

Water Framework Directive Groundwater Monitoring Programme

Site Information

Holycross



Holycross is a borehole situated in Dinantian Upper Impure Limestones and is used as a public supply. The abstraction rate is 320 m³/d. The source is chlorinated before distribution to the network

SITE INFORMATION					
Site Name:	Holycross		County:	Tipperary North	
RBD:	SERBD		EU Reporting Code:	---	
Easting:	208994		GWB Name:	Templemore B	
Northing:	154248		GWB Code:	IE_SE_G_131	
Site Use:	Drinking Water (PWS)		Drinking Water Code:	2800PUB1018	
Hydrometric Area:	16		Water Level Monitoring Network:	Level	Flow
Townland:	HOLYCROSS			N	N
Ownership:	North Tipperary County Council				
Water Quality Monitoring Network:	Surveillance		Operational (Point)		Operational (Diffuse)
	N		N		N
Site Comments:	---				
SITE DIRECTIONS					
Location and Access Information:	Located in the centre of Holycross village behind the church. The source and pumphouse are directly east of the graveyard and 50 m west of the River Suir.				
Additional Comments:	---				
WELL INFORMATION					
Monitoring Point Type:	BH	Abstraction Rate (m³/d):	320	Ground Elevation (m OD):	90
Borehole Log Available:	---	Total Drilled Depth (m bgl):	---	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:	Holycross	Number of Abstraction Points in the Scheme:	1	Source Report Available	N
Source Report Info:	---				
Scheme Summary:	There is one borehole in the scheme which supplies all the water for Holycross. The borehole is located behind the Holycross Church and beside the graveyard. It is approximately 50 m east of the River Suir. The water is pumped directly into the system. The abstraction has been recently reduced after work to fix leakages. The water is treated by chlorination before being pumped directly into the distribution system.				

HYDROGEOLOGY								
GEOLOGY	Soil:	Made/Built land (Made)					Subsoil Permeability:	Moderate Low Confidence
	Subsoil:	n.a. (Made)						
	Bedrock:	Dinantian Upper Impure Limestones						
HYDROGEOLOGY	Aquifer Category:	LI	Vulnerability at Monitoring site:	High to Low		Flow Regime:	Poorly productive	
ZONE OF CONTRIBUTION	Estimated ZOC Size (km²):	1.53	ZOC Delineated By:	OCM (DC)		Recharge Estimate (mm/yr):	115	
	ZOC Delineation Comments:	The ZOC was delineated based on abstraction rate and recharge. It is based on 150% of the abstraction rate to account for increases in demand and uncertainties in the delineation process.						
Groundwater Vulnerability within ZOC (% area):	Extreme (X)	Extreme (E)	High	Moderate	Low	High to Low	Unclassified	
	0	5.15	0	0	0	94.85	0	
HYDROCHEMISTRY								
Hydrochemical Signature:	---		Additional Water Chemistry Information:	---				
Alkalinity (mg/l HCO3):	Average:	Range:						
	392	392						
Hardness (mg/l CaCO3):	Average:	Range:						
	---	---						
Conductivity (uS/cm):	Average:	Range:						
	690	776						
Monitoring Record Period:	From:	To:						
	---	---						
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	63.84	0.00	30.03	6.13			
OTHER INFORMATION								



Pump House



Inside the Pumphouse



Borehole

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).

