

Water Framework Directive Groundwater Monitoring Programme

Site Information

Baltinglass PWS (Tinoran)



Baltinglass PWS (Tinoran) is a borehole used as part of a public water supply. The abstraction rate is 340day. The GSI prepared a source protection report in 2003.



Wicklow

August 2011

SITE INFORMATION					
Site Name:	Baltinglass PWS (Tinoran)		County:	Wicklow	
RBD:	SERBD		EU Reporting Code:	IE_SE_G_102_27_001	
Easting:	285389		GWB Name:	New Ross_N	
Northing:	188860		GWB Code:	IE_SE_G_102	
Site Use:	Drinking Water (PWS)		Drinking Water Code:	3400PUB1017	
Hydrometric Area:	14		Water Level Monitoring Network:	Level	Flow
Townland:	GLENNACANON			N	N
Ownership:	Wicklow County Council				
Water Quality Monitoring Network:	Surveillance		Operational (Point)		Operational (Diffuse)
	N		N		Y
Site Comments:	Baltinglass PWS (Tinoran) is a 61m deep borehole situated in Silurian Metasediments and Volcanics and is used as a public water supply. The borehole is included in the operational chemical network.				
SITE DIRECTIONS					
Location and Access Information:	Located 1.4km northwest of Baltinglass along the R747.				
Additional Comments:	---				
WELL INFORMATION					
Monitoring Point Type:	BH	Abstraction Rate (m³/d):	340	Ground Elevation (m OD):	164.6
Borehole Log Available:	---	Total Drilled Depth (m bgl):	61	Depth to Bedrock (m bgl):	---
Top of Casing (m agl):	164.6	Upper Casing Diameter (mm):	200	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):	72				
Static Water Level (m bgl):	5.23				
Scheme Name:	Baltinglass	Number of Abstraction Points in the Scheme:	6	Source Report Available	Y
Source Report Info:	Source report prepared by GSI.				
Scheme Summary:	The Baltinglass Water Supply Scheme is supplied from three sites: two boreholes at Tinoran, another two boreholes at Lathaleere, and two springs at Bawnoge. The Tinoran site is located about 1.5 km northwest of Baltinglass village. The wells at Lathaleere are located about 1 km southeast from the main street in Baltinglass village, on the eastern bank of the River Slaney. The springs at Bawnoge, on the west side of the Slaney, are used by the Council to supplement the supply, due to the high demand for water from the expanding village.				

HYDROGEOLOGY								
GEOLOGY	Soil:	Deep well drained mineral (AminDW)					Subsoil Permeability:	n/a
	Subsoil:	Tills (diamictos) (TGr)						
	Bedrock:	Silurian Metasediments and Volcanics						
HYDROGEOLOGY	Aquifer Category:	PI	Vulnerability at Monitoring site:	Extreme		Flow Regime:	Poorly productive	
ZONE OF CONTRIBUTION	Estimated ZOC Size (km ²):	1.51	ZOC Delineated By:	GSI		Recharge Estimate (mm/yr):	180	
	ZOC Delineation Comments:	This ZOC was delineated by the GSI in March 2003 based on topography abstraction rate and recharge. See the source report for details.						
Groundwater Vulnerability within ZOC (% area):	Extreme (X)	Extreme (E)	High	Moderate	Low	High to Low	Unclassified	
	48.44	19.09	15.72	14.07	2.67	0	0	
HYDROCHEMISTRY								
Hydrochemical Signature:	Ca-HCO ₃		Additional Water Chemistry Information:	---				
Alkalinity (mg/l HCO ₃):	Average:	Range:						
	72	52-100						
Hardness (mg/l CaCO ₃):	Average:	Range:						
	90	85-101						
Conductivity (uS/cm):	Average:	Range:						
	247	221-265						
Monitoring Record Period:	From:	To:						
	2003	2008						
RISK ASSESSMENT								
Pressure (e.g., Nitrates, Phosphates, Abstractions):	---		Typical Contaminants:	---				
Risk Category:	At risk, low confidence		GWB Status:	Good				
Impact Potential within ZOC (% area):	Extreme:	High:	Moderate:	Low:	Negligible:			
	0.00	83.39	13.99	2.63	0.00			
OTHER INFORMATION								



Pump House



Inside Pump House



Sampling Point

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 µS/cm) / Drinking Water Test (1,875 µS/cm)

