cork. They can often be seen flying along the Lee and its tributaries and at other locations around the city including the Douglas Estuary, Murphy's Farm, Atlantic Pond and at The Lough where they roost at night during the autumn and winter. [Photo W]

*Everybody needs beauty as well as bread, places to play in and pray in, where nature may heal and give strength to body and soul.*

John Muir



Atlantic Salmon

### Fish

A number of fish species can be found in the River Lee within Cork City. Atlantic Salmon, a species protected under the EU Habitats Directive, pass through, adults heading upstream to spawn, juveniles heading downstream to the open sea. From approximately May until September, they can sometimes be seen jumping the weir at the Lee Fields. The best chance of seeing them is following periods of heavy rainfall when a large amount of water is flowing over the weir. Both the North and South Channels of the Lee are well known for Brown Trout. The stretch of the South Channel where it runs alongside Western Road is a good place to see them 'rising' to take flies from the surface. Eels were once common in the Lee but have become less so in recent years.

During warm summers, large shoals of Grey Mullet (also called Thick-lipped Mullet) swimming close to the surface of the water can often be seen from the city's quays and bridges. More rarely seen are the mysterious and peculiar-looking Lampreys. Two species of these very primitive, eel-like, fish occur in the Lee, the brook lamprey and the sea lamprey. Lampreys have complex life cycles. Both Brook Lampreys and Sea Lampreys spawn in gravel beds in fresh water streams and rivers.

Brook lampreys remain in freshwater throughout their lives but sea lampreys when they are 3 to 6 years old migrate to the open sea where they become parasitic, attaching themselves to other fish and sucking their blood. Both species are becoming increasingly rare and like the Atlantic salmon (often a host of the sea lamprey) are protected in law under Annex 1 of the EU Habitats Directive. Flatfish such as Flounder are abundant in the muddy shallows of the Douglas Estuary and Lough Mahon and other marine fish will occur in this area at the edge of the city at high tide.

### Invertebrates

The small range of habitat types, low diversity of native plant species and the patchy, isolated distribution of green spaces in cities generally makes them unsuitable as places of biodiversity importance for invertebrate. The semi-natural wetland habitats found at the Douglas Estuary are an exception in Cork and support rich invertebrate communities. (This is discussed in the next section of the booklet). The profusion of flowers in the cities parks and gardens does however attract migrating insects such as butterflies, bees and moths, particularly as large number of garden flowers can be present at times of year when wild flowers in rural areas are few.

Some of our most familiar butterflies such as Red Admirals, Painted Ladies and many of the Small Tortoiseshells that we see are such migrants, arriving in Ireland from the south and remaining here for the summer to breed. A number of moth species and some other insects such as the dragonfly Migrant Hawker, which is being seen in Ireland with increasing regularity, have similar life cycles.

The numbers of these insects that arrive in any given year varies greatly depending upon the weather over a large part of Europe and even beyond. For example, the major arrival of hundreds of thousands of Painted Lady butterflies into Ireland in May and June of 2009 has been traced to a particular wet winter in the Atlas Mountains of Morocco during the previous winter! Such events show that biodiversity issues are truly international in their scale: what happens in one part of the world can have a profound effect on the plants and animals, the biodiversity, elsewhere.

Bumble bees are attracted to garden flowers

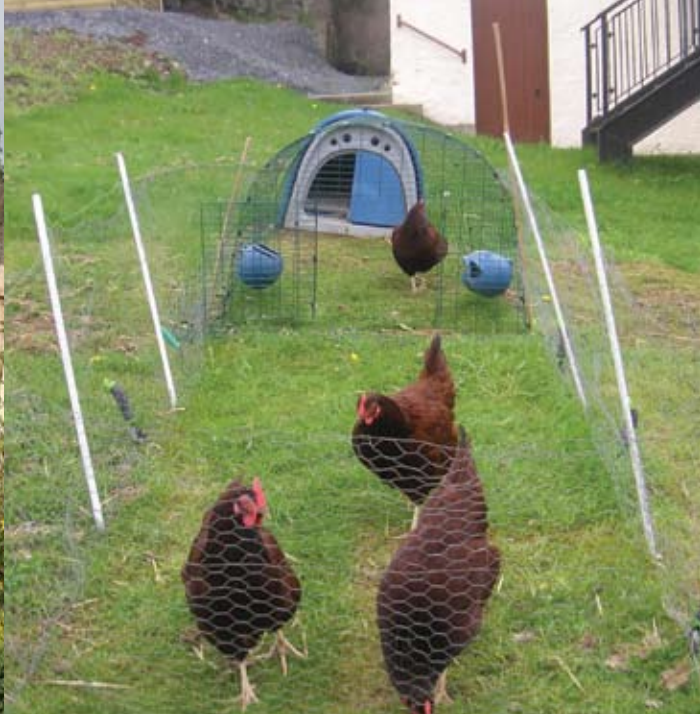


*People from a planet without flowers would think we must be mad with joy the whole time to have such things about us.*

Iris Murdoch



Flowers such as marigolds not only help the gardener as 'companion species' to vegetables they also provide a splash of colour and are valuable to insects as a rich source of nectar and pollen.