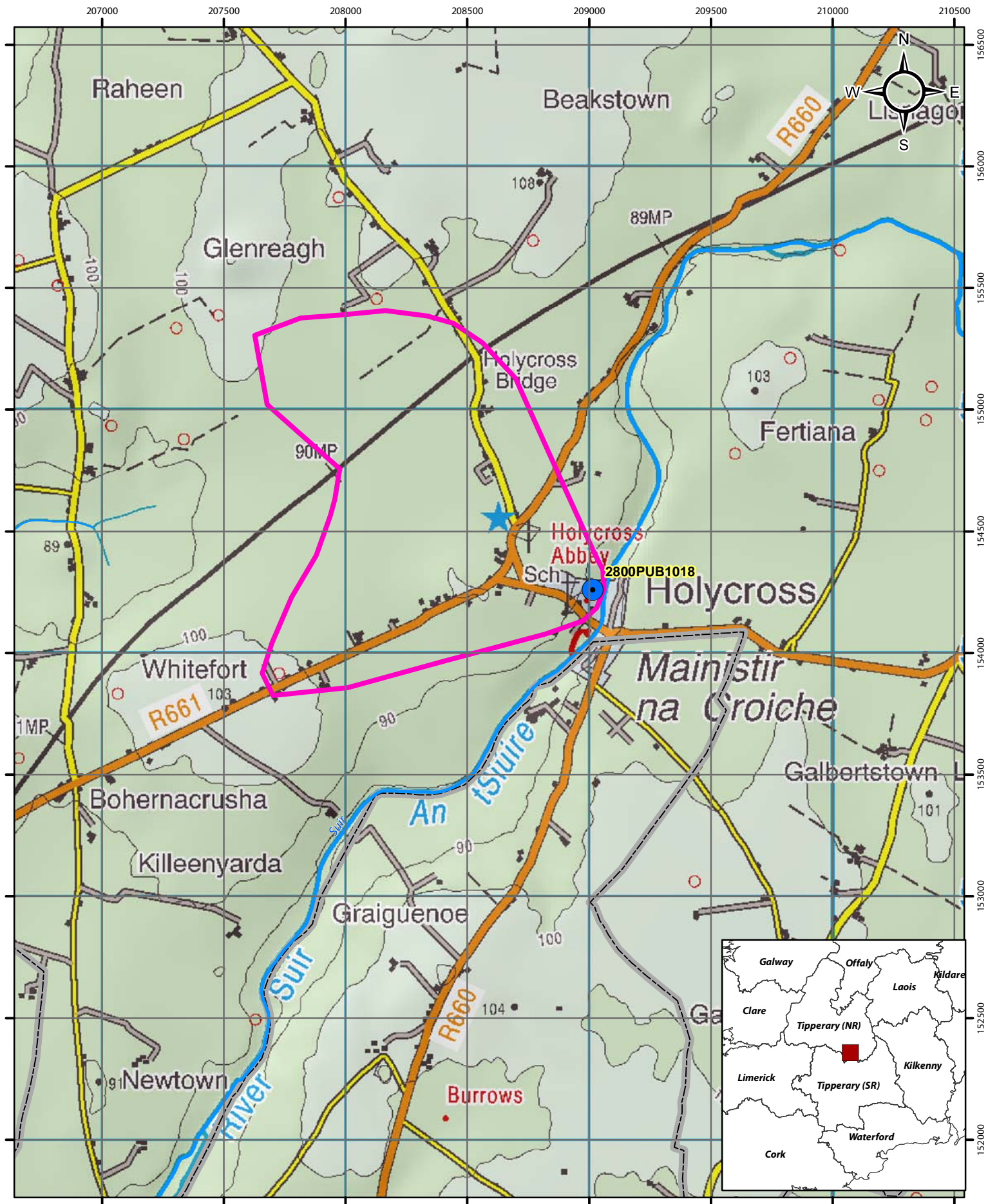
General Downgradient Distances

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		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:	

