

Lisdowney GWB: Summary of Initial Characterisation.

Hydrometric Area Local Authority		Associated surface water bodies	Associated terrestrial ecosystems	Area (km ²)
15 – Nore Kilkenny Co Co Laois Co Co		Gorteenahilla, Lisdowney Stream, Goul, Nore	River Nore / Abbeyleix Complex	54
Topography		This groundwater body comprises the elevated hills between Urlingford and Durrow. The overall shape of the hills is a pear shaped lobe with its tip at Durrow running southwest to Urlingford. The highest elevation is at 349m OD at Spa Hill. The surface drainage from this area flows mostly to the south except for a tributary of the River Goul, which flows north. The slopes are steeper on the northwestern side than to the south.		
Geology and Aquifers	Aquifer type(s)	PI – Poor Aquifer, generally unproductive except for local zones Pu – Poor Aquifer, generally unproductive		
	Main aquifer lithologies	BE - Bregaun Flagstone Formation - Thick-bedded flaggy sandstones and siltstones KN - Killeshin Siltstone Formation - Clayey siltstone and silty mudstone MC - Moyadd Coal Formation - Black shales, siltstones and occasional sandstones		
	Key structures.	There are two large faults crossing this groundwater body running in a NW - SE direction, and other minor faults in this area.		
	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	The effective thickness of this groundwater body is not expected to be deep and most groundwater flow will occur in the upper 10m of saturated rock.		
Overlying Strata	Lithologies	Glacial till with significant areas of rock close to surface.		
	Thickness	Thickness is very low with all of the area at <3m and large areas where there is <1m of subsoil.		
	% area aquifer near surface	70%		
	Vulnerability	EXTREME with areas of rock close to surface within this.		
Recharge	Main recharge mechanisms	The recharge in this area will be diffuse local recharge, which enters the bedrock from the thin overlying subsoil.		
	Est. recharge rates	<i>[Information will be added at a later date]</i>		
Discharge	Springs and large known abstractions	None		
	Main discharge mechanisms	Discharge from this groundwater body will be to the associated surface water bodies. There may also be discharge in the upper metres to the adjacent karstic aquifer.		
	Hydrochemical Signature	The bedrock strata of this groundwater body are siliceous .		
Groundwater Flow Paths		Groundwater flow will radiate from the elevated areas of these hills. The hydraulic gradient will be a close reflection of the surface topography since the water table is close to the surface. Therefore the overall groundwater flow direction is to the southwest. Groundwater flow paths in this area are considered to be short, because the area of the groundwater body is small and the bedrock is not considered to constitute a major aquifer.		
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 by the extent of the Namurian & Westphalian shales between Durrow and Freshford in Co. Kilkenny. This is considered to be a poor aquifer with minimal potential for groundwater development. Recharge will occur locally through the thin subsoil and exposed areas of bedrock. Discharge from this body is to local surface water bodies and to the surrounding karstic aquifer. Although only short flowpaths exist is important to note that much of this areas is extremely vulnerable which has important pollution implications on a local scale.			
Attachments				
Instrumentation	Stream gauge: None 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			

