

Water Framework Directive Groundwater Monitoring Programme

Site Information **Glynn/St. Mullins (GWS)**



Glynn/St Mullins is a Private Group Scheme comprising of a spring. The abstraction rate is 672m³/day. A borehole serves as a back up supply.

SITE INFORMATION					
Site Name:	Glynn/St. Mullins (GWS)		County:	Carlow	
RBD:	SERBD		EU Reporting Code:	IE_SE_G_103_01_003	
Easting:	278244		GWB Name:	New Ross_S	
Northing:	141333		GWB Code:	IE_SE_G_103	
Site Use:	Drinking Water (GWS)		Drinking Water Code:	0100PRI2103	
Hydrometric Area:	14		Water Level Monitoring Network:	Level	Flow
Townland:	BALLYBEG BIG			N	Y
Ownership:	Carlow County Council				
Water Quality Monitoring Network:	Surveillance		Operational (Point)		Operational (Diffuse)
	Y		N		N
Site Comments:	Glynn/St Mullins is a Private Group Scheme comprising of a spring and a back up borehole located on Granite bedrock.				
SITE DIRECTIONS					
Location and Access Information:	The site is located approximately 5.5km northeast of Glynn St. Mullins. The site is accessed from a laneway off a minor road. The minor road is to the east of the R729				
Additional Comments:	---				
WELL INFORMATION					
Monitoring Point Type:	Spring	Abstraction Rate (m³/d):	672	Ground Elevation (m OD):	160
Borehole Log Available:	Y	Total Drilled Depth (m bgl):	n/a	Depth to Bedrock (m bgl):	---
Top of Casing (m agl):	---	Upper Casing Diameter (mm):	---	Lower Casing Diameter (mm):	---
Final Borehole Depth (m):	---	Upper Casing Bottom Depth (m bgl) :	---	Lower Casing Bottom Depth (m bgl):	---
Screen Interval (m bgl):	---	Screen Type (PVC,Steel,other):	---	Screen Slot Size (mm):	---
Grout Type (cement,bentonite):	---	Grouted above (m bgl):	---	Grout Volume Injected (m³):	---
Gravel Pack Interval (m bgl):	---	Gravel Pack Volume (m³):	---	Open Hole Interval (m bgl):	---
Potential Yield (m³/day):	---	Comments on Monitoring Site:	---		
Specific Capacity (m³/d/m):	---				
Static Water Level (m bgl):	---				
Scheme Name:	Glynn/St. Mullins	Number of Abstraction Points in the Scheme:	2	Source Report Available	N
Source Report Info:	---				
Scheme Summary:	The scheme consists of a spring and a borehole. The borehole is only used as back up the spring. The treated water is pumped to two reservoirs before distribution to the network.				

HYDROGEOLOGY								
GEOLOGY	Soil:	shallow, lithosolic or podzolic type soils potentially with peaty topsoil (AminSRPT					Subsoil Permeability:	n/a
	Subsoil:	Bedrock at or close to surface (Rck)						
	Bedrock:	Granites & other Igneous Intrusive rocks						
HYDROGEOLOGY	Aquifer Category:	PI	Vulnerability at Monitoring site:	X-Extreme	Flow Regime:	Poorly productive		
ZONE OF CONTRIBUTION	Estimated ZOC Size (km ²):	1.02	ZOC Delineated By:	OCM (DC)	Recharge Estimate (mm/yr):	104		
	ZOC Delineation Comments:	The ZOC was delineated based mainly topography and the estimated entire hydrogeological catchment was used. The total discharge is unknown. There is expected to be increased flow along the fault in the east of the ZOC.						
Groundwater Vulnerability within ZOC (% area):	Extreme (X)	Extreme (E)	High	Moderate	Low	High to Low	Unclassified	
	99.53	0.47	0	0	0	0	0	
HYDROCHEMISTRY								
Hydrochemical Signature:	Ca-HCO3		Additional Water Chemistry Information:	During the monitoring period: The nitrate concentration was <1 mg/l NO3. The average ammonium concentration was 0.027 mg/l N and the maximum ammonium concentration was 0.103 mg/l N. The average molybdate reductive phosphorus (MRP) concentration was 0.011 mg/l P and the maximum MRP concentration was 0.03 mg/l P. The average chloride concentration was 7.7 mg/l Cl and the maximum chloride concentration was 33.9 mg/l Cl.				
Alkalinity (mg/l HCO3):	Average:	Range:						
	29	14-70						
Hardness (mg/l CaCO3):	Average:	Range:						
	15	6-45						
Conductivity (uS/cm):	Average:	Range:						
	47	9-100						
Monitoring Record Period:	From:	To:						
	2007	2010						
RISK ASSESSMENT								
Pressure (e.g., Nitrates, Phosphates, Abstractions):	---		Typical Contaminants:	---				
Risk Category:	Not at risk, low confidence		GWB Status:	Good				
Impact Potential within ZOC (% area):	Extreme:	High:	Moderate:	Low:	Negligible:			
	0.00	5.22	0.00	0.00	94.78			
OTHER INFORMATION								



