

## Species of the Week



Common Frog

*Rana temporaria*

The common frog is the only species of frog found in Ireland and is listed as an internationally important species. They can be found throughout Ireland, mainly in damp vegetation, ponds and hedgerows.

Adult frogs are from 6-10cm long. They are smooth skinned, tailless amphibians with powerful hind legs that are particularly well suited to jumping. They have four fingers and five toes which are webbed. The upper surface of the skin is variable in colour – ranging from a light yellowish brown to dark olive green. Some individuals even have a reddish tinge and almost black animals are not unheard of. Most animals exhibit a variable pattern of black or brown marks on the back and the species has a very distinctive brown patch behind each eye. A frog can also make its skin become darker to match its surroundings. This colour change takes about two hours.

On the underside males tend to be a dirty white or pale yellow while females vary from pale yellow to orange. There are often brown speckles present in both sexes. Males tend to be slightly smaller than females and can be distinguished by the dark bluish-black nuptial pads – which are swellings on the first finger of their forelimbs. These swellings become much more pronounced during the breeding season and help the male to get a firm grip on the female's smooth skin during mating.

Frogs have large, bulging eyes which are very sensitive to movement. When frogs leap they draw eyes their back into their sockets to protect them from damage. Ear drums are located behind the eyes and frogs have excellent hearing.

Depending on the weather common frogs begin to emerge from hibernation in February or March and head straight for their freshwater breeding grounds. They can travel over half a kilometer to find a suitable site. Both male and female frogs return to the same pond year after year, probably recognizing it from the smell of the water and algae. Males usually arrive before females and start croaking to attract a mate. Once females start to arrive the males start croaking in earnest and wrestle with each other to gain access to a potential mate. After overcoming his rivals, a successful male will clamp himself to her back using his nuptial pads in a mating embrace known as "amplexus". They may stay clamped together like this for days before spawning.

Eventually the female will lay 1000 to 4000 eggs which are fertilised by the male as they are released. Each frog egg is 2-3mm in diameter and is enclosed in an envelope of jelly. When the egg is deposited in the water the jelly swells to a diameter of 8-10mm insulating the eggs from the water. This spawn floats in clumps protected by a jelly-like coating until the tadpoles emerge after 30-40 days. The tiny tadpoles feed on the remains of the frogspawn for the first two days before they switch to a diet of algae. As they grow bigger they also start to include aquatic insects in their diet. Hind legs develop at between six and nine weeks, the tadpoles lose their feathery gills and develop lungs – forcing them to the water's surface to gulp air. Front legs are fully developed by about 11 weeks and the tail begins to be absorbed. At 12 weeks the metamorphosis is practically complete and the tiny froglet will leave the water, spending most of its time hiding in the vegetation on the water's edge. Young frogs usually double in size by the following autumn and they reach sexual maturity in their third year. They can live for 7-8 years. Scarcity of food or severe cold may delay metamorphosis and overwintering tadpoles are not uncommon.

Frogs don't feed during the breeding season, but once breeding is over they feed on slugs, insects, worms and spiders, but they will eat practically any moving invertebrate that crosses their path. Adult frogs feed almost exclusively on land, but youngster frogs will also forage in the water. Although they are often seen by day frogs tend to be more active by night.

In winter frogs hibernate beneath compost heaps, under stones and logs or buried in the mud at the bottom of a pond where they survive by extracting oxygen from the water through their skin. They will not emerge until breeding time comes around again the following spring.

While the common frog is the most widespread amphibian in Europe, it was long believed that it was actually introduced to Ireland rather than being a natural native. It was thought that the last ice age wiped out any naturally occurring populations of common frogs on the island and that all Irish frogs are descendants of introduced populations. However, recent research has shown that some frogs survived the last glaciation in an ice-free refuge in the South West of the island, and as such, Ireland's frogs are descendants of both native and introduced populations.

