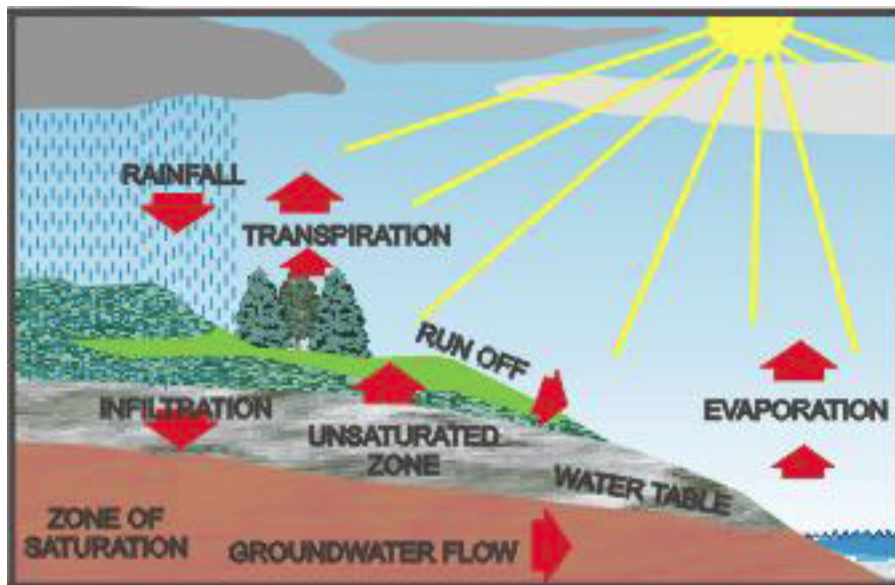




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Background to Groundwater Development in Ireland

Groundwater is a major natural resource in Ireland providing between 25% to 30% of drinking water supplies. Certain counties, particularly in the Midlands, the proportion is much greater, e.g. Roscommon 86%, Laois 54%, Kilkenny 52% and Wexford 40%.



Hydrological Cycle

The most important aquifers in Ireland are certain carboniferous limestones and sandstones, certain volcanic rocks (mainly in counties (Wexford and Waterford) and quaternary sands and gravels.

Industries, especially rural food processing industries, such as creameries and meat factories have their own water supply often from groundwater. Groundwater abstractions are estimated as 105,000,000 m³/yr. (Callery 1988). This represents only about 3% of estimated annual recharge, so there are vast groundwater resources available and unused at present. In rural areas not served by public or group schemes, groundwater is usually the only source of supply.

The utilisation of groundwater in Ireland is far less than other E.C. Countries where groundwater supplies account for 60% to 99% of drinking water in Belgium, Denmark, France, Germany, Italy, Luxemburg, Netherlands and Portugal. *Wright (G.S.)(1)*, estimates

there are some 50 Well Drilling Companies/Sole Traders operating in the Republic. In 1975 it was estimated that some 5,000 new wells were drilled each year. This approximate rate of drilling has persisted with some fluctuations for the past 35 years. Factoring in a surge of additional well drilling during recent boom times (2000-2006 period) , it is estimated that some 180,000 to 250,000 wells have been drilled over a 35 year period. This would represent two to three wells per week or 100-150 per year drilled by each firm. Currently, in Ireland there are no statutory regulations applicable to the drilling industry and groundwater abstraction in Ireland. Consequently there are inconsistent standards of construction and decommissioning of boreholes. In contrast, other countries require prior permission for the drilling of boreholes and enforce specific standards of well drilling and construction to be adhered to and licensing of well drillers.

The poor quality of rural groundwater supplies in Ireland demonstrates that there is a need for a standard to regulate the drilling, construction, testing and decommissioning of boreholes and wells. There needs to be a sustainable approach aimed at improving the design, drilling and abstraction of the water source and reducing the need for end-of-pipe solutions. In addition, the E.U. Water Framework Directive, October 2000, requires member states to manage and protect their groundwater resources in a comprehensive manner. The main objective is to prevent the deterioration of groundwater status, and to ensure a balance between abstraction and recharge of groundwater with the aim of achieving good groundwater status.

Acknowledgements:

(1) Geoff Wright, Geological Survey of Ireland, G.S.I. Groundwater Newsletter No 35, 1999