

Urban river corridors and sustainable living agendas

## The birds of Sheffield's rivers



Upstream, the tributaries on the west side of the city flow through rural areas without much habitation or (current) industry. As they near the city centre, they pass through residential suburban areas and the central business district. Towards the east of the city the Don flows through flatter areas, passing Meadowhall and sites used for heavy industry in the past and, to a lesser extent, the present.

More than 100 sites were surveyed during 2009 for various aspects of biodiversity, including the number and species of birds using the river corridor. Although this information provides a snapshot of the river birds that can be seen in Sheffield, it should be noted that recording such distributions was not the primary aim of the fieldwork. Consequently the surveys were not designed with this purpose in mind.

## Introduction

To many people birds are the most easily encountered and obvious aspect of river wildlife. Whether via the thrill of a fleeting encounter with a kingfisher, or the more everyday pleasure of feeding the local ducks, birds form a valuable part of the interactions we have with our neighbouring waterways.

Birds are also useful indicators of the health of our rivers. Some species, such as mallards, are generalists, surviving just as well in busy, urban, relatively dirty rivers as they do in more remote, rural stretches. However, some are specialist species, requiring specific conditions such as clean, fast flowing water (e.g. dippers), or are highly vulnerable to disturbance from people and pollution (e.g. kingfishers). By surveying the distributions of such species we can gain insights into the conditions present within the river system.

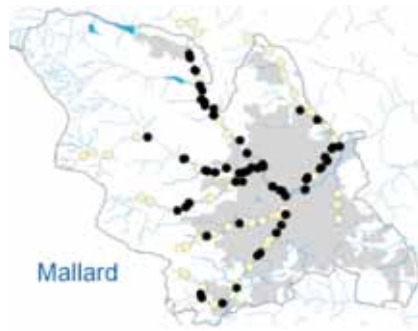
As part of the URSULA project ([www.ursula.ac.uk](http://www.ursula.ac.uk)), research was carried out to map and analyse patterns of biodiversity along Sheffield's rivers. The study area has extremely diverse landcover, providing habitats for a wide variety of birds.



Sites surveyed for bird species

This document gives an overview of the bird species that can be found on Sheffield's rivers, and where may be the best places to see them. The Sheffield Bird Study Group ([www.sbsg.org.uk](http://www.sbsg.org.uk)) is currently compiling an updated Bird Atlas for Sheffield, which represents a more rigorous and comprehensive dataset on bird distributions.

74 bird species were observed during the surveys, 11 of which were aquatic birds - these will be the focus of the rest of this document. Overall, the commonest species found were wrens, blackbirds and woodpigeons. All sites are shown in yellow; those where the species was found are shaded black.



## Mallard

Our most familiar duck; common in parks, ponds and canals as well as rivers. Mallards were the most frequently encountered aquatic species during the surveys, with over 400 individuals recorded at 69 sites.

During the winter, the colourful males shed their summer plumage and resemble the drabber females. They can be told apart by their beaks, which remain yellow. This is called being in 'eclipse', and is thought to avoid confrontations between competing males.

## Grey wagtail

Grey wagtails are found throughout the UK. They nest in a variety of places and are good at exploiting man-made nest sites, such as crevices in stone bridges and the foundations of riverside buildings. They constantly move their tails up and down (hence 'wagtail!'). Despite their name, adults are strikingly yellow on the breast and underneath the tail.

Grey wagtails were the second most widespread species found during the surveys, especially common along the Don and Sheaf.



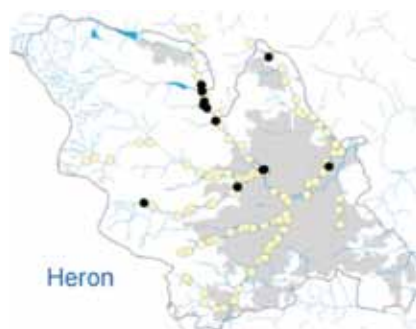
## Moorhen

Wherever there is water, there is a chance of seeing a moorhen strolling dinosaur-like through the vegetation at the water's edge. They are generalists and can be found on park lakes, rivers, wetlands and ponds, so are widely distributed along the Don and main tributaries within the study area. Their chicks are comical-looking scraps of black fluff, with a blue and red head and disproportionately large feet.

## Heron

Britain's tallest bird, with a 175cm wingspan. Herons are not fussy about the water they fish in, and can be found in clear, muddy, salty, fresh, still or fast-flowing water bodies throughout the UK, and will even visit garden ponds. Their distribution within the Don catchment reflects this - equally at home in wide urban rivers and rural upland tributaries.

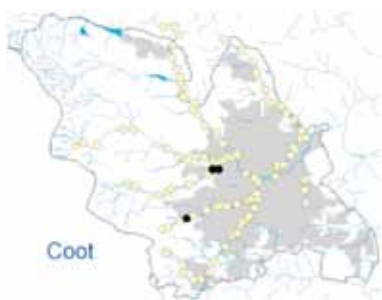
They usually nest communally in tree-top heronries; these are often traditional sites that are used and reused by many generations of herons.



