

GROUNDWATER QUALITY

A QUESTION OF PERSPECTIVE.

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Abstract.

The primary concern of the engineer who commissions water supply schemes is the final treated water quality. The hydrogeologists and environmental scientists focus on the in-situ quality of the resource. A comparison of the bacteriological analyses of samples collected from surface water and groundwater show that raw groundwater quality is superior to that of surface waters, due to natural in-situ filtration of recharge. Statistics on poor drinking water quality are more a reflection of inadequate disinfection rather than environmental pollution. In areas of low to moderate vulnerability private well users are entitled to a water supply that is free from faecal contamination. In areas of extreme vulnerability groundwater quality becomes more similar to that of surface water. Effective disinfection can improve the quality of drinking water and protect the health of the consumer. Groundwater protection plans should increase their focus on the protection of the resource (aquifer) for the future, for the private well owner and for other receptors in the overall water environment. Groundwater supplies in areas of extreme vulnerability should be treated in the same manner as surface water. Nitrate contamination of Ireland's aquifers is not a problem at present. Protection measures must be implemented to prevent contamination by pesticides and nitrates, which are very costly to treat. The entire area of groundwater quality must be considered from both the environmental aspect and the public health aspect.