

Knockaskallen GWB: Summary of Initial Characterisation.

Hydrometric Area Local Authority		Associated surface water bodies	Associated terrestrial ecosystems	Area (km ²)
16 – Suir S. Tipperary Co Co Limerick Co Co		Aherlow, Thonoge, Tar, Burncourt, Shanbally	Galtee Mountains, Scaragh Wood	154
Topography		The Galty Mountains occupy the area of this groundwater body. The highest peak is Greenane at 802m OD. The elevation reduces quickly to the north and south and tapers off slowly to the east giving the Galty Mountains and this groundwater body their elliptical shape. Forests cover the lower slopes and most of the eastern part of this area. Surface drainage flows north and south from the central mountain peaks.		
Geology and Aquifers	Aquifer type(s)	LI – Locally Important Aquifer, moderately productive only in local zones PI – Poor Aquifer, generally unproductive except for local zones		
	Main aquifer lithologies	SM - Slievareagh Conglomerate Formation - Conglomerate and purple sandstones PL - Poulgrania Sandstone Formation - Red sandstone and some conglomerate GS - Galtymore Formation - Thick-bedded pale red sandstone IB - Inchacomb Formation - Greywacke and dark green shale		
	Key structures.	The structural geology of this area is dominated by an anticline centred on the long axis of the Galty Mountains.		
	Key properties	No information is available on the hydrogeological properties of this groundwater body. Estimated transmissivities can be considered to range 1 – 10m ² /d.		
	Thickness	Effective thickness is not expected to be large but the bedrock may be permeable to depths of around 25m in some areas.		
Overlying Strata	Lithologies	The majority of the area is believed to have rock close to surface. Where there are deposits of subsoil at the lower slopes of the mountains this is mostly tills derived from sandstone and occasionally till-with-gravel. There are some gravel deposits on the lower slopes that may extend over this groundwater body		
	Thickness	0-3m		
	% area aquifer near surface	90%		
	Vulnerability	EXTREME vulnerability		
Recharge	Main recharge mechanisms	Recharge to this groundwater body is possible over most areas of the body because of the thin subsoil covering. There is more rainfall at higher elevations, the bedrock may be more weathered and the subsoil thinner, all of which could lead to an increase in recharge at higher elevations.		
	Est. recharge rates	<i>[Information will be added at a later date]</i>		
Discharge	Springs and large known abstractions	Rossidrehid, Tipperary Springs WS,		
	Main discharge mechanisms	Discharge of groundwater from the body will occur along the river courses where the water table meets the river bed. There is also some evidence that discharge may occur via springs at the foot of the mountains. There may also be diffuse groundwater discharge to the underlying Kiltorcan Formation, which is a major aquifer.		
	Hydrochemical Signature	The bedrock strata of this groundwater body are Siliceous .		
Groundwater Flow Paths		Groundwater flow paths in this area are considered to be short, firstly because the area of the groundwater body is small and the bedrock is not a major aquifer. It is likely that most groundwater flow circulates in the upper tens of metres, recharging and discharging in local zones. The age of the groundwater is considered to be young. The water table is considered to be steep, as it is controlled by the mountainous topography, and therefore groundwater flow in the upper metres of the bedrock may be relatively fast.		
Groundwater & surface water interactions		Groundwater will discharge locally to streams and rivers crossing the aquifer and also to small springs and seeps. Owing to the poor productivity of the aquifers in this body it is unlikely that any major groundwater - surface water interactions occur. Baseflow to rivers and streams is likely to be relatively low.		
Conceptual model	This groundwater body is defined to the west by the extent of the Suir Catchment. The main area of the groundwater body consists of the Devonian rocks which form the Galty mountains. The groundwater flow radiates from the peak of the Galty Mountains, which are considered to be the main recharge area for the groundwater body. Discharge from this groundwater body is to the north and south into the Kiltorcan Sandstone aquifer. There is also discharge to streams and discharge via springs.			
Attachments				
Instrumentation	Stream gauge: 16019 Borehole Hydrograph: None EPA Representative Monitoring boreholes: None			

Information Sources	
Disclaimer	Note that all calculation and interpretations presented in this report represent estimations based on the information sources described above and established hydrogeological formulae