

Lower Palaeozoic and Precambrian rocks are distributed in Scotland, Northern Ireland, Cumbria, Wales and the Channel Islands, and coincide largely with upland areas. Groundwater flow and storage is mostly shallow and flow paths are short, although there is some limited deeper groundwater circulation. Groundwater quality is variable but often weakly mineralized, reflecting incomplete water-rock reaction. There are many small groundwater sources used for private supply and a number also for public supply; these offer an important social and economic asset to isolated rural and island communities. Groundwater occurs in four rock types: fractured rock, fractured rock with regolith, massive rock and karstic limestone. Identification of specific groundwater settings within these rock types provides an insight into the prevailing groundwater flow paths. This enables source protection zones to be prescribed according to the hydrogeological setting rather than by detailed data collection and modelling. This method of prescription is applicable universally to basement aquifers and is not limited to those in the UK.