Site Overview



Treatment Works



Spring Intake

Data Summary Sheet - July 2011

Disclaimer: The data in this document are based on the best available information and understanding at time of writing. Neither the Environmental Protection Agency, nor the individual bodies supplying data for this document and accompanying maps will be responsible for any loss or damage from the use or interpretation of these data.

Rock Unit Geology Map: GSI, 2009

Aquifer Type Map: GSI, 2009

Groundwater Vulnerability Map: GSI, 2009

Soils & Subsoils Type: Teagasc, 2007

Recharge Map: GSI, 2009

Impact Potential Map: EPA, 2009

Risk Assessment Map: EPA WFD Risk Assessment, 2006

Groundwater Body Status: EPA WFD Status Assessment, 2008

Water Quality Data: EPA WFD Monitoring, 2008

Groundwater Threshold Values

Groundwater threshold values for selected parameters:

Nitrate - General Chemical Test/ Drinking Water Test (37.5 mg/l N03)

Ammonium - Drinking Water Test (0.175 mg/l N) / Surface Water Test (0.065 mg/l N)

Molybdate Reactive Phosphorus (MRP) - Surface Water Test (0.035 mg/l P)

Chloride -Saline/Intrusive Test (24 mg/l) / Drinking Water Test (175 mg/l Cl)

Electrical Conductivity -Saline/Intrusive Test (800 μ S/cm) / Drinking Water Test (1,875 μ S/cm)

Further information on groundwater threshold values is contained in the Groundwater Regulations (S.I. No.9 of 2010).