## Features of Biodiversity Importance in Cork

### Gardens

Many residential areas of Cork, including many inner city areas as well as the 'leafy suburbs', have extensive areas of private gardens. Residential gardens, when taken together, make up easily the greatest area of 'green' land within the city.

The biodiversity value of gardens varies greatly from garden to garden. As a general principle, the greater the diversity of plants, the greater the diversity of fauna and the greater the biodiversity value of the garden. Other important factors are the 'structure' of the garden, those with a range of different sized plants including trees, shrubs and ground cover will generally be the most beneficial to wildlife; the presence of native plant species which are of higher diversity value than introduced species or hybrid and cultivar varieties; and the presence of a source of water such as a pond.

Gardens are the most important habitat within the city for many of our bird species. Insects including many attractive groups such as butterflies and bumble bees are found commonly in gardens, attracted to nectar-rich flowers. Larger areas of gardens are important for mammals including hedgehogs and red foxes and even badgers can occur in very large gardens. Gardens with ponds and trees can be important for a wide range of species including frogs and dragonflies.

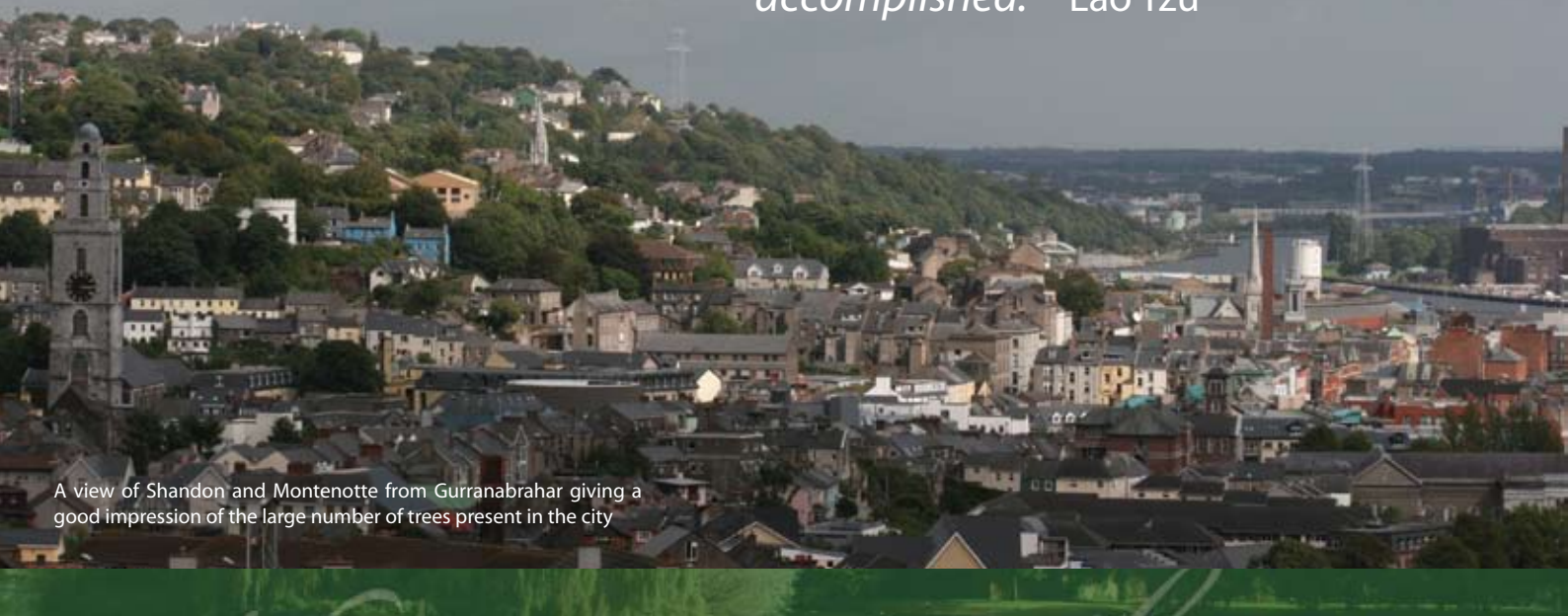
Insects and other invertebrates play an important role within gardens. Some are pests of the crops and plants that we grow, whilst others feed on these pests and so benefit the gardener. They also pollinate most plants and provide food for larger animals like birds, mammals, frogs and lizards. The presence of a healthy population of invertebrates such as beetles, butterflies and hoverflies is a very good sign within a garden, suggesting that it is valuable for biodiversity.