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

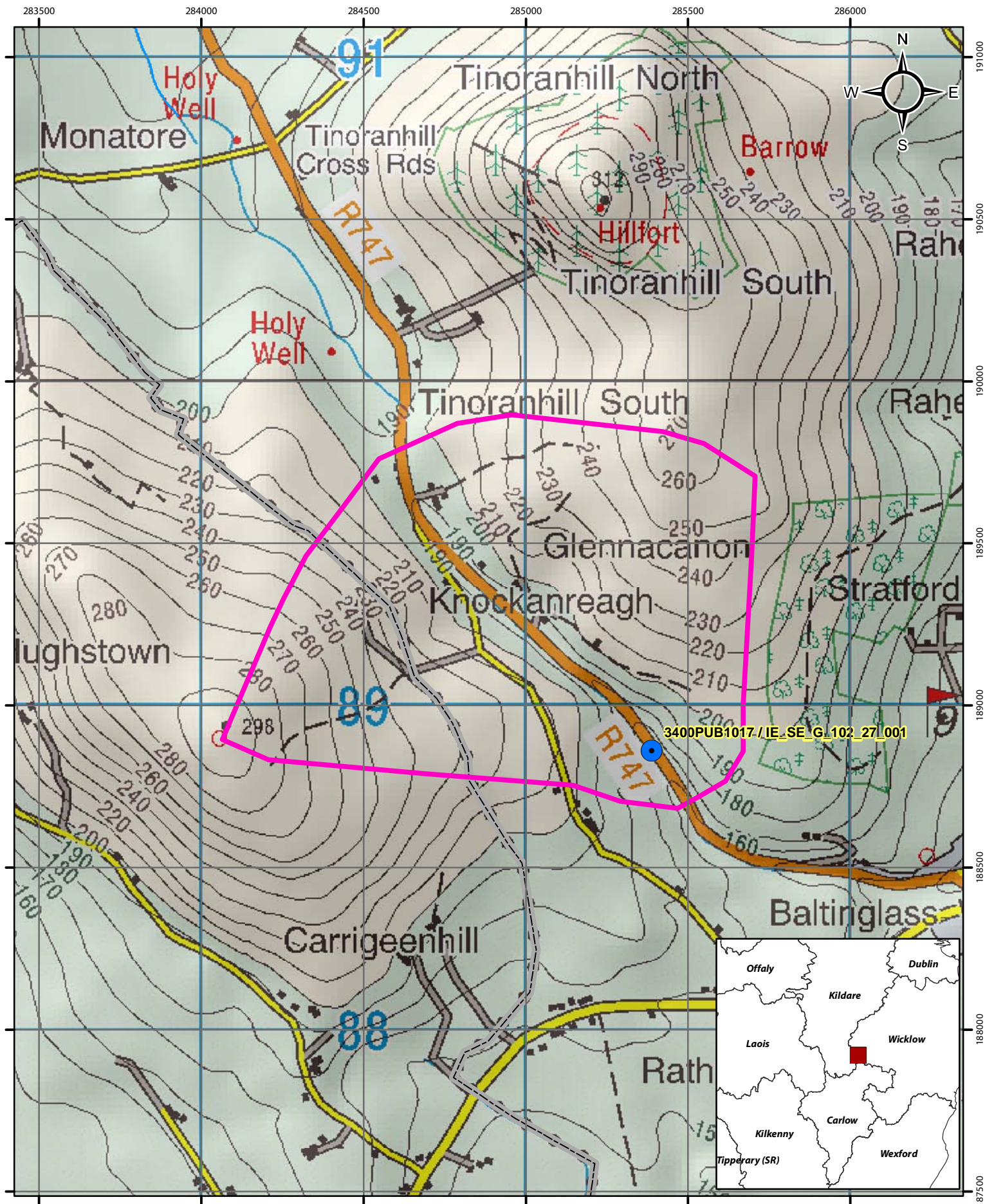
General Downgradient Distances

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	GSI	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:	

