

Broads Curriculum

Geography Key Stage 2

Peat essentials

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What is peat?

Peat is a type of soil formed in naturally wet places like river valleys and flat moorlands. It is made when plants die and fall over in wet and often acid conditions. In these conditions the organic plant material does not rot. It gets squashed but it doesn't decompose. So instead of the carbon from the plants being released back into the atmosphere, it stays locked up and out of circulation.

The peat shown below has been dug from the ground using a long boring tool called an auger. This peat was excavated from six metres below a marsh in Suffolk. It was buried thousands of years ago, but the brown bits that are visible are fragments of alder wood, which has been preserved by the oxygen-poor conditions in the peat.



Image 1 - Peat dug from the ground using a boring tool called an auger. This peat was extracted from six metres below a marsh in Suffolk.

The deeper the layers of peat, the more carbon there is locked up in it. In some places in the Broads the peat is more than six metres deep – higher than a double-decker bus!

Since it's made of squashed plants, peat burns reasonably well once it's dried out. In the past it was used in the Broads as fuel – and it still is in some parts of the world including Scotland and Ireland.

As peat is very good at holding water and nutrients it's used in huge quantities as a soil improver for gardens and for growing plants in pots. This extraction damages peatlands and the UK Government has a target to stop its use in gardens by 2020.

Precious peat

If there were no peat in this area there would be no broads, since these shallow lakes were originally created by people eager to dig out the valuable, burnable peat. Medieval peat diggers extracted peat on a grand scale and when these large diggings later flooded they created this unique freshwater wetland system.

Hickling Broad (below) covers an area of 5.9km² (2.3 square miles) and was dug entirely for peat! Its average depth is less than 2 metres.



Image 2 - Hickling Broad photographed from the air by Mike Page

Data from the Broads Authority Peat Project shows that peat lies under about a third (9,030 hectares) of the Broads total area and it is remarkable in at least two ways:

- it supports a very rich diversity of habitats and wildlife, which have evolved over thousands of years;
- it preserves a historic record of past climatic conditions, dating back to the end of the last ice age.

About 17% of the floodplain area of the Broads (5,000 hectares) is undrained peatland. Of this area about half is open fen and the other half is covered with swampy (carr) woodland and willow scrub. The Broads contains the largest expanse of species-rich fen in lowland Britain – home to over 250 species of plant (source: Responding to the impacts of climate change on the natural environment: The Broads Natural England report 2009).

The outstanding wildlife of the Broads freshwater wetland system means that it has several national and international conservation designations and its significance for wildlife conservation has become increasingly clear in recent years.

For Peat's Sake

find out more about the For Peat's Sake project aimed at teachers of GCSE and A-level students by visiting the Broads Authority's learning page and following the links to [For Peat's Sake](#)