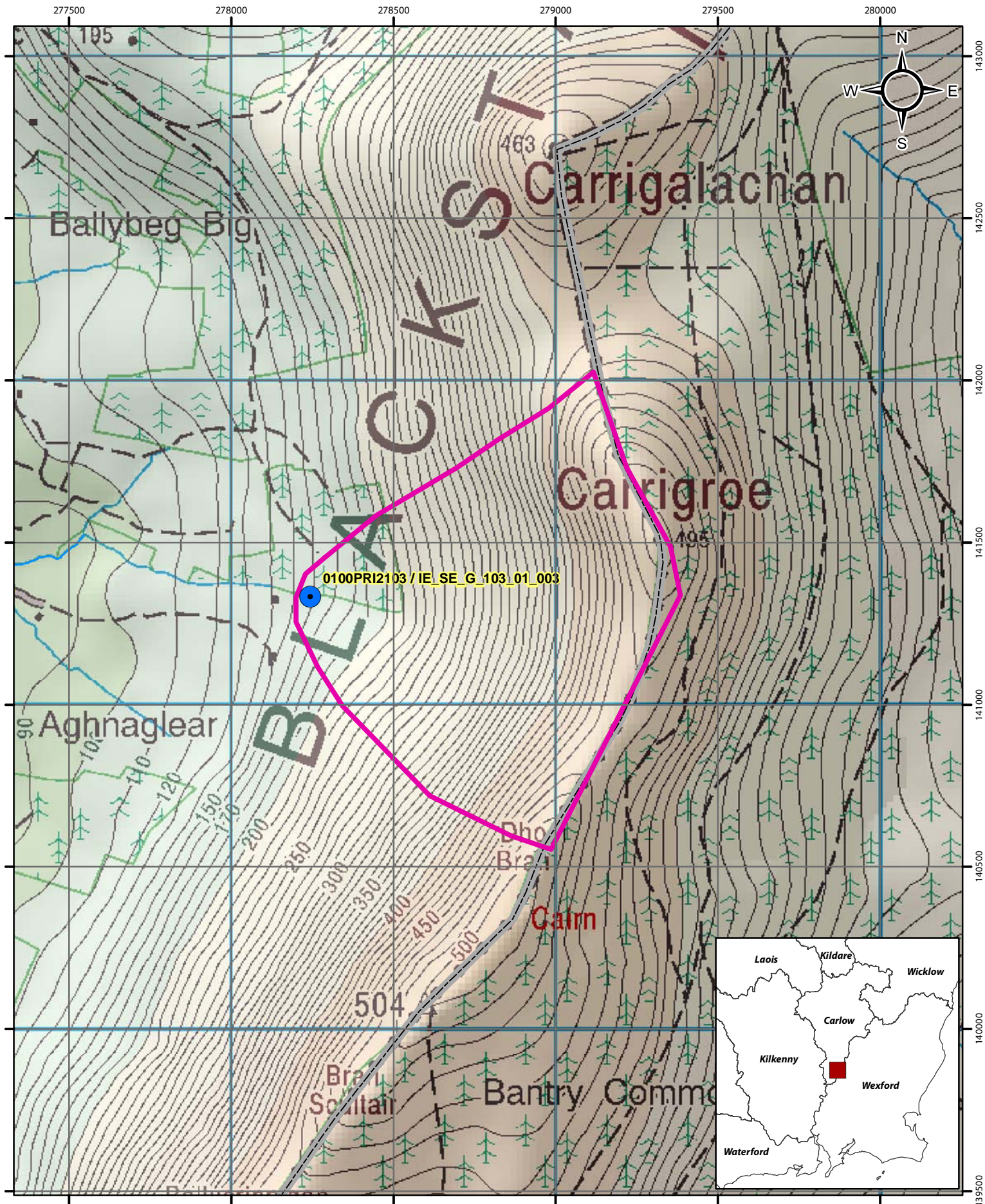
General Downgradient Distances

General Downgradient Distances (XL) applied to boreholes sourced in bedrock aquifers are constrained to estimate approximate limits based on data at the GSI. In some cases they may be higher or lower depending on local conditions.




Rk, Rkd, Lk	225 m
Lm	150 m
LI, PI	60 m

It is assumed that groundwater downgradient of a spring cannot flow back up to the spring, however a precautionary 30m buffer is generally applied which allows for instances where pumping under dry weather periods may induce a drawdown or where the ground may be sloping toward the spring from the downgradient side.

Version 0:	Prepared by		Date:	
Version 1:	Prepared by	OCM (DC)	Date:	Feb 2011
Version 2:	Prepared by		Date:	
Version 3:	Prepared by		Date:	
Version 4:	Prepared by		Date:	

