



A Guide to Irish Bog Habitats



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Co. Kildare and Bottom: Bog
Asphodel © Catherine O'Connell &
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downloaded from www.ipcc.ie*

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Bogs are wetlands made of a combination of peat, plants and water. Peat is the result of the accumulation of partially decayed plants over thousands of years. The dead plants do not rot because they grow in waterlogged conditions where there is little oxygen.



Blanket Bog at Liffey-Head, Co. Wicklow © Catherine O'Connell



How Irish Bogs Grow

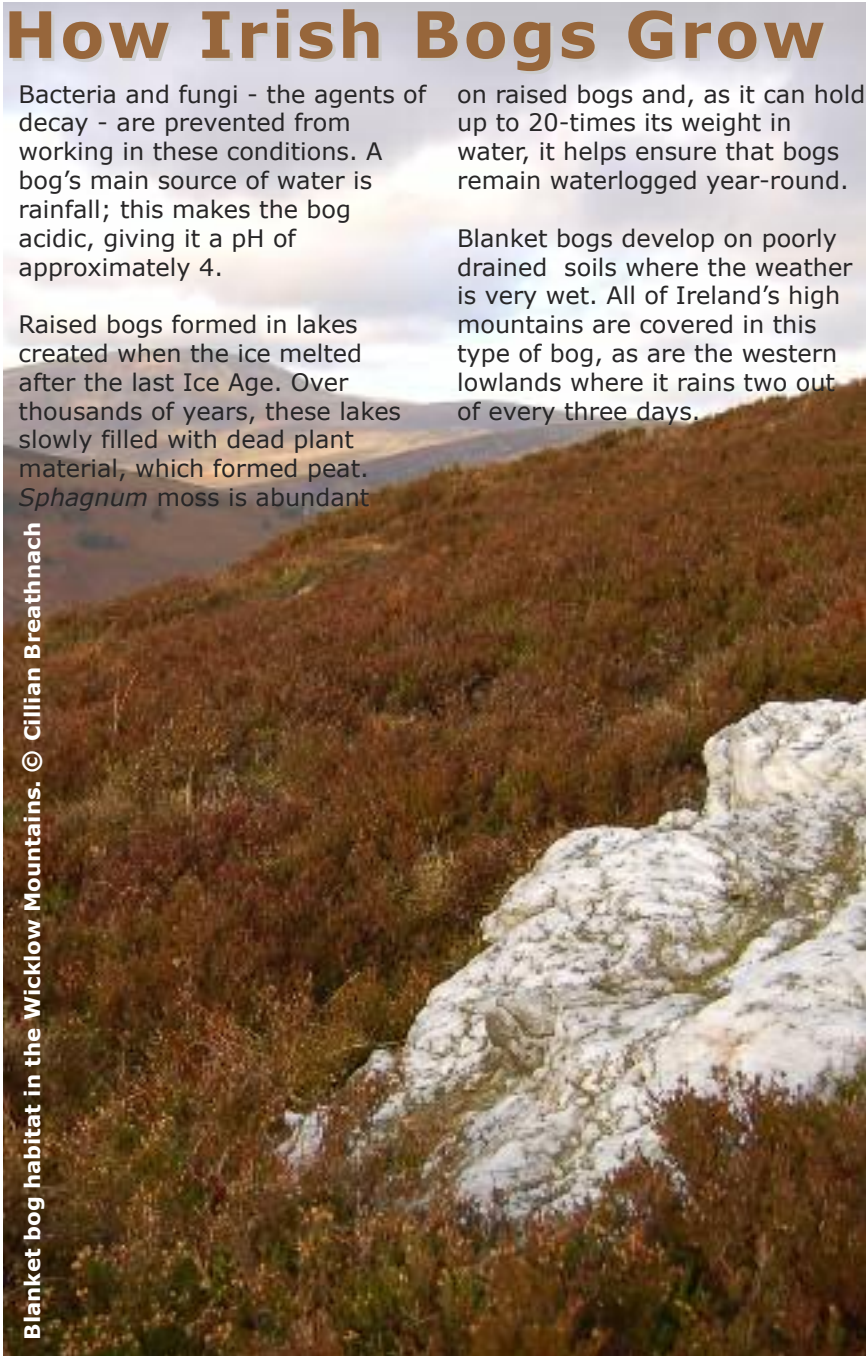
Bacteria and fungi - the agents of decay - are prevented from working in these conditions. A bog's main source of water is rainfall; this makes the bog acidic, giving it a pH of approximately 4.