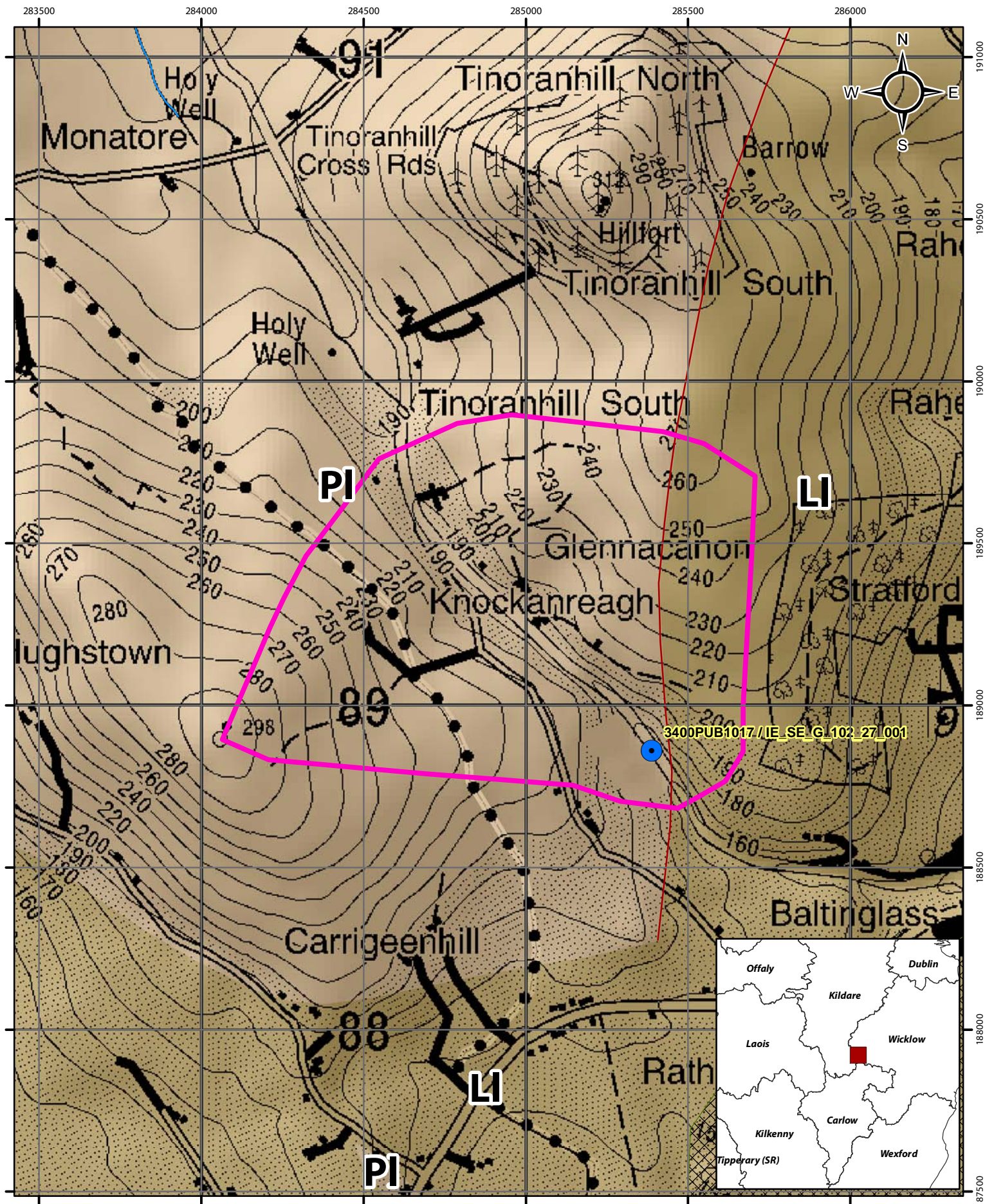


Location Map for Baltinglass PWS (Tinoran)

-  Abstractions
-  River
-  Zone of Contribution

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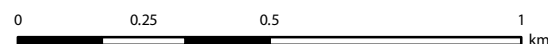
0 0.25 0.5 1 km