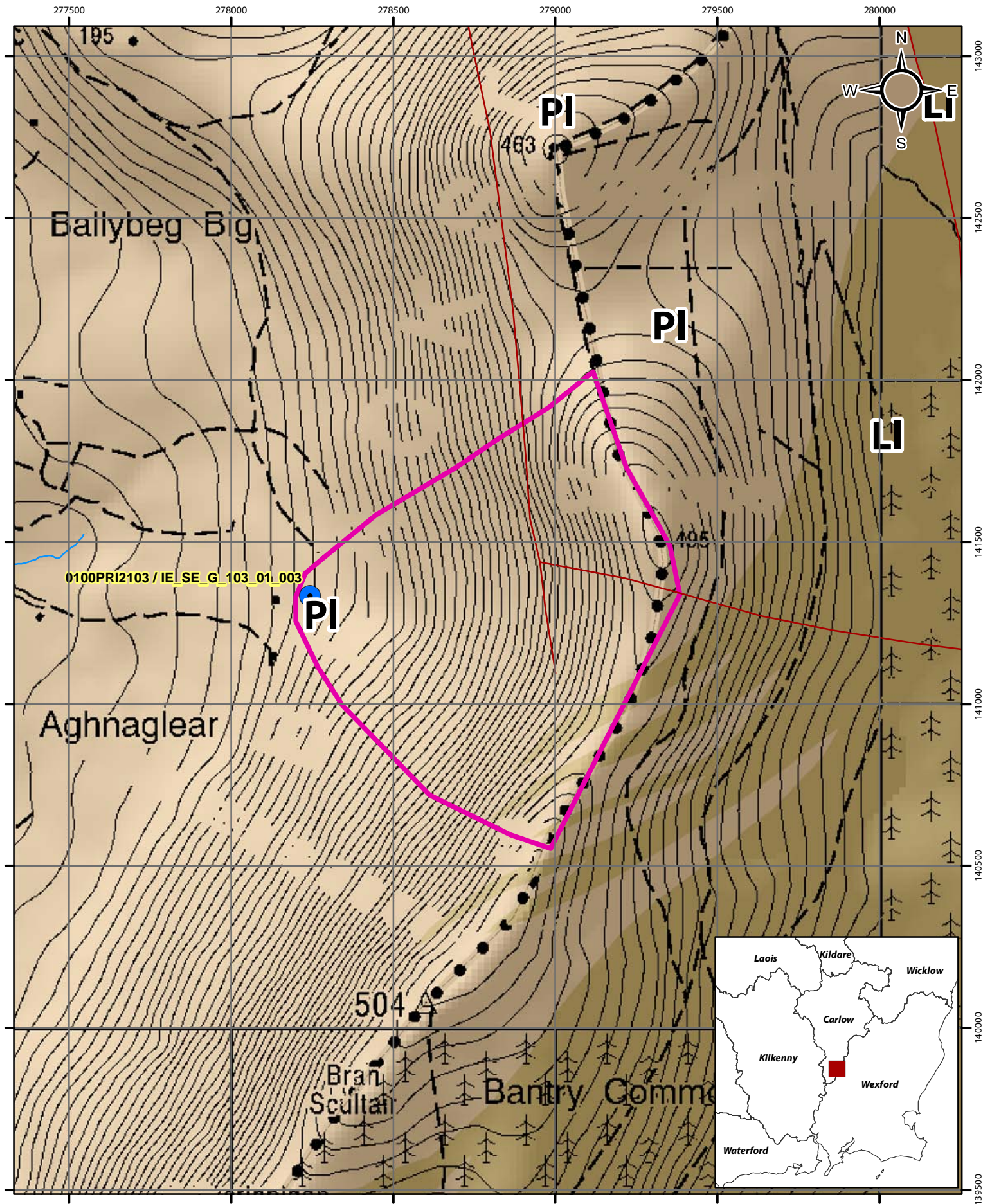


Location Map for Glynn / St Mullins







-  Abstractions
-  River
-  Zone of Contribution

