

Lisvarrinane GWB: Summary of Initial Characterisation.

Hydrometric Area Local Authority		Associated surface water bodies	Associated terrestrial ecosystems	Area (km ²)
16 – Suir N. Tipperary Co Co Limerick Co Co		Aherlow, Ara, Fidaghta, Suir, Outeragh Stream	None	118
Topography		This area is in the valley between the Galty Mountains and the elevated ridge which runs northeast from Slievenamuck. It also extends a few kilometres from east of Caher. There are two different topographic areas within the body. Firstly the area to the west is a narrow valley with elevation decreasing towards the River Aherlow, which runs in a west to east direction between the two elevated areas. East from the extremities of the elevated areas (i.e. east of a line from Bansha to Caher) the topography becomes less directional and more undulating.		
Geology and Aquifers	Aquifer type(s)	L1: Locally Important Aquifer, moderately productive only in local zones.		
	Main aquifer lithologies	AT : Athassel Limestone Formation - Dark shaly cherty limestone BA : Ballysteen Formation - Fossiliferous dark-grey muddy limestone BAbn : Ballynash Member - Wavy bedded cherty limestone, thin shale		
	Key structures.	The body lies in a syncline running between the Galtys and the Slievenamuck, which may concentrate groundwater flow towards the Aherlow River. A series of north-south trending faults may enhance groundwater flow in a southerly direction in the eastern half of the groundwater body.		
	Key properties	These impure limestones are not considered to be major aquifers although there may be local enhancement of permeability due to structural deformation.		
	Thickness	?		
Overlying Strata	Lithologies	The area is covered mostly by Till-with-Gravel. Within this are smaller areas of gravel deposits, which are too small to be considered to be aquifers or groundwater bodies in their own right.		
	Thickness	The thickness of the subsoils is higher in the valley between the Galty Mountains and Slievenamuck to the north; in this area the subsoil thickness is likely to be 3 to 5m. East of the Galty mountains the thickness of subsoil reduces to less than 3m.		
	% area aquifer near surface	60%		
	Vulnerability	The western half of this groundwater body is considered to have a HIGH vulnerability, to the east the vulnerability changes to EXTREME.		
Recharge	Main recharge mechanisms	The recharge to this groundwater body is likely to be both diffuse, from rainfall, and point, from runoff from the higher elevations to the north and south. The ability of such potential rainfall to percolate down to the water table will vary through out the area. Where there are deposits of gravels the rainfall will seep underground. Where there are deposits of less permeable till, there will be ponding and runoff to surface water bodies.		
	Est. recharge rates	[Information will be added at a later date].		
Discharge	Springs and large known abstractions	Keating, Matt (Kilmoyler Cross - 250), Outeragh Creamery (3 BH – 320),		
	Main discharge mechanisms	The discharge from this aquifer will be to the surface streams as baseflow. Analyses of dry weather flows show significant baseflow contribution in this area. There is also likely to be some discharge to adjacent regional aquifers along fractures or conduits. There is also discharge from this groundwater body via springs.		
	Hydrochemical Signature	The strata of this groundwater body are Calcareous .		
Groundwater Flow Paths		The direction of groundwater flow will be to the east in the valley north of the Galty Mountains, and then to the southeast of Bansha. Most of the groundwater moves relatively rapidly along short flow paths and discharges into the streams which cross the aquifers. Flow in the karstified systems tends to be conduit flow along the fault zones.		
Groundwater & surface water interactions		Karstic aquifers are noted to have a very direct interaction between surface water and groundwater. Features like springs, swallowholes and turloughs represent areas where there is a direct change from surface water to groundwater.		
Conceptual model	This groundwater body is located in the Suir River Basin. It stretches east from the valley between Slievenamuck and the Galty Mountains. East of Bansha and Caher it widens and extends about 4 to 5 kilometres east of Caher. The groundwater body is considered to be a locally important aquifer, there is development of the flow system in areas where there has been structural deformation of the limestones. There is diffuse and point recharge to this groundwater body. The flow of groundwater is from the east and then to the south along the course of the River Suir. The discharge from the aquifer is likely to be to the Suir via baseflow or as discharge from springs whose outflow then joins the river.			

Attachments	
Instrumentation	Stream gauge: 16029, 16033, 16017, 16007, 16010, 16008, 16082, 16113 Borehole Hydrograph: none EPA Representative Monitoring boreholes:
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