



Holding Water in the Landscape; striking a balance between food production and healthy catchment function

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Here it is proposed that $\sim 5\%$ of the rural landscape could be modified to hold water during storm events. Hence $\sim 95\%$ of land remains for food production, commercial forestry and amenity. This is a catchment scale commitment to sustainably reducing flood and drought risk, improving water quality, biodiversity and thereby climate proofing our catchments.

The farmed landscape has intensified and as a result, runoff rates are no longer in balance with the catchment needs, which in turn contributes to floods, droughts and water pollution problems. The loss of infiltration rates, soil water holding capacity and the increase in ditches and drains through intense farming has resulted in a reduction of the overall water holding capacity of the landscape, therefore deeper soil and aquifer recharge rates are lower. However, adequate raw water supply and food production is also vital. Here we consider how $\sim 5\%$ of productive land could be used to physically hold water during and after storms. This is a simple philosophy for water stewardship that could be delivered by farmers and land managers themselves.

In this poster we consider a 'treatment train' of mitigation in headwaters by the construction of:- Rural SuDs - by creating swales, bunds and grassy filters; Buffer Strips - (designed to hold water); The Ditch of The Future - by creating the prime location for holding water and recovering lost top soil and finally the better use of Small Headwater Floodplains - by storing flood water, creating wetlands, planting new forest, installing woody debris and new habitats. We present examples of where and how these measures have been installed and show the cost-effectiveness of temporarily holding storm runoff in several case study catchments taken from the UK.