Raised bogs formed in lakes created when the ice melted after the last Ice Age. Over thousands of years, these lakes slowly filled with dead plant material, which formed peat. *Sphagnum* moss is abundant

on raised bogs and, as it can hold up to 20-times its weight in water, it helps ensure that bogs remain waterlogged year-round.

Blanket bogs develop on poorly drained soils where the weather is very wet. All of Ireland's high mountains are covered in this type of bog, as are the western lowlands where it rains two out of every three days.

Blanket bog habitat in the Wicklow Mountains. © Cillian Breathnach



Bog Plants



Sphagnum moss builds bogs © Catherine O'Connell

Common Ling Heather
© Catherine O'Connell

Bog mosses or *Sphagnum* are the most important plants on bogs. They form a living, multi-coloured carpet over the entire surface of the bog. Different types of bog mosses grow in different ways, forming hummocks, lining hollows, or growing across the surface of bog pools. They grow quickly and can hold up to 20-times their own weight in water. When they die, their remains do not decay, but collect as peat or turf.

moss. Bog cotton (*Eriophorum spp.*) has lovely white seed heads and resembles cotton wool. Bog asphodel (*Narthecium ossifragum*) has glowing yellow flowers with orange anthers (front cover). Bogbean (*Menyanthes trifoliata*) grows in pools, and its white flowers can be seen in May and June.

Shrubs such as cranberry (*Vaccinium oxycoccos*) and bilberry (*Vaccinium myrtillus*) bear edible fruits, while the scent of bog myrtle (*Myrica gale*) helps to repel biting insects

Ling heather (*Calluna vulgaris*) grows on drier hummocks of bog

A sundew with some flies in its clutches; inset: bog cotton © Catherine O'Connell

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Sphagnum
moss can hold
20-times its
weight in
water



Insect-Eating Plants

Plants are normally eaten by insects; on the bogs, however, the opposite happens, as it is the insects that become the prey. The leaves of the sundew (*Drosera spp.*) are covered with red tentacles that contain glands at the tips that create a sticky trap. When an insect lands on a leaf, it gets stuck in the sticky fluid, and the leaf tentacles close around it. All of the nutrients in the body of the insect are then absorbed by the plant. Butterworts (*Pinguicula*

spp.) have sticky glands along the margins of their leaves; these glands trap insects, and the leaves then curl around the insects to digest them. Bladderworts (*Utricularia spp.*), which grow in bog pools, lure their prey by producing a sugary mucilage at the entrances of tiny bladders among their leaves. When an insect approaches, the mouth of the bladder opens suddenly and sucks in the creature in a gulp of water.

Reptiles & Amphibians



Viviparous lizard © Peter Foss



Common frog © Catherine O'Connell

Frogs (*Rana temporaria*) are the most common animal found on bogs. Frogs are amphibians, hunting on the drier bog surface but returning to water to breed.

Breeding takes place in ponds in spring. Clumps of frog spawn, which later develop into tadpoles, may be seen in bog pools. On sunny days, the viviparous lizard (*Zootoca vivipara*) may be seen sunning itself on rocks or lichen hummocks; however, it will rapidly move away if disturbed.

