



THE CENTRAL SCOTLAND REGIONAL GROUP OF THE GEOLOGICAL SOCIETY

Notice of event: Thursday 6th September

Room 5.09a (Knowledge Exchange Hub), Level 5,
James Weir Building, University of Strathclyde
75 Montrose Street
Glasgow, G1 1XJ

6.00pm for 6.15pm

REFLECTIONS OF A RETIRED HYDROGEOLOGIST ON THE USE AND MANAGEMENT OF THE PERMO-TRIASSIC SANDSTONE AQUIFERS OF NORTH WEST ENGLAND

Keith Seymor

GSL Vice President for Regional Groups

The Permo-Triassic sandstone is classed as a principal aquifer. In north west England it has been an important source of both public and industrial water supply, especially in the urban conurbations of the Mersey basin between Liverpool and Manchester.

After setting the geological and hydrogeological scene, Keith will summarise the long history of abstraction from the aquifer in the context of wider water resources in the North West and how over-abstraction resulted in falling groundwater levels and associated saline intrusion from the Mersey estuary and upflow of connate groundwater from depth. He will explain how the situation started to change with the 1963 Water Resources Act, which set in place regulatory control of abstraction by licensing and importantly, water resource monitoring, assessment and management. This coincided with the formation of regional water authorities that saw a move towards more integrated water supply zones and less dependence on groundwater.

Keith will share his insights and understanding of the complex behaviour of the Permo-Triassic sandstone aquifers of the North West gained from site scale testing of abstraction boreholes, expanding the regional groundwater level monitoring network and culminating in a programme of regional scale groundwater resource investigations involving conceptual and numerical modelling. He will illustrate how BGS geophysical data have provided valuable 'pieces in the jigsaw puzzle' in recognising the importance of structural controls on groundwater flow and aquifer compartmentalisation; this is important when defining appropriate groundwater management units. Similarly, BGS drift domain mapping has helped model calibration in terms of the very significant constraint

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low permeability glacial till cover has on recharge to the bedrock aquifer, and hence sustainability.

As interesting and rewarding as this work is for we geoscientists, especially hydrogeologists, Keith will conclude by emphasising the 'why do we bother' – the need for robust, scientifically justified, management of water resources that allow optimum, sustainable use of (ground)water resources whilst protecting the needs of the environment.

More information on the Central Scotland Regional Group can be found on our [webpage](#).

Keith Seymor

GSL Vice President for Regional Groups

After graduating from Newcastle University in 1976 with a degree in Applied (Engineering) Geology, Keith spent most of his 38 year career in the north west of England. He started out as an engineering geologist with the former North West Water Authority before moving into hydrogeology, managing and protecting groundwater resources of the region. In the early days of the National Rivers Authority he was instrumental in introducing geotechnical engineering standards to the landfill industry.

In 2008 Keith was appointed the Environment Agency's national technical lead for groundwater resources, a role he fulfilled until 2014 when he took the opportunity of early retirement to move to Scotland. This coincided with him being voted on to GSL Council and, two years later, Keith was honoured to be elected Vice President for Regional Groups.

Keith was a member of the former Institution of Geologists and sat on the Committee of the North West Regional Group for a number of years. He became a Chartered Geologist back in 1990.