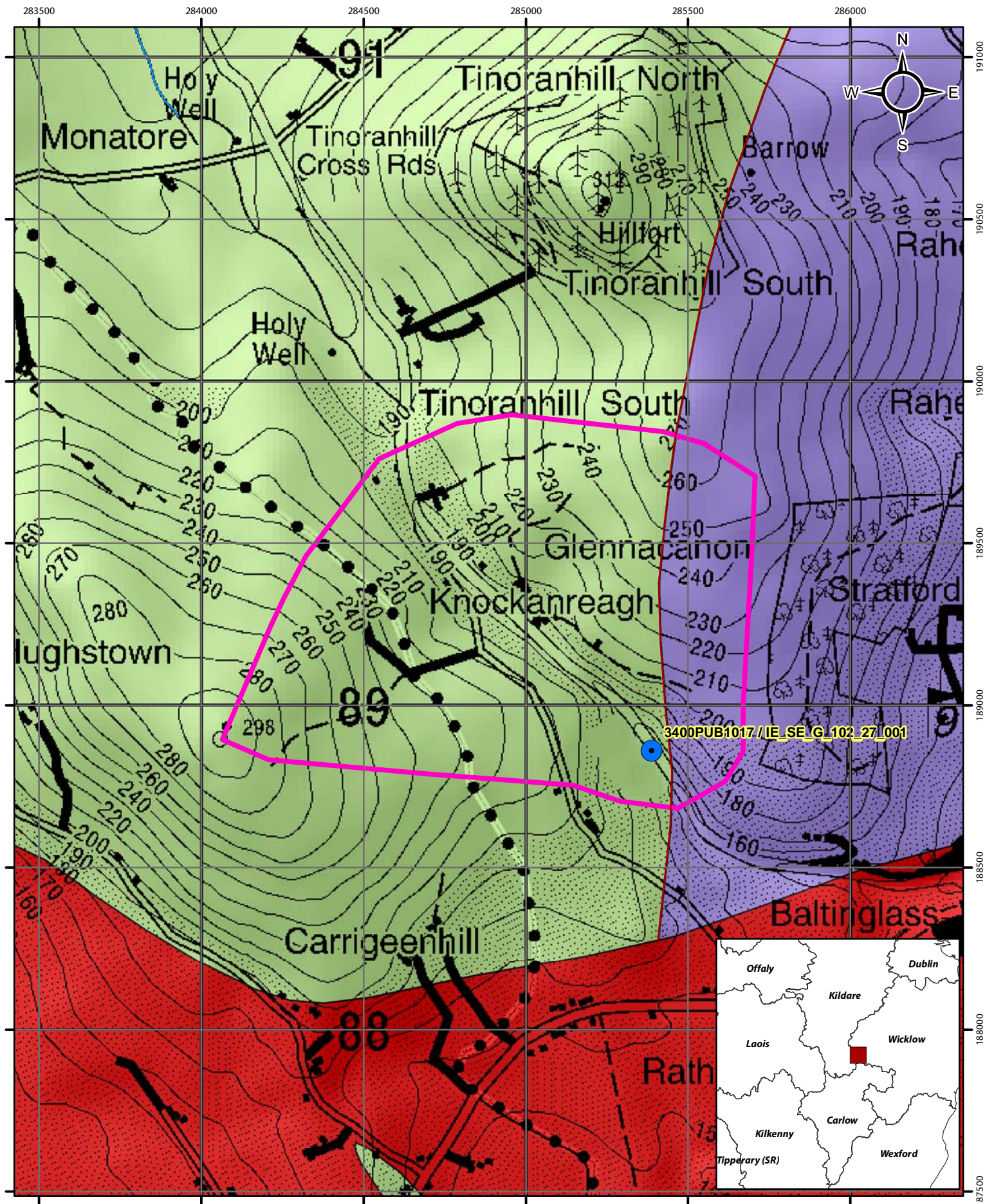


Aquifer Category Map for Baltinglass PWS (Tinoran)




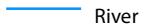





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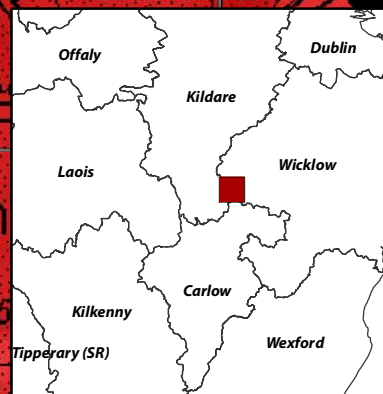