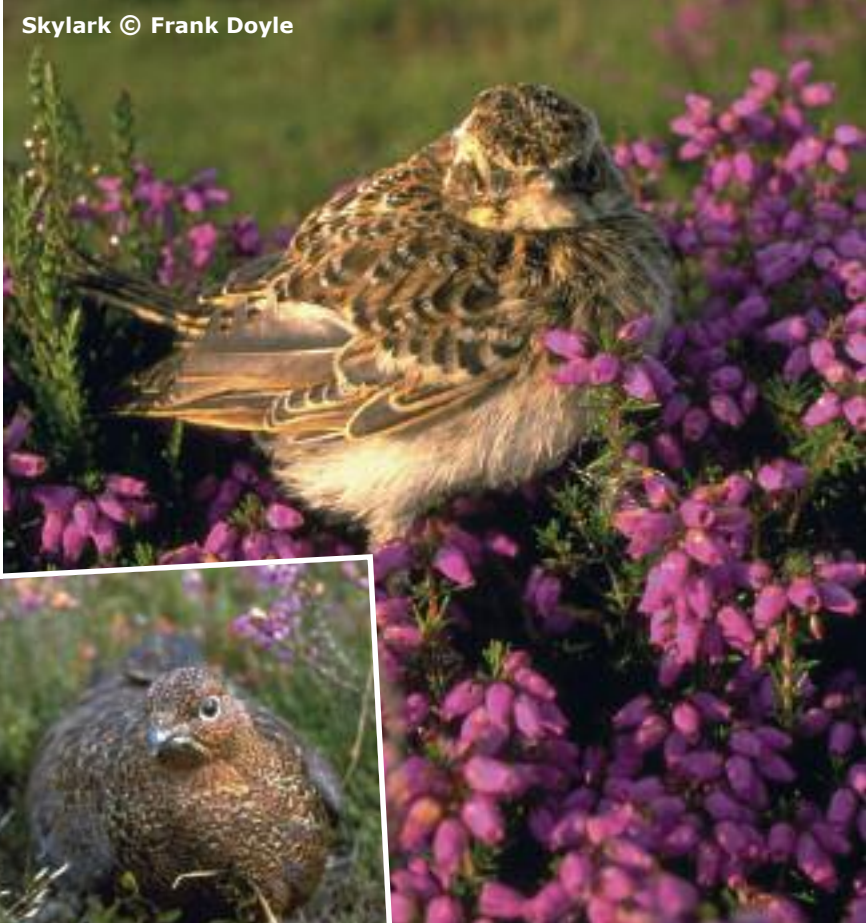
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The viviparous lizard can shed its tail to escape predators!



Blanket bog at Liffey Head, Co. Wicklow © Catherine O'Connell

Skylark © Frank Doyle



Red grouse © Frank Doyle

Birds

Some of Ireland's most beautiful songbirds live in remote bog habitats. These include the skylark (*Alauda arvensis*) and meadow pipit (*Anthus pratensis*). As there are few trees on bogs, the birds must nest on the ground in hummocks. Skylarks mark their territory by singing rapturous songs as they ascend into the sky.

The red grouse (*Lagopus lagopus hibernicus*) feeds on ling heather and has a very distinct 'go back, go back' call. Even if you do not see a red grouse, you may find clumps of its sausage-like droppings on the bog. Sadly, the red grouse is under threat because of habitat-loss through heather-burning, disturbance and predation.

Bog Minibeasts

Carnivorous flying insects, such as dragonflies and damselflies, enjoy hunting over bogs that have lots of smaller flying insects for them to feed on, such as midges and mosquitoes. They lay their eggs under water in bog pools. The larvae spend up to three years developing in the pool and are ferocious predators. After this time, they emerge from the pond to become a flying insect and exploit a new habitat for food.

There is a great diversity of life within bog pools, and many other minibeasts can be found here, including water beetles, water boatmen, pond skaters, freshwater hoglice, fly larvae, freshwater shrimps and tadpoles.



Adult dragonfly emerging
© Peter Foss



Water Beetle © Nuala Madigan



Raft spider © Catherine O'Connell



Pond skater
© Catherine
O'Connell

Bog Spiders

If you visit the bog on a summer's morning, you will notice that many of the plants are covered in beautiful spider webs. Many species of spider live happily on the bog. The most impressive spider of all is the raft spider (*Dolomedes fimbriatus*), which is Ireland's largest spider. It is semi-aquatic and lives in bogs and fens, where it hunts aquatic prey. It sits still on the

surface of the water, feeling for vibrations on the water made by potential prey. It is sometimes referred to as the 'Jesus spider' because it has tiny hairs at the tip of its long legs that allow it to run across the surface of the water. This expert predator feeds on insects, other spiders, dragonfly and damselfly larvae, and sometimes even tadpoles!