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0 0.25 0.5 1 km



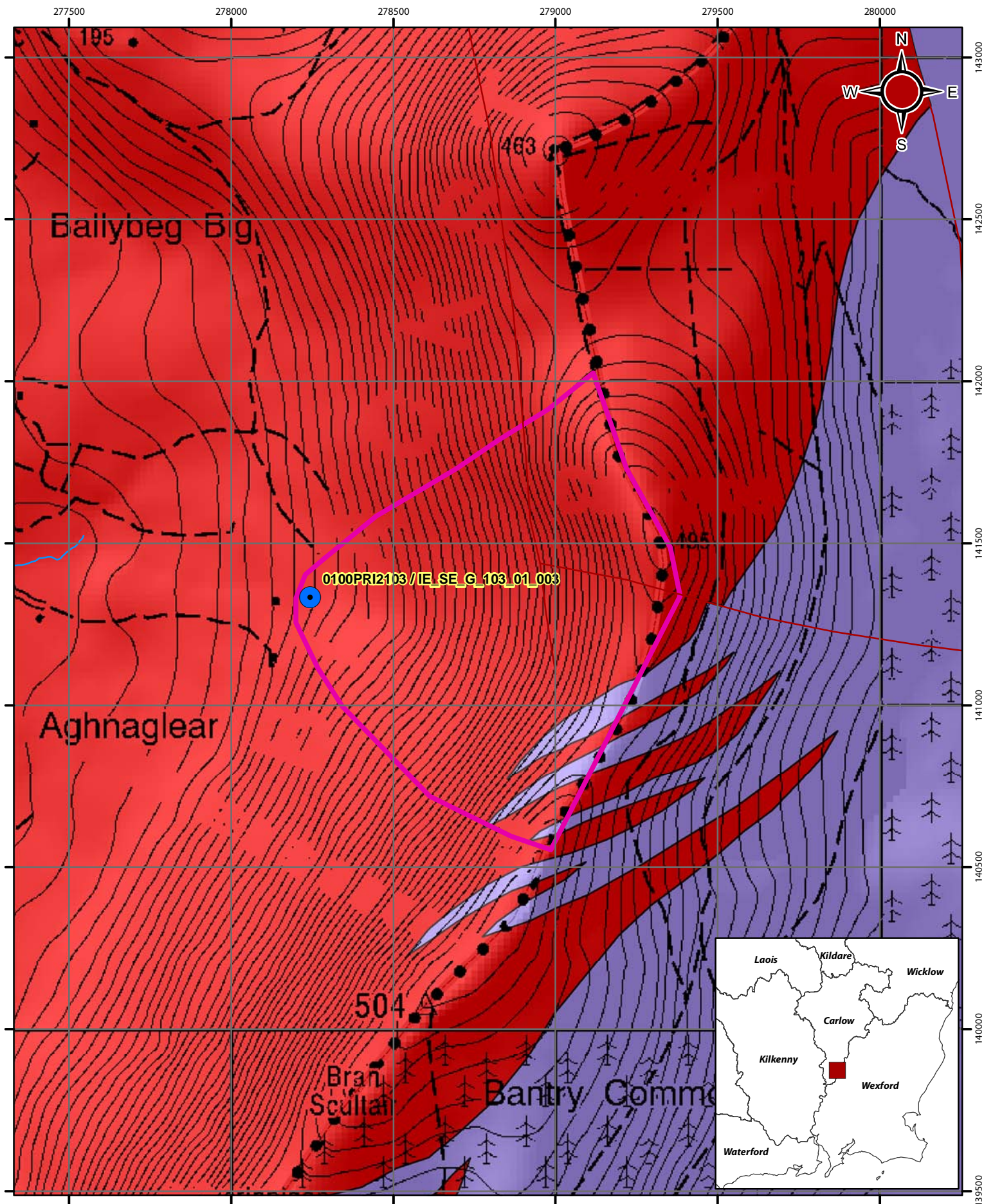
Aquifer Category Map for Glynn / St Mullins