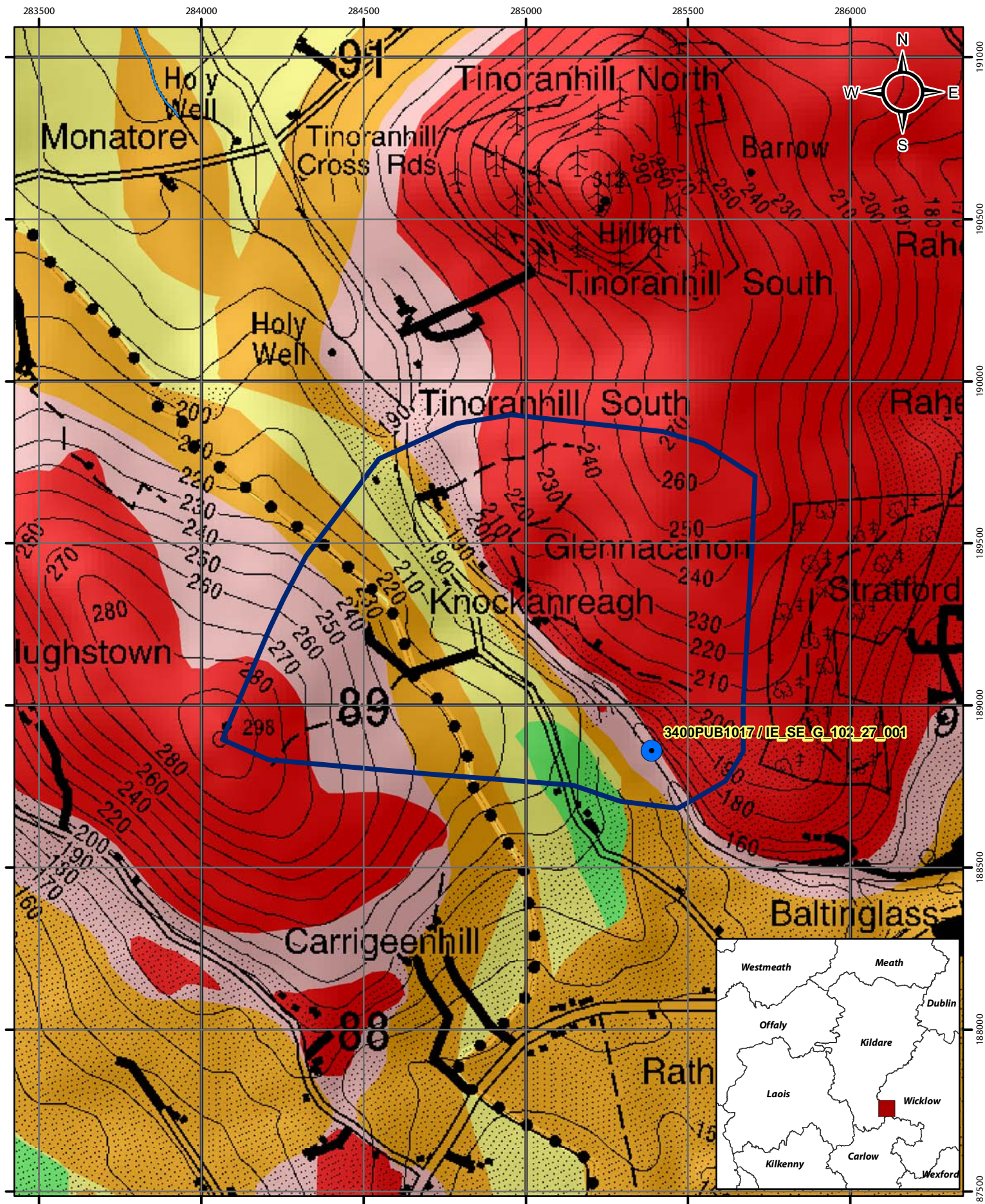
Bedrock Map for Baltinglass PWS (Tinoran)

- | | | | | | |
|--|----------------------|---|--|---|-------|
|  | Abstractions |  | Granites & other Igneous Intrusive rocks |  | Fault |
|  | River |  | Ordovician Metasediments | | |
|  | Zone of Contribution |  | Silurian Metasediments and Volcanics | | |

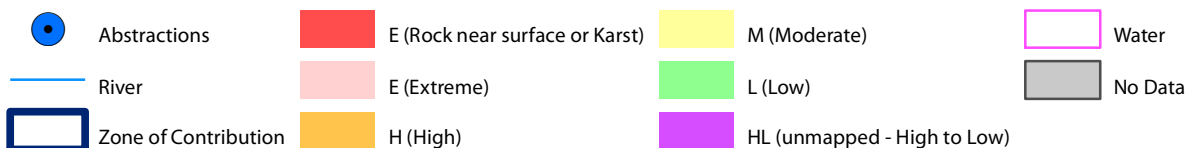
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0 0.25 0.5 1
km

