

# Know Your River Birds

River birds in Scotland are amazing. When you walk along the Water of Leith, or any river in Scotland, look out for a flash of the exotic orange-breasted kingfisher, the disco-dancing dipper or the lanky grey heron perching casually on just one foot. These are all birds for whom the river is their *habitat*, or home. Find out below how to identify these birds on your walk and learn about the amazing ways in which they are adapted to life on a river.



**Grey Heron**  
**(*Ardea cinera*)**

The grey heron is the biggest bird you'll see on the river, standing at 1 metre high. They've been around for a stunning 7 million years and are closely related to storks

and cranes. They're grey, black and white. Immature birds are largely grey without the black stripe on their head. They're incredible at fishing, standing still in the river until a fish comes along and then darting forwards to catch their prey with their long beak. With a small fish, they swallow it head first in the river but with larger prey like eels and small rodents they carry them to the bank to beat them or stab them with their long beaks. This is a heron on the Water of Leith with a rat it has caught. Yikes!

Heron spread out up to 12 miles during the day to forage for food but most come back to a heronry at night where they nest with other herons at the top of tall trees. In Edinburgh, this heronry is in some Scots Pine trees in Duddingston Loch.

One amazing fact about herons is that they have a special claw on their middle toe which helps them to groom. It is called a pectinated claw and it is serrated a little bit like a comb which helps them to preen and tidy their feathers!



**Goosander**  
**(*Mergus merganser*)**

These birds are members of the sawbill duck family, so named because sawbills

have a long bill with little saw-like teeth which helps them to hold their prey firmly. This photo is of the male goosander. The female has a greyer body and a brown head.

Goosanders make their nests in the hollows of riverbank trees so they need to be near a mature woodlands. After the chicks are hatched, the mother carries them down to the river in her bill. She releases them into the water and they immediately begin feeding on small fish and freshwater invertebrates. As they grow, they become expert fishing birds and feed on small fish, frogs and some insects.



## Did You Know?

Here's a great new word to learn and to wow people with:

**Piscivorous:** an animal feeding on fish.

## Curricular Links to the Curriculum for Excellence

I am learning to assess and manage risk, to protect myself and others, and to reduce the potential for harm when possible (HWB 1-15a/2-15a)

Within and beyond my place of learning I am enjoying daily opportunities to participate in physical activities and sport, making use of available indoor and outdoor space. (HWB 1-25a)

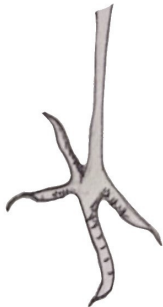
I can explore examples of food chains and show an appreciation of how plants and animals depend on each other for food. SCN 1-02a

I can use my knowledge of the interactions and energy flow between plants and animals in ecosystems, food chains and webs. SCN2-02a

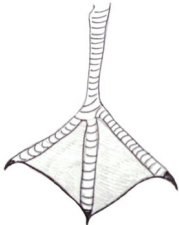
## Bird Feet Adaptations

Birds living on the Water of Leith are adapted to the ecosystem of the river and woodlands around it and, hopefully, the river provides them with the right conditions for them to live and to breed. But when we say *adapted*, what do we mean? We mean that over hundreds or even thousands of years a species becomes better able to live in its habitat or home. Looking at feet on river birds is a great way of understanding this.


Birds like dippers and kingfishers need to cling on to little rocks and branches and so their feet have long strong claws.



Ducks are swimming birds and so they have webbed feet to push them through the water. The feet of diving ducks are positioned towards the rear of their body so they can push themselves down into the deep water.



Grey herons are wading birds and so they have large feet with long widely spaced toes so they don't sink down into the soft mud. They also have a *pectinating* middle claw for preening.





**Dipper**  
**(*Cinclus cinclus*)**

The dipper is a small river bird most often seen darting from one rock to another above fast-flowing water and standing on a rock and dipping (hence the name!) up and down. The dipper then does a most extraordinary thing. It dives into the water to walk under the current to catch freshwater invertebrates and fish. Although a dipper is a lot like land birds and doesn't have webbed feet it has adapted to going underwater in some amazing ways. It has short very strong wings with which it pushes itself along underwater. It has a *nictitating eyelid* which acts like goggles when the bird is underwater. It also has sharp claws which help it to hold on to rocks on the river bed, nasal flaps to stop water coming into the nostrils, and it can store a high level of oxygen in its blood which means it can stay underwater for up to 30 seconds. Go and have a look for them, they're quite common. A little bird with some truly incredible skills!

