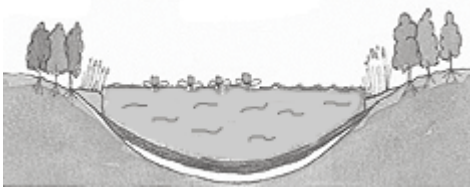


# Welcome to the Bog of Allen Garden Trail

## Follow the story of Ireland's peatlands



### 1 The Lake - the first stage of bog formation



10,000 years ago the raised bogs that are typical of the midlands of Ireland were lakes. These lakes were formed by the glaciers. The very first layer at the bottom of a raised bog is lake marl, this layer is made from the skeletons and shells of the fish and invertebrates that once lived in the lakes. Did you know?.... Lullymore Island was once surrounded by water, it is now known as the island in the bog.



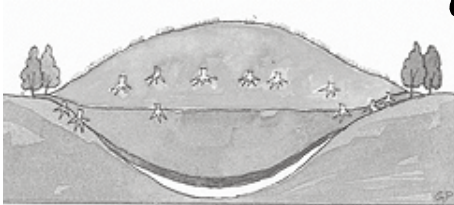
### 2 The Fen - the second stage of bog formation



As the vegetation that grew around the lakes died it did not decompose fully due to the waterlogged conditions. Instead it formed peat which is partly rotted plant remains. With time the lake eventually filled with peat. Fen peat is very nutritious as it is fed by ground water and water running from the surface of the land. Typical fen plants such as Bulrush filter the nutrients from the water, these habitats act like a kidney as they filter and clean water. Did you know?....Constructed wetlands are used in waste water treatment.



### 3 The Raised Bog - the final stage of bog formation



In the final stage of bog formation the peatland is now fed by rainwater, which is mildly acidic. The bog building plant - Sphagnum moss - colonises the peatland mopping up all of the water to make conditions very wet underfoot. It can hold 20 times its weight in water. It also filters any nutrients from

the rain and releases hydrogen ions instead, creating even more acidic conditions in its environment. As it grows it forms peat at a rate of 1 mm a year. As the peat accumulates in a bog it is trapping and storing carbon. Bogs are very important carbon and water stores and should be protected for these qualities as well as for the beautiful wildlife that rely on them. Did you know?... During World War I Sphagnum moss was used as a wound dressing because of its absorbant and anti-septic qualities



### 4 Bog gems - insect eating plants

The acidic, nutrient poor and water logged conditions of raised bogs make them challenging habitats for the majority of plant species to grow and live. While all bog plants are specialists, the lengths that some plants have gone to survive here is truly amazing. An excellent example are the insect eating plants, e.g. the sundews, bladderworts and butterworts. They trap and eat insects to gain the essential nutrients that are unavailable in the peaty soils. Did you know?... Sundews produce a sticky fluid that traps insects, they trap and eat an average of 5 insects per month.



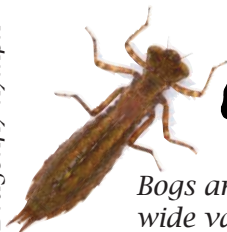


## 5 Threats to peatlands - garden compost

The peat from Ireland's bogs is exploited for many uses, mainly for turf, milled peat for generating electricity and peat moss compost. The peat compost that you can buy in your local gardening shop is likely to have been taken from an Irish bog. Nutrients are added to the peat to produce a compost to help your garden plants to grow well. One way that you can help save bogs is by producing your own compost at home and having a peat free garden. Producing your own compost can not only save bogs but can also reduce the volume of organic waste going to landfill.



Dragonfly nymph



## 6 Pond life - explore the biodiversity living in bog pools

Bogs are wet habitats and often contain lots of bog pools. These pools are home to a wide variety of invertebrate life. They can contain water beetles, freshwater shrimp, tadpoles, newts, the juvenile stages of dragonflies and damselflies and many more exciting creatures! Did you know?.....the juvenile stage of the dragonfly will live and feed in the water for two or three years before emerging as a flying dragonfly. When it finally emerges it only lives for a couple of weeks with the sole purpose of reproduction.



Great diving beetle



## 7 Weather recording - Stevenson screen

Weather conditions are an important factor in the growth of healthy raised bogs. Raised bogs require high rainfall and moderate temperatures to remain active and healthy. The Stevenson Screen weather station is a great way for us to monitor weather conditions all year round. Monitoring the weather helps us explain changes to water levels and growth on the bog. Did you know?.... the average annual rainfall in the midlands of Ireland is 700 mm per year, this high rainfall allows for healthy raised bog habitats to survive. Blanket bogs require a minimum of 1200mm per year and so are found more commonly on the west coast of Ireland or in upland areas where rainfall is higher.



## 8 Garden flowers versus bogland flowers



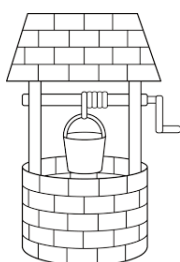
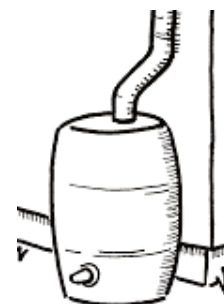
Foxglove

In our peat-free, wildlife friendly gardens you will see a beautiful selection of flowering plants that are typical of many gardens in Ireland. However, when you go to visit the bog you will not find these plants growing there. This is because of the lack of nutrients and waterlogged conditions on the bog. The typical garden plants do not have the special adaptations that bog plants have to survive on the bog. They require nutritious soils and sometimes require the addition of compost to the soil to increase nutrient availability (peat free compost is best!)



## 9 Rainwater harvesting

There are water butts in a number of locations around the gardens, to collect rainfall. The rain water is then used to water the plants in our greenhouse every day, including the insect eating plants. Rainwater is acidic and contains very little nutrients, whereas tap water is often alkaline in nature and can contain lots of nutrients which would not agree with these specially adapted insect eating plants.



## 10 Donate today and help IPCC's wish come true!

The Irish Peatland Conservation Council's wish is to conserve a representative sample of the peatlands of Ireland for future generations to enjoy. By donating you are helping us fund our Save the Bogs Campaign to protect Ireland's wonderful peatlands and the fantastic wildlife that they support. Why not throw some coins into our wishing well to help us organise bog saving projects around the country. You can also donate online at [www.ipcc.ie](http://www.ipcc.ie)