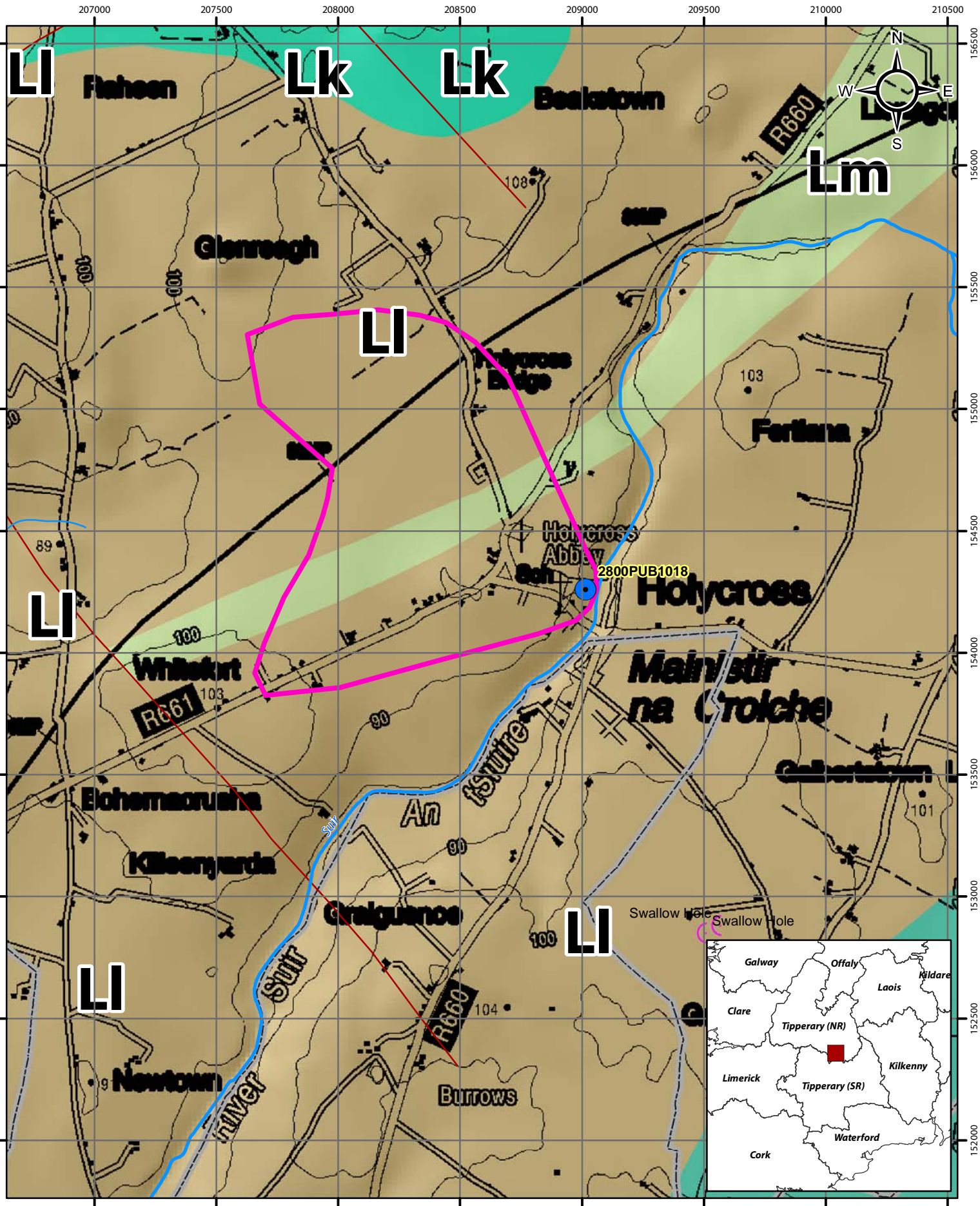


Location Map for Holycross

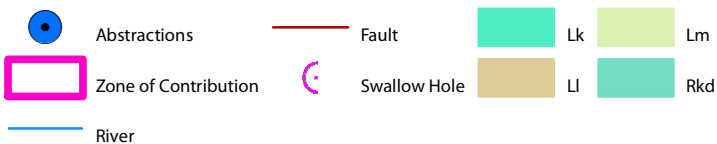
- Abstractions
- Zone of Contribution
- River