-  Abstractions
-  Fault
-  River
-  Zone of Contribution
-  LI
-  PI

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0 0.25 0.5 1 km



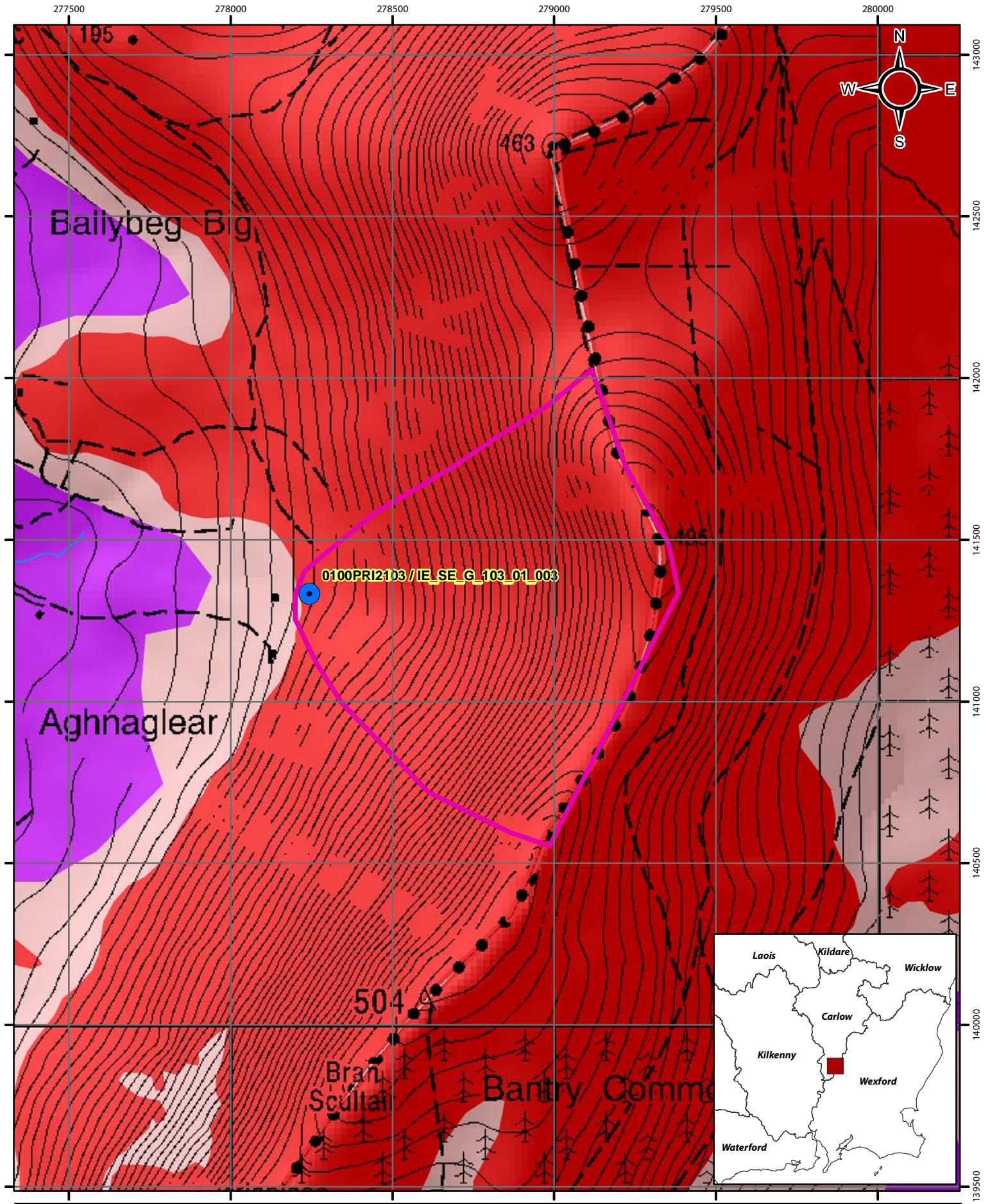


Bedrock Map for Glynn / St Mullins

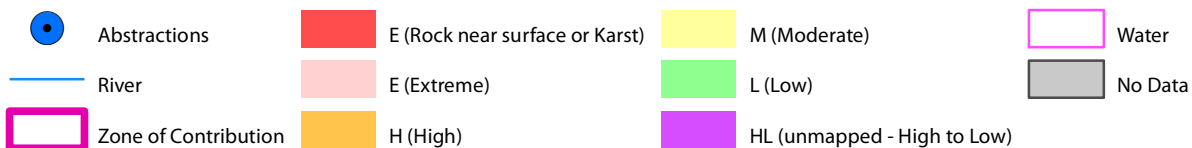
- Abstractions
- River
- Zone of Contribution
- Fault
- Granites & other Igneous Intrusive rocks
- Ordovician Metasediments