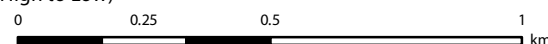


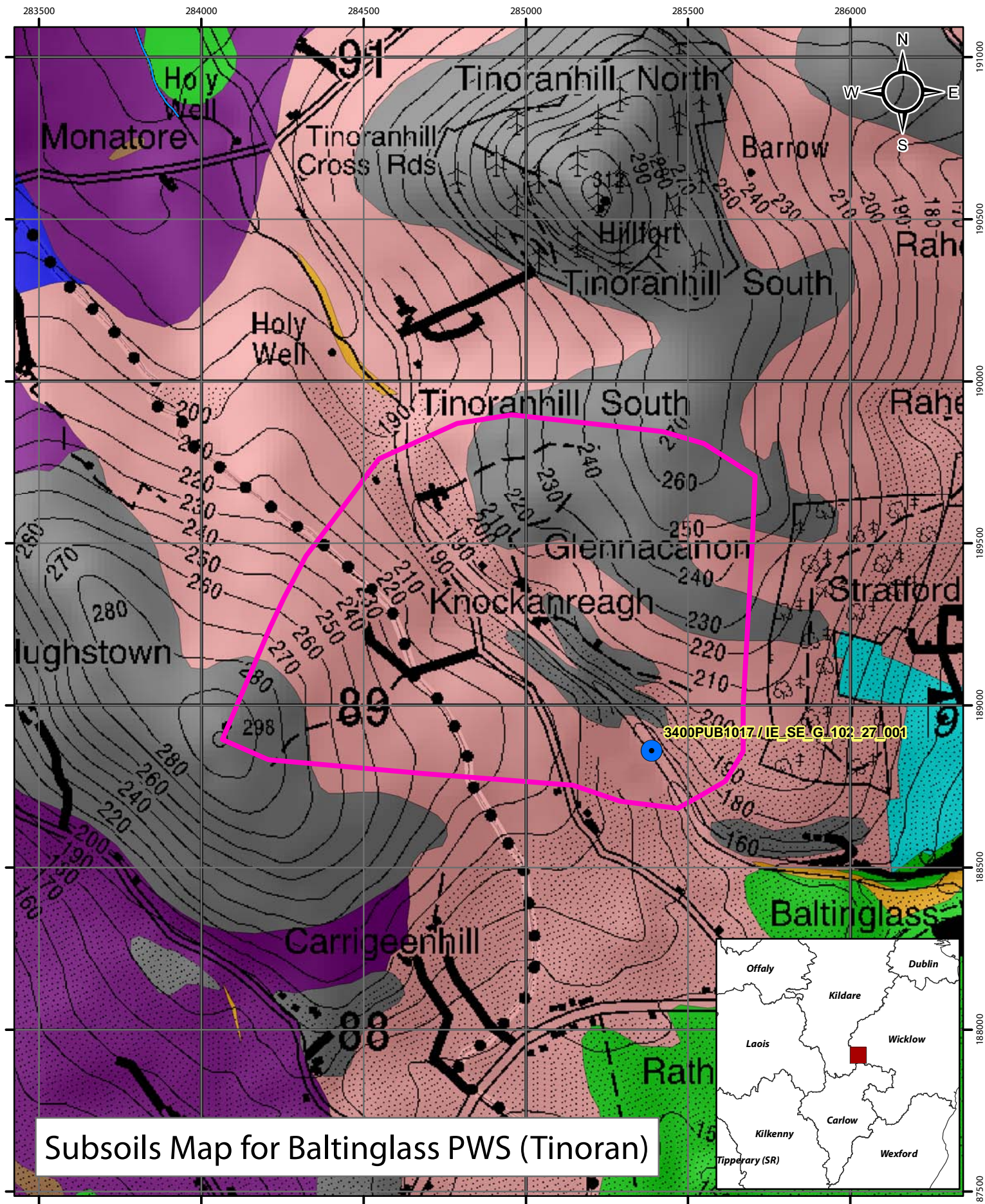


Groundwater Vulnerability Map for Baltinglass PWS (Tinoran)