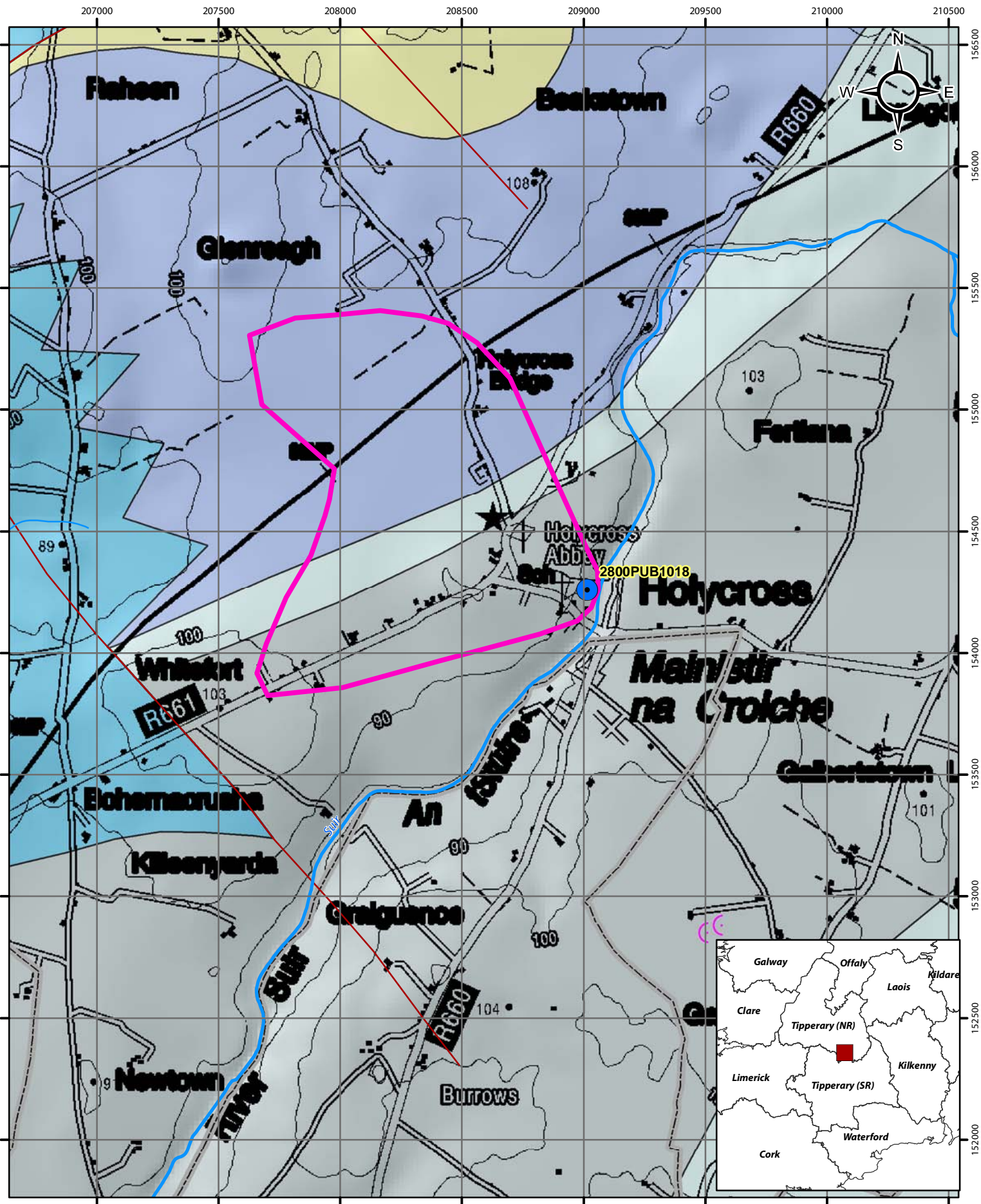
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0 0.25 0.5 1 km