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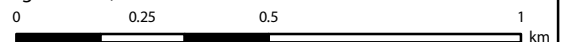
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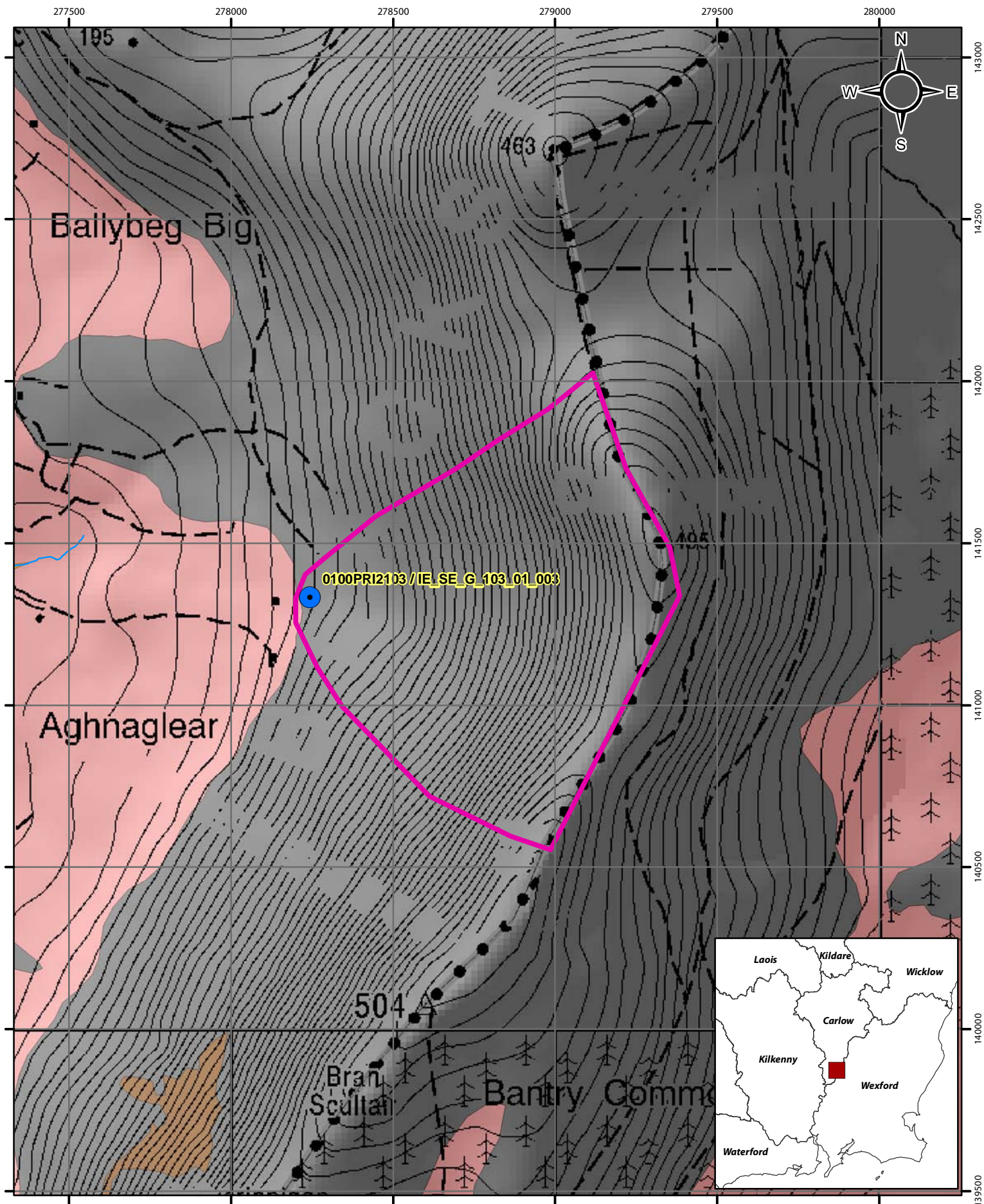