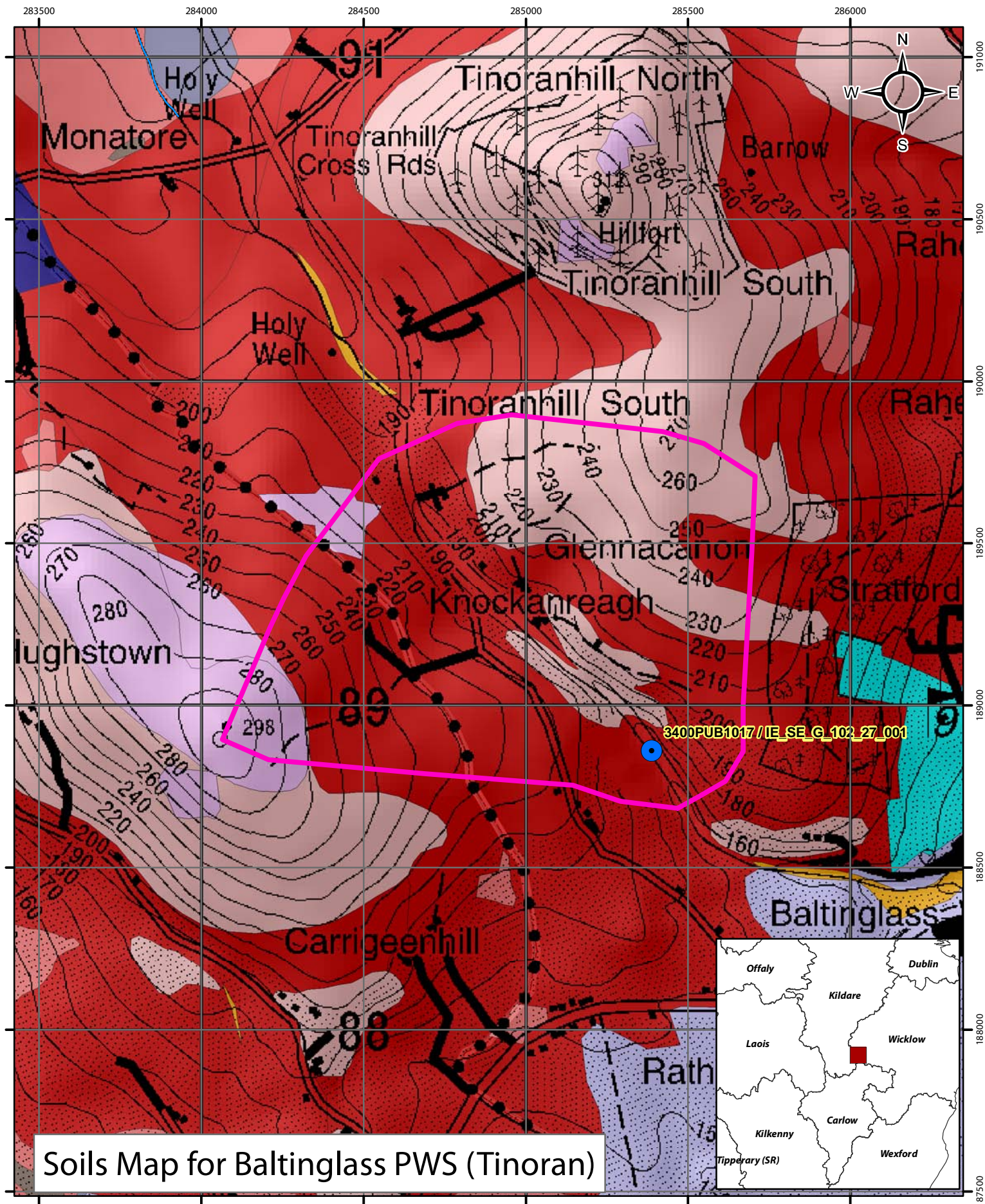
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Subsoils Map for Baltinglass PWS (Tinoran)

- | | | |
|----------------------------|---------------------------------|---|
| Abstractions | Alluvium | Made ground |
| River | Cutover raised peat | Till derived from granites |
| Zone of Contribution | Gravels derived from limestones | Till derived from Lower Palaeozoic sanstones and shales |
| Bedrock outcrop or subcrop | Till derived from limestones | |



Soils Map for Baltinglass PWS (Tinoran)