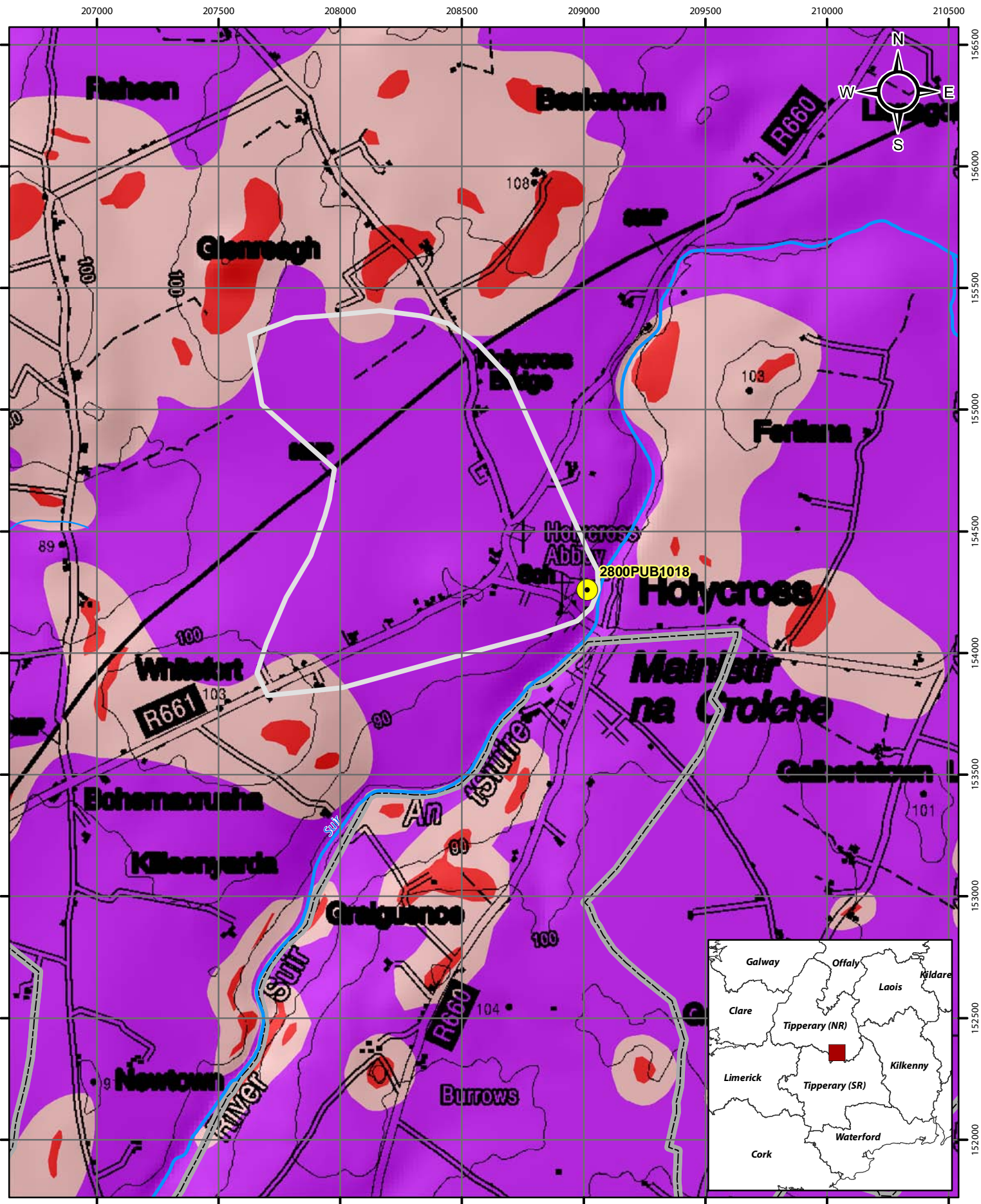
Aquifer Category Map for Holycross



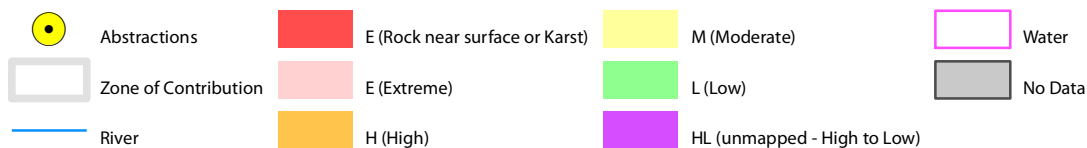


Groundwater Vulnerability Map for Holycross



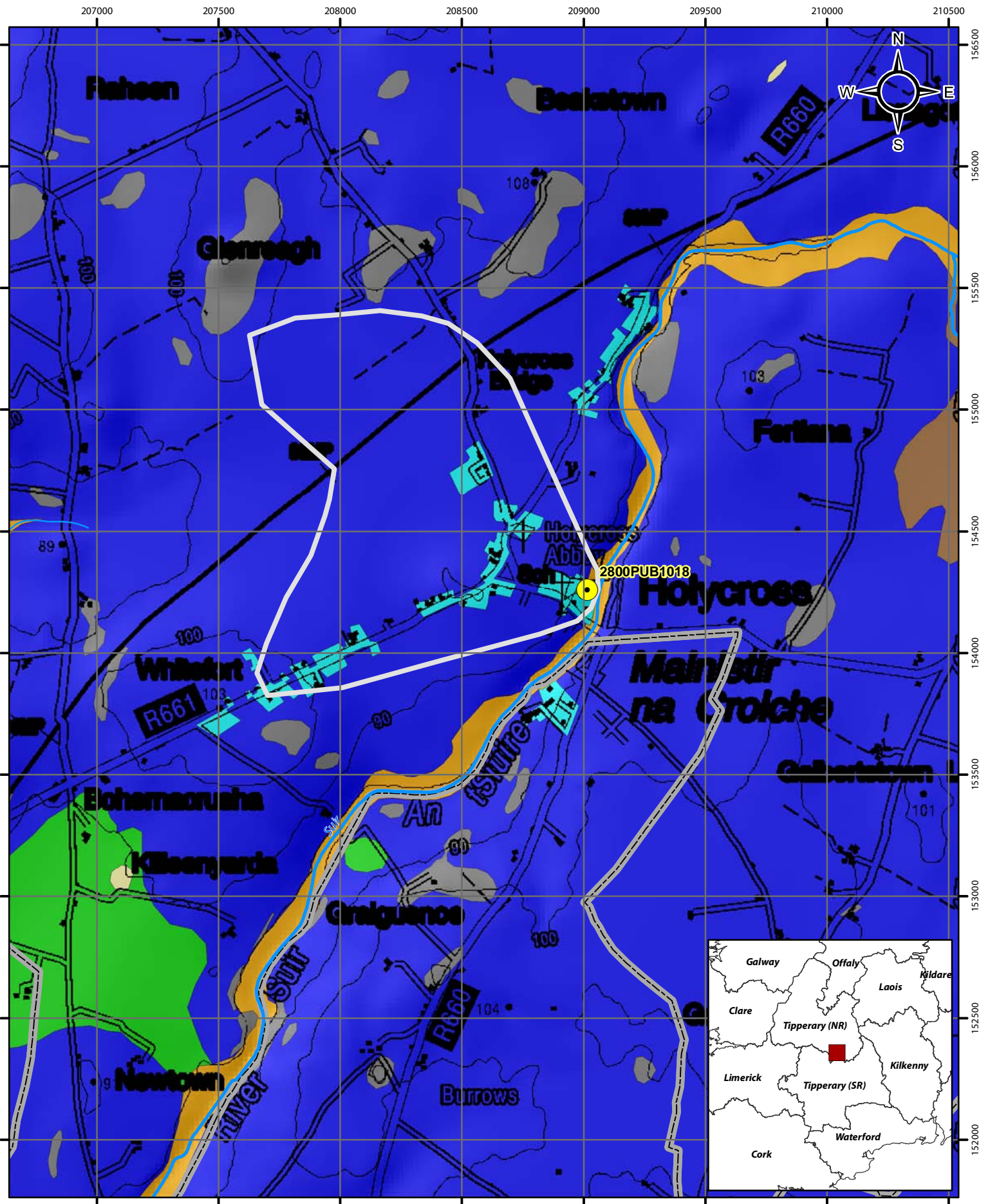


Groundwater Vulnerability Map for Holycross

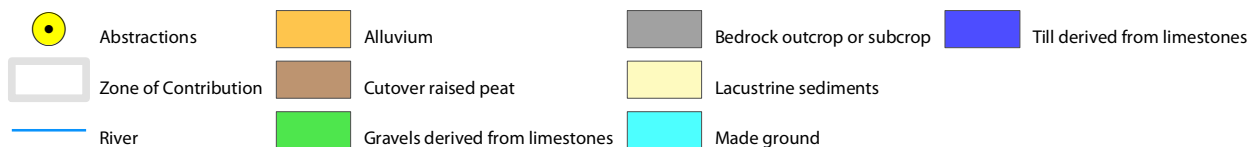


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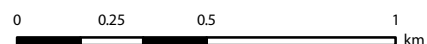
0 0.25 0.5 1 km