Groundwater Vulnerability Map for Glynn / St Mullins










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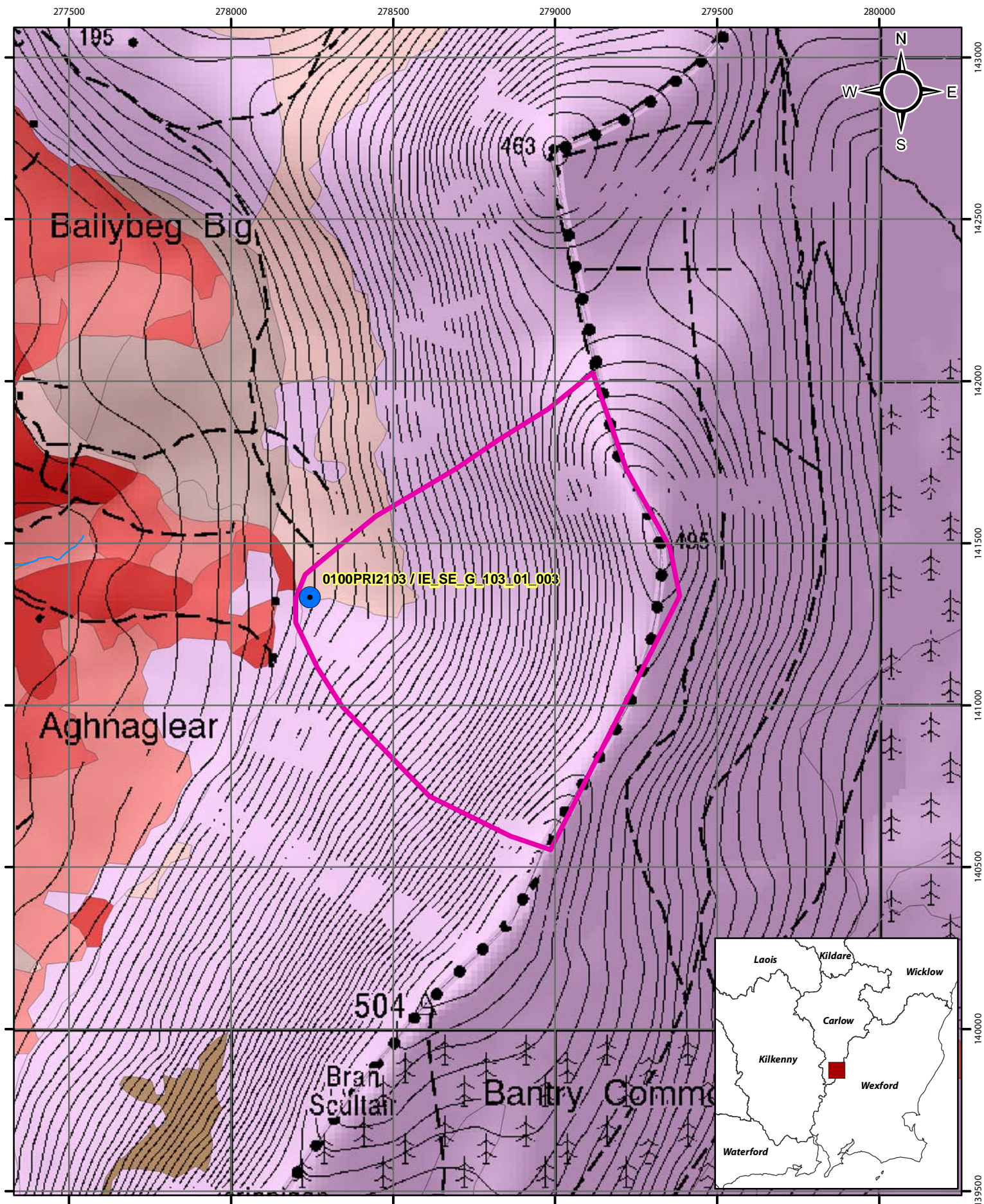


Subsoils Map for Glynn / St Mullins

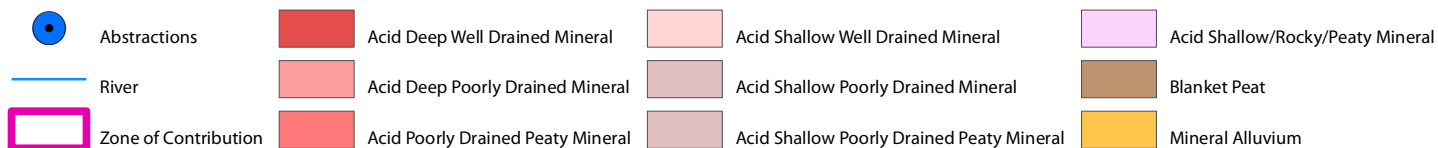
-  Abstractions
-  Alluvium
-  Bedrock outcrop or subcrop
-  River
-  Blanket peat
-  Till derived from granites
-  Zone of Contribution

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0 0.25 0.5 1 km



Soils Map for Glynn / St Mullins



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0 0.25 0.5 1 km