

### Rathangan GWB: Summary of Initial Characterisation.

Hydrometric Area Local Authority		Associated surface water bodies	Associated terrestrial ecosystems	Area (km <sup>2</sup> )
14 – Barrow Kildare Co Co		Slate	None	7.5
<b>Topography</b>		The groundwater body lies mostly south of Rathangan town. The average elevation is just over 80m OD. The elevation reduces in all directions from the centre of the gravel mound.		
<b>Geology and Aquifers</b>	Aquifer type(s)	Lg : Locally Important Sand/Gravel Aquifer		
	Main aquifer lithologies	Sand & Gravel		
	Key structures.			
	Key properties	The aquifer is expected to have a moderately high storage and transmissivity.		
	Thickness	An interpreted thickness of greater 10 m over almost the entire extent of the deposit. One of the wells drilled has recorded 20 m of saturated sand & gravel.		
<b>Overlying Strata</b>	Lithologies	None.		
	Thickness	0m		
	% area aquifer near surface	HIGH		
	Vulnerability	HIGH		
<b>Recharge</b>	Main recharge mechanisms	Recharge to this aquifer will be from rainfall falling onto the area. The recharge will therefore be diffuse and autogenic. It is likely that a high proportion of the potential recharge will be converted to actual recharge.		
	Est. recharge rates	<i>[Information to be added at a later date]</i>		
<b>Discharge</b>	Springs and large known abstractions (m <sup>3</sup> /d)	There are no known large abstractions in this area.		
	Main discharge mechanisms	The discharge from this aquifer will be via discharge to overlying streams or as seepages at the extremities of the body.		
	Hydrochemical Signature	It is expected that the sediments of this groundwater body are <b>Calcareous</b> since they are derived from limestone.		
<b>Groundwater Flow Paths</b>		This aquifer has intergranular porosity and groundwater flow will be diffuse. The velocity may be in the region of 1m/d.		
<b>Groundwater &amp; surface water interactions</b>		The aquifer will provide baseflow to the River Slate which crosses it at Rathangan.		
<b>Conceptual model</b>	The groundwater body is defined by the extent of the gravels mapped at Rathangan. The aquifer is considered to be a locally important gravel aquifer with high vulnerability. Protection to the groundwater is only by filtration of water through the unsaturated zone above the water table, whose extent will vary through out the year. Recharge is diffuse and autogenic groundwater flow will be away from the centre of the body and discharge will be via baseflow to the River Slate or seepages at the extremities of the aquifer.			
<b>Attachments</b>	None			
<b>Instrumentation</b>	Stream gauge: 14011 Borehole Hydrograph: none EPA Representative Monitoring boreholes:			
<b>Information Sources</b>	Kelly C, Fitzsimons V (2002) County Kildare Groundwater Protection Scheme. GSI report for Kildare County Council			
<b>Disclaimer</b>	Note that all calculation and interpretations presented in this report represent estimations based on the information sources described above and established hydrogeological formulae			