Bog Insects

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Marsh
fritillary will
only feed on
the Devil's-bit
scabious



Caterpillar of a fox moth
© Catherine O'Connell

On a still and sunny day in May or June, you might be lucky enough to see the beautiful and endangered marsh fritillary butterfly (*Euphydryas aurinia*). They live in bogs where there is plenty of their food plant, the Devil's-bit scabious (*Succisa pratensis*). Another rare butterfly, the large heath (*Coenonympha tullia*), can also be found in bog habitats; it feeds on cross-leaved heath (*Erica tetralix*) and bog cotton (*Eriophorum spp.*), two bogland plant species; thus, it relies on bogs to survive. Many species of moth also live in bogs. If you search through the sedge and heather, you may find the caterpillar of the fox moth (*Macrophyllacia rubi*) or an emperor moth (*Saturnia pavonia*) cocoon.

Mammals

When you visit a bog, you may see an Irish hare (*Lepus timidus hibernicus*) running away from you. Even if you do not see the hare, you may find its droppings, which are straw-coloured oval balls. Hares feed on heather and bog cotton. Unlike rabbits (*Oryctolagus cuniculus*), hares do not dig burrows; they build their shelter, or 'form', in moss

hummocks on the bog surface. This means they can live, breed and shelter on the bog in relative safety. Foxes (*Vulpes vulpes*), badgers (*Meles meles*) and shrews (*Sorex minutus*, *Crocidura russula*) make occasional foraging journeys to the bog, but they do not live there. Red deer (*Cervus elaphus*) graze blanket bogs in summer.



Irish hare © David MacPherson

Fox © Éamon de Buitléar

Turf cut from Cloncrow Bog
© Eugene Dunbar

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FACTS**
Over 100 bog
bodies have
been
discovered in
Irish bogs

Bog Treasures

The cool, waterlogged conditions in the bog prevent decay. Even the plants that grow and die on the bog do not rot, but collect as peat. Bogs grow by approximately 1mm each year, which means that artefacts discovered in bogs can be crudely dated based on their depth in the bog. Many bog bodies have been found over the years, some dating back as far

as 390 BC - the Iron Age. Bog butter is another common find; it is thought that local people would dig a hole in the bog and store their butter and other perishables in it to keep them cold and fresh. Remains of the great Irish elk (*Megaloceros giganteus*) have also been found excellently preserved in bogs. This impressive animal lived approximately 12,000 years ago.



Bog butter

© Catherine O'Connell



Giant Irish elk antlers
© Catherine O'Connell



Milling peat from the bog
© Cillian Breathnach



Footing turf by hand.
© Catherine O'Connell

Turf-Cutting and Peat-Milling

Peatlands once covered 1,346,882 ha (16%) of the land surface in Ireland. However, through a combination of exploitation (turf-cutting and peat-milling) and reclamation of land for forestry and agriculture, only 23% of Ireland's peatlands remain of conservation value today.

In the last century, the traditional method of hand-cutting turf was replaced by

mechanised harvesting. This has allowed for large areas of bogs to be destroyed very quickly.

Bogs are valuable habitats for wildlife, but they also provide many ecosystem services such as water-storage and climate-regulation. It is important that we protect the small areas of bogs that still remain in good hydrological condition so that future generations can enjoy their beauty.

Save the Bogs



Examining bogland vegetation © Catherine O'Connell



Boardwalks protect fragile bog surfaces © Katie Geraghty

The Irish Peatland Conservation Council (IPCC) is an environmental NGO. Its mission is to conserve a representative sample of Ireland's peatlands for future generations to enjoy. The IPCC has been working to save bogs for over 30 years, and has run numerous projects around the country to achieve our goal. Today, just 23% of Ireland's peatlands are still of conservation value, and it is important that these habitats are protected and conserved.

The IPCC:

- Restores, manages and conserves peatland nature reserves
- Protects peatland biodiversity
- Runs peatland education programmes for schools
- Monitors over 1,000 peatlands of conservation value
- Produces and publishes information on peatlands
- Trains volunteers to help us save bogs
- Facilitates bogland tourists at the Bog of Allen Nature Centre



Volunteers blocking drains on Girley Bog © Tadhg Ó Corcora

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bog facts and
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