***Bird Survey. Use this form to record the birds you see on your walk. Keep a tally of how many birds you see and keep going back because you may not see them on your first visit.***

Date	Dipper	Mallard Duck	Goosander	Grey Heron	Grey Wagtail	Kingfisher	Anything else?



### **Kingfisher** **(*Alcedo atthis*)**

Kingfishers are rare birds in Scotland and they're nearly always on the move. You're most likely to see them as a flash of brilliant blue and orange zooming along the top of the river and perching on a nearby branch.

They're called kingfishers because they are the most amazing predators, despite the fact that they are very small birds. They dive headfirst into the river to catch a fish. Like the dipper, they have a nictitating eyelid which provides a goggle-like lens so they can see their prey under water. They bring the fish to the surface and then take it away to a perch where they bash it to kill it. Kingfishers eat fish head first so that the bones

do not get stuck in their throat. However, most politely, when they offer a fish to their mate they turn it around in their beak so the other bird eats it head first too. What gorgeous manners!

Unfortunately, kingfisher numbers are threatened and so they are a protected species. They nest in tunnels, often in river banks and find cold winters very difficult. Only a quarter of adult birds survive from one year to the next.

### **Grey Wagtail** **(*Motacilla Cinerea*)**



Grey wagtails aren't just grey and it's easy to confuse them with yellow wagtails since both birds have a lot of yellow in their plumage. Grey wagtails love to spend time on the banks of rivers and they eat aquatic insects such as mayfly nymphs as well as ants and midges. They make a nest close to the water in a rocky crevices which they then line with moss and hair.

They have a very distinctive way of moving and they twitch their tails from left to right. They also often fly very low in a bobbing up and down way. You will see more grey wagtails in winter in Edinburgh as they spend the winter months at lower altitudes.

### ***Did You Know? Some Fun Facts About Birds***

**Light as a Bird:** Birds need to be really light so they can fly. The arm bones of birds are honeycombed, so they are hollow with criss-crossing struts to give them strength.

**Scientific Names:** All the birds listed in this guide have common names listed first and then their scientific or Latin name. Each species of plant or animal has a scientific name and they are the same all over the world. This means that one person can talk to another person in a different country about the same species of bird without getting too confused.

**Big Breaths:** Birds have lungs like us but they actually breathe with the whole of their body. Their lungs are connected to air sacs in the body which are also connected to the hollow bones.

**Draw a Sketch Here of One of the Birds You See**





### **Mallard Duck** **(*Anas platyrhynchos*)**

We are all used to see mallard ducks on rivers, lakes and ponds. The mother duck, known as the duck (the male is the drake) makes the nest from leaves and grasses. Then she plucks down from her own chest to make it soft and warm for the ducklings. Once the nest is made and the clutch of eggs are laid, the drake leaves the duck and goes back to join his group of other drakes. The duck raises the young alone.

About 10 hours after the clutch of eggs have hatched and all the ducklings are stable on their feet, the duck takes them to the water so they can feed. However, they are extremely vulnerable at this time. Firstly, sometimes the nest is in a tree and so they have to make their way to the ground without injury. Luckily, they are quite light and so they usually don't get hurt. But with a large brood it is very easy to lose some of the ducklings who are easy prey for otters, foxes and herons. However, once they reach the river they are more able to swim away from danger and they can start to feed on vegetation.



### **Looking After River Birds: What We Can All Do**

Not only is it just really amazing to walk along an urban waterway like the Water of Leith and to see these birds, but like all living creatures, they all play an important role in the food chain. The numbers of some birds like kingfishers are really low and so they are what we call a *protected species*, which means it is against the law for anyone to kill, harm or injure them or their nest sites. That means if anyone damages a kingfisher nesting site or harms a kingfisher in any way, they have broken the law and can be prosecuted.

***Having laws to protect vulnerable species like kingfishers is really important, but there are lots of things that we can do in our daily lives to help them as well.***

You can help keep the river bank clean by becoming a Water of Leith Volunteer. We hold around 100 clean-ups a year and we look for help for volunteers from all ages. For more details go to <http://www.waterofleith.org.uk/volunteer/>

Don't feed the birds white bread as it can contribute to a wing deformity called angel wing. Birds are wild animals and the best way we can support them is by not polluting the water and by promoting biodiversity of the surrounding woodlands.

Do not put anything down a city drain except clean water. The drains in Edinburgh drain into the Union Canal and the Water of Leith and water polluted by chemicals kills all the invertebrate life downstream which the fish and many of these river birds depend on.

Climate change will lead to warmer and stormier weather. If the river gets warmer, this affects when species breed which affects the food chain. Doing what we can to reduce our energy consumption and minimize climate change will help the future health of the river.