There are many simple things you can do to improve the biodiversity value of gardens. Some are simple and inexpensive, others are more adventurous and require careful planning such as digging pods or planting hedgerows. In the 'Biodiversity in Action' Section of this booklet we have provided some ideas.

### Allotments

Cork City Council established two pilot allotment schemes in 2008. Until relatively recently, allotments were a familiar part of the Cork's landscape and all the signs are that the allotment is set to make a comeback. Not only do allotments produce the type of food that ticks all of our 21st century dietary boxes: natural, sustainable, organic, local; they can also provide invaluable refuges for wildlife within the city environment.

*Nature does not hurry, yet everything is accomplished.* Lao Tzu



A view of Shandon and Montenotte from Gurrabrahar giving a good impression of the large number of trees present in the city

There are many ways in which biodiversity can be enriched on allotments, and we have detailed some in the 'Biodiversity in Action' Section of this booklet. These ideas apply equally to vegetable patches in gardens. Many of these ideas are simple and can be incorporated easily without changing the essential purpose of an allotment or vegetable patch as a plot of land to be cultivated for the production of vegetables, fruit and flowers.

### **Wetlands**

When Cork was first established as a 'hiberno-viking' settlement in the 9th and 10th century the section of the Lee Valley where the city now stands was a landscape of marshes and fens. Indeed the name 'Cork' derives from the Irish corcach or 'marsh'. The process of reclaiming the marshes through containment and drainage began in the thirteenth century and reached a peak of activity in the seventeenth and eighteenth century. The legacy of this marshy history can be observed in the division of the Lee into its North and south Channels as it flows through the city, and in the frequent flooding that still occurs in the city centre.

Fragments of marshland persist at the city's margins, for example along the Lee Road to the west of the city and at Douglas Estuary, where coastal habitats are also found. (this is discussed later in this booklet). The small wooded islands and reedy channels visible upstream of Thomas Davis (Wellington) Bridge give us an idea of the way much of the area must have looked to the city's earliest inhabitants. However surprisingly little wetland habitat now exists within the city other than in small patches along the River Lee itself and its tributaries the Curragheen, Bride, Twopot, Glasheen, Glenamought and Tramore.

Lakes and ponds are also few, the only substantial ones being The Lough and the Atlantic Pond; and other wetland habitat are limited to small areas of wet woodland and wet grassland at Murphy's Farm, the Glen Recreation Area, the Lee Fields and the Distillery Fields. All of these areas are discussed in more detail in the 'sites of Particular Biodiversity Importance in Cork' Section of this booklet.

### **Trees and Woodlands**

Many mature trees are found in the city's parks and large gardens, and a few areas within the city retain small patches of woodland, for example along the steep slope between the Lower Glanmire Road and Lover's Walk. These trees are vitally important for the city's biodiversity providing food and shelter for invertebrates, nesting places for birds and seclusion for mammals. Fallen leaves and fallen dead wood as well as the living tree itself provide vital resources for a range of species. In general, native Irish trees such as Ash, Oak and Birch are the most valuable trees for biodiversity. Many of our animal species, particularly our invertebrates, have evolved alongside these tree species and over time have adapted their life cycles in such a way that they have become dependent upon one particular tree species. When native trees are replaced with unfamiliar non-native trees most invertebrates are unable to adapt and as a result biodiversity is lost. Oak for example supports many hundreds of invertebrate species; one study in England looked at five groups of insects and found 284 species associated with Oak. Sycamore, one of our most abundant non-native trees, on the other hand supports only about 15 insect species.





A well vegetated wall on Cork's north side

### Walls and Buildings

When people think about urban wildlife they often think only in terms of green spaces, parks and gardens. Parks and gardens, trees, rivers and ponds, the little remnants of the countryside that persist in the city. Whilst these features are vitally important for the overall biodiversity of a city, greatly increasing the range of species that are able to survive in the city, they are essentially islands of countryside within the city, and the plants and animals that live on these islands are species of the countryside which manage to survive in small numbers within the city. The real urbanites, the real city species are different. They seek out the city, their habitat is the fabric of the city itself, its walls and its buildings, and Cork is rich in these species. In the case of some birds, they have become so at home in our towns and cities that they now live almost nowhere else. Swift, House Martin, Swallow, Jackdaw, Starling and House Sparrow all nest almost exclusively on buildings or other man-made structures. Swifts in particular are truly urban birds, living only in our larger towns and cities. It is estimated that less than 15,000 pairs of Swift nest in Ireland, and Cork has a healthy population, with colonies at a number of locations in the city centre and elsewhere. The area around Barrack Street and the Saint Fin Barre's Cathedral is a particularly good place to see them on summer evenings.



Maidenhair Spleenwort and Ivy-leaved Toadflax growing on a city wall



The Glen Amenity Area

*Look deep into nature, and then you will understand everything better.*

Albert Einstein