

### Kilrion GWB: Summary of Initial Characterisation.

Hydrometric Area Local Authority		Associated surface water bodies	Associated terrestrial ecosystems	Area (km <sup>2</sup> )
17 – Coastal Area Waterford Co Co		Colligan, Araglin, Dalligan, Tay, Mahon	Comeragh Mountains, Curraun Bog	156
<b>Topography</b>		The Monavullagh Mountains are situated at the centre of this groundwater body with the highest peak, Seefin, at 726m OD. The mountains extend in a NE-SW direction. The surface water runs off the mountains in steep valleys that radiate from the centre. There are often Corries/Cirques at height.		
<b>Geology and Aquifers</b>	Aquifer type(s) Main aquifer lithologies	LI – Locally Important Aquifer, moderately productive only in local zones BS - Ballytrasna Formation – Purple mudstone with some sandstone CM - Coumshingaun Conglomerate Formation - Boulder-pebble size conglomerate TR - Treanearla Formation – Green thick bedded conglomerate KM - Knockmealdown Sandstone Formation - Medium grained pink & purple sandstone		
	Key structures.	There is a concentration of some minor faulting in the northeast of the area although the effect this has on the local hydrogeology is uncertain.		
	Key properties	No information is available on the hydrogeological properties of this groundwater body. Estimated transmissivities can be considered to range 1 – 10m <sup>2</sup> /d.		
	Thickness	Effective thickness is not expected to be large but the bedrock may permeable to depths of around 25m in some areas.		
<b>Overlying Strata</b>	Lithologies	Sandstone till which then gives way to outcrop in the east.		
	Thickness	Subsoil thickness reduces to the east where the rock is close to surface.		
	% area aquifer near surface	~50%		
	Vulnerability	Vulnerability is HIGH in the west with local areas of EXTREME, in the east the area is entirely EXTREME. There is a small area of LOW vulnerability in the south.		
<b>Recharge</b>	Main recharge mechanisms	Most recharge to groundwater is likely to occur in the elevated areas of the Monavullagh Mountains, where there are large areas of outcrop.		
	Est. recharge rates	<i>[Information will be added at a later date]</i>		
<b>Discharge</b>	Springs and large known abstractions	Graigueanrush WS (Spring -14), Kilbrien WS (30), Coolnasmear Upper (Spring), Kilnafrehan WS (Ballynakill - 11), Inch'dr'la/Kilgobnet (Ballyconnery - 20), Colligan WS (Spring - 20),		
	Main discharge mechanisms	Discharge from this groundwater body will enter the volcanic aquifer to the east or the dolomite aquifer to the south. There is also likely to be discharge to the local streams, sometimes via springs, three of which are used for public supplies. The springs are located on the lower slopes of the mountains where the water table intersects the land surface.		
	Hydrochemical Signature	The bedrock strata of this groundwater body are <b>Siliceous</b> .		
<b>Groundwater Flow Paths</b>		The peaks of the Monavullagh Mountains represent a drainage divide running from north to south within this groundwater body. The rivers are seen to flow east to the volcanic aquifer, and west, then south to the Dungarvan limestone aquifer. Groundwater flow paths in this area are considered to be short. The area of the groundwater body is small and the bedrock is not considered to constitute 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.		
<b>Groundwater &amp; surface water interactions</b>		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.		
<b>Conceptual model</b>	This groundwater body consists of the Devonian sandstones in the northwest of Hydrometric area 17. It is bound to the east by Ordovician volcanics and to the south by the limestones of Dungarvan Harbour. Most recharge is likely to occur in the upper areas and discharge is to the east and west of the peak. The flow to the east discharges to the volcanic aquifer and the flow to the west probably follows the surface drainage system and flows south to the foot of the mountains where it enters the Dungarvan limestone aquifer. There are springs found in various areas at the foot of the mountains, probably as the water table is intersected.			
<b>Attachments</b>				
<b>Instrumentation</b>	Stream gauge: 17003 Borehole Hydrograph: none EPA Representative Monitoring boreholes: None			
<b>Information Sources</b>				
<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			