

The River Ouse Project in Plumpton



Several streamside meadows in Plumpton are being surveyed this year by members of the River Ouse Project, which is now in its seventh year. Some were surveyed last year and the work this year will help increase our knowledge of Plumpton's flower-rich places.

The project has a number of approaches. By using botanical survey methods it aims to identify all those meadows that still have a species-rich mixture of grasses and wild flowers – a typical hay-meadow assemblage of plants. It also conducts oral history interviews with landowners and does documentary research to discover the history of the land use of these meadows.

Such meadows were once an integral part of the farming system. Often too wet to plough for crops and subject to winter flooding, they were used for hay and autumn grazing. The hay was particularly valued for young animals – it was soft and had a high proportion of flowery herbs. After World War II, the availability of artificial fertilisers and seed mixes of highly productive and vigorous grasses made it profitable to plough, fertilise and reseed hay meadows. The wild flowers disappeared as a result. Even just adding fertiliser caused wild flowers to disappear – the grasses responding to the increased nutrients just crowded them out. A 97-year-old farmer we interviewed told us that the meadows by the Ouse at Sheffield Park were full of cowslips when he first came there but as soon as he applied fertiliser the cowslips disappeared completely and never came back.

There has been much coverage in the media recently about how important our native flowers are for pollinating insects, especially bees, and how there appears to be a link between the disappearance of flowery meadows and the decline of these insects. The project is also interested in reconnecting flower-rich fragments that remain by enhancing grassland in between by sowing seed or planting plugs of wild flowers. This can only be done where the soil fertility is low enough and our experiments have shown that it works in such situations. Several flower-poor meadows are being restored already and cowslips are now back in the Ouse-side meadows at Sheffield Park.

While improving biodiversity of our countryside is important, the project has another aim: to help alleviate the flooding that had such devastating effects in 2000. The Ouse is a 'flashy' river, rising rapidly after prolonged heavy rain. It has a wide catchment area, with many tributary streams. In the past the rising water caused temporary flooding of the streamside land in the upper part of the system. However navigation works between 1790 and 1799 on the main Ouse and the deepening of the tributaries in the 1970s to drain agricultural land reduced the amount of land subject to this flash flooding. This in turn has led to the present day destructive flooding of homes and businesses further down the river.

A flood alleviation strategy for the Ouse would hold back the peak flow temporarily in the upper regions until water from lower down the system has passed through. The flash washlands are ideal because they flood briefly, drain quickly and are then available to store water again. The interesting fact about the traditional hay meadow vegetation, full of oxeye daisies, knapweed, yarrow and countless other flowers, is that it can withstand these temporary floods, whereas monoculture leys, especially of rye grass, do not so well under such a regime.

Further information on the River Ouse Project is available at: <http://www.sussex.ac.uk/cce/index/research/current/riverouse>

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