

**Inch GWB: Summary of Initial Characterisation.**

Hydrometric Area Local Authority		Associated surface water bodies	Associated terrestrial ecosystems	Area (km <sup>2</sup> )
11 – Coastal Area Wexford Co Co Wicklow Co Co		Clonough, Tinnock, Inch, Banoge	Kilgorman River Marsh	86
<b>Topography</b>		This groundwater body is located in the southeastern foothills of the Crohan Mountains. The highest point of elevation is Slieveforne at 414m. Typical slopes in uplands are 1:8 and this reduces on the lowlands to typical slopes of 1:25. The main drainage direction is from the mountains in the northwest to the coast in the east although at the southern boundary there is drainage towards the north off the higher elevations of Tara Hill etc.		
<b>Geology and Aquifers</b>	Aquifer type(s)	<b>LI</b> – Moderately productive only in local zones. <b>PI</b> – Generally unproductive except for local zones.		
	Main aquifer lithologies	OA : Oaklands Formation – Green, red-purple, buff slate & siltstone KA : Kilmacrea Formation – Dark grey shale and minor pale sandstone BY : Ballylane Formation - Green and grey slate with thin siltstone		
	Key structures.	There are a number of faults, in a NNW - SSE direction.		
	Key properties	There is no information available on the hydrogeological properties of these rocks. Estimated transmissivities can be considered to range 1 – 10m <sup>2</sup> /d.		
	Thickness	The effective thickness of this aquifer may only be about 15 to 30m.		
<b>Overlying Strata</b>	Lithologies	There is an unsorted gravel deposit at Coolgreany, which is considered as a discrete groundwater body. The Clogga Till, deposited to the west, is a stone clay sand based till containing large angular cobbles and boulders chiefly of shale and granite. To the east there is the Macamore Irish Sea Till, which is a clay based, lime rich till containing small pebbles and shells. Occasional local lenses of sand and gravel are reported.		
	Thickness	The thickness of subsoil appears to be greatest towards the centre of this groundwater body and towards the coast. Thinner subsoil is found at the higher elevations to the west and south.		
	% area aquifer near surface	<i>[Information will be added at a later date]</i>		
	Vulnerability	<i>[Information will be added at a later date]</i>		
<b>Recharge</b>	Main recharge mechanisms	Recharge is considered to enter the bedrock through the sandier parts of the Clogga Till and also through exposed bedrock in the elevated areas. The Macamore Marl is considered almost impermeable and largely seals the underlying bedrock from diffuse recharge. There is likely to be significant recharge along the southern boundary of the elevated areas of the Duncannon Group volcanics although the throughput into the poorer aquifer of this groundwater body should be small.		
	Est. recharge rates	<i>[Information will be added at a later date]</i>		
<b>Discharge</b>	Springs and large known abstractions ((m <sup>3</sup> /d))	Killanerin GWS (Monamolin), Knockina GWS,		
	Main discharge mechanisms	Discharge in this groundwater body is to the surface water bodies and also the sea. Discharge is not expected to be large as much of the area is considered to be a poor aquifer.		
	Hydrochemical Signature	The bedrock strata of this groundwater body are considered to be <b>Siliceous</b> . No hydrochemical data are available.		
<b>Groundwater Flow Paths</b>		Groundwater flow paths through this groundwater body are short. The travel time of any recharging waters will be small and there fore the age of these groundwaters is young. The distance travelled will be short and will most likely be the distance to the closest surface water body. Most groundwater flow will take place in the top 15 to 30 metres.		
<b>Groundwater &amp; surface water interactions</b>		The interaction between surface water and groundwater may be most significant in the area of Coolgreany where the gravel aquifer is overlying the bedrock. In locations where there is a thick covering of marl the interactions will be greatly reduced if they are at all present.		
<b>Conceptual model</b>	This groundwater body is defined to the east, west and north by the boundary of Hydrometric Area 11. To the south the contact between the Duncannon Group volcanic rocks and the Ribband Group slates and shales. The surface topography and the degree of fracturing of the underlying rock principally control the movement of groundwater through this area.			

<b>Attachments</b>	
<b>Instrumentation</b>	Stream gauge: 11002, 11003 Borehole Hydrograph: none EPA Representative Monitoring boreholes:
<b>Information Sources</b>	Cullen, K. T. (1981) Preliminary Report on the Hydrogeology of North County Wexford.
<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