

# Floodplains

In an area like Somerset where the floodplain is a home and place of work to so many people, floods like the event of 2013/4 are devastating. That winter saw the worst rainfall for 250 years, overwhelming the flood defences and outstripping the capacity of the Moors which normally store water during storms. Approximately 65km<sup>2</sup> of mostly agricultural land and 172 properties were flooded for many weeks.

A great deal of work has been done since 2014: Somerset's 20 year Flood Action Plan was created and Somerset Rivers Authority was established to reduce flood risks.



When we get lots of rain, it needs somewhere to go. Floodplains have an enormous capacity compared to the river channels, and in very high rainfall it's impossible to keep all the water in the channel.

On the lowlands of Somerset, the rivers are disconnected from their natural floodplains by defences, so there are overflow points into the Moors.

The Moors act as bathtubs that store flood water, and when one bathtub is full, it overflows into the next. Some of the Moors have to be pumped dry while others drain naturally through gravity, but for either to happen the river level needs to be low enough.



Agricultural land can recover from winter flooding, as long as it doesn't last too long and it is seeded with resilient species of grass. It can benefit overwintering birds, and the sediment brings nutrients beneficial to the soil. However, summer flooding is a disaster for farmers and wildlife, killing grass, affecting the amount of fodder available for livestock and drowning young birds and animals.

**Dredging involves removing silt from the river channels to increase their capacity.**

Since 2014, around 11km of river in Somerset has been dredged using diggers, and a new method called 'Water Injection Desilting' is also being used. A special boat agitates the river bottom with underwater jets, carrying silt away with high water. It is more cost effective than other dredging methods and is proving to be very effective, with lower impacts on communities and wildlife. Nature based solutions work well alongside these techniques, and are valuable for reducing overall pressures. For example, careful land management can stop silt entering watercourses, and slowing the flow reduces peak flows.

**Catchment Thinking**

Road embankments, flood defences and development on the floodplain all affect the movement of water in the catchment. Stopping water in one area will push it elsewhere, which is why all flood defences, even nature based solutions, have to be carefully considered and often modelled to see what effect they will have on the whole catchment.