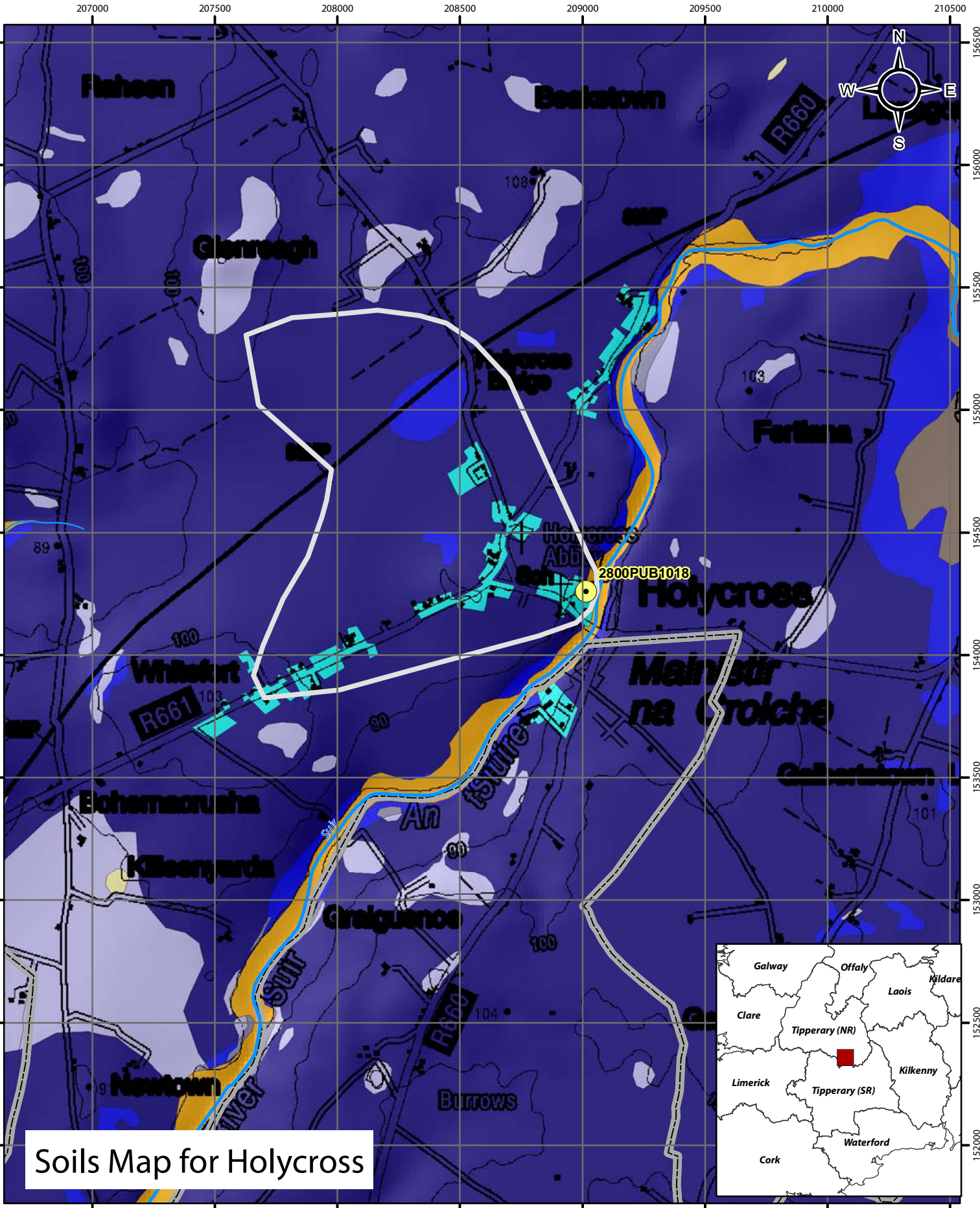


Subsoils Map for Holycross

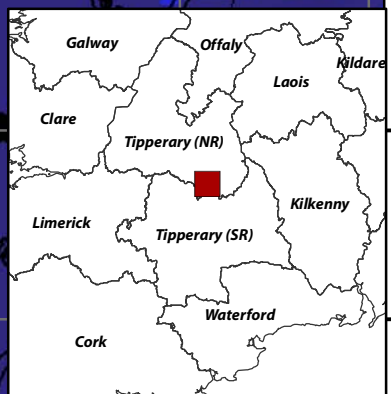


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Soils Map for Holycross



- | | | | |
|----------------------|------------------------------------|--------------------------------------|------------------|
| Abstractions | Basic Deep Well Drained Mineral | Basic Shallow Well Drained Mineral | Mineral Alluvium |
| Zone of Contribution | Basic Deep Poorly Drained Mineral | Basic Shallow Poorly Drained Mineral | Lacustrine |
| River | Basic Poorly Drained Peaty Mineral | Cutover/Cutaway Peat | Made |