## Dipper

Dippers are specialist aquatic birds which breed on fast flowing, clean, shallow rivers away from disturbance (hence their mainly upstream distribution). They feed on aquatic invertebrates, and are remarkable for the fact they swim and walk underwater in order to locate them.

Their habit of constantly bobbing up and down has given dippers their name. Why they do this is not known, although possible explanations are that it is a means of communication, or that underwater prey can be better pinpointed by examining its location from various angles.



## Coot

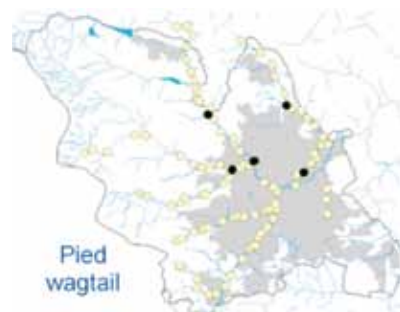
Coots are common throughout the UK and are often found in large numbers on lakes, slow rivers and wetlands, usually preferring deep water. Their scarcity on the rivers in the Don catchment may be because of the relatively shallow, faster flowing conditions along many of the Don's tributaries.

The bright white beak and bony head plate of this species are the origin of the expression 'bald as a coot'.

## Pied wagtail

This species is common in a variety of habitats: lawns, farmland, urban areas, forest, wetlands and, of course, river corridors. It is often seen on tarmac, busily running to and fro, catching insects and making its characteristic chirping call of 'Chiswick!'. Urban pied wagtails sometimes gather together at dusk to form large roosts.

Its distribution along Sheffield's rivers seems rather limited, perhaps because this species exploits such a wide range of habitats in addition to river corridors.



## Sand martin

Sand martins are the most threatened of the water birds found by the surveys. Their population has crashed in the last few decades, due to drought in their African overwintering areas. The sand martin was the most rarely encountered bird; only three individuals were spotted, all at a single site.

Sand martins traditionally breed in sand or earth banks, but sometimes make use of artificial nest sites. They nest near the Wicker in central Sheffield, using old pipe outflows.

## Kingfisher

One of the most distinctive and beautiful birds to be found along the Don. They fish by observation, perching on an overhanging branch or post and scanning the water underneath. Kingfishers are unmistakable when seen like this, with a brilliant blue back and bright orange chest, together with their distinctive profile and dagger beak. They are most commonly seen as a flash of blue as they speed along the river, which can make them hard to see. However, there is a trick:

Kingfishers frequently make a shrill 'kee kee kee' call as they fly. Once you can recognise this call, it makes spotting kingfishers much easier. A good place to test this is on Lady's Bridge on the Wicker in central Sheffield, as kingfishers are regular visitors to this stretch of the Don. They can often be seen flying under the bridge, a second or two after their calls are heard.



Male and female kingfishers are quite similar. The best way to tell the sexes of breeding birds is to look at their beaks: males, like the one in the photo, usually have an entirely black beak, while females' beaks have more red on the lower part<sup>1</sup>. Remember – the girls wear the lipstick!

## Conservation and threats

There are thought to be between 4,800 and 8,000 pairs of kingfishers in the UK<sup>2</sup>. Despite these numbers, they have an unfavourable status in Europe and are of conservation concern. Only around a quarter of birds survive to breed (usually in their first year), and only a quarter of these will survive to the next breeding season<sup>2</sup>.

The leading cause of death for kingfishers is bad winter weather leading to hypothermia and/or a lack of food, for example if ice prevents hunting. Cool and wet summers can also cause high mortality, especially of chicks, and can cause flooding of the nest hole<sup>2</sup>. Human disturbance, especially of nesting birds, is also a big problem as the adults are easily put off feeding the chicks. Habitat destruction, for example by the use of heavy machinery on river banks, destroys nests and fishing perches.



The presence of kingfishers, even in the heart of the city, is proof of the great improvement in the Don's water quality over the past few decades. Because they feed mainly on fish and aquatic insects, kingfishers are near the top of the food chain, so are vulnerable to the accumulation of water-borne pollution<sup>2</sup>. They cannot survive in highly polluted waterways.

The location of kingfishers in central and eastern Sheffield could be due to several factors. The improved quality of the water here in recent years means that fish can survive well here; the slower flowing, deeper river in this part of the city could make them easier to catch, and support larger fish. More research is needed to better understand what influences this beautiful species' distribution.

## Key messages

Better awareness of river ecology and the use of cleaner, more environmentally aware industrial practices have contributed to a recent improvement in water quality.

A good range of bird species are now found in Sheffield's river corridors.

River birds are easy to see, even in the very heart of urban Sheffield. Why not go for a stroll along the river bank and see how many you can spot?

## Acknowledgements

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<sup>1</sup> Svensson, L., Grant, P.J., Mullarney, K., Zetterström, D., 1999. Collins Bird Guide, HarperCollins Ltd, London, UK

<sup>2</sup> [www.rspb.org.uk/wildlife/birdguide/name/k/kingfisher](http://www.rspb.org.uk/wildlife/birdguide/name/k/kingfisher)



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