

Fish in Rivers Factsheet

ERBD

Vartry River Catchment

Factsheet: 2025/12

The Vartry River Catchment is located within the Eastern River Basin District and covers an area of approximately 122km². The River Vartry flows in a south-easterly direction from the Wicklow Mountains, through the Upper and Lower Vartry Reservoirs, before discharging into the sea just north of Wicklow Town.

The geology of this catchment comprises of greywacke, shale and schist, with blanket bog and agriculture being the dominant land use types. Large areas of forestry are also distributed throughout the catchment, particularly in the upper portions of the system.

A portion of the catchment lies within the Wicklow Mountains SAC. The Carriggower Bog SAC lies just north of the Vartry Reservoir, while the mouth of the catchment forms part of the Murrough Wetlands SAC (EPA 2021).

Inland Fisheries Ireland conducts annual nation-wide fish sampling surveys to assess and report the status of stocks in Ireland's rivers, lakes and transitional waters. This report presents the results of an electro-fishing (CEN 2003) survey carried out in the Vartry Catchment. Seven sites in total were surveyed between the 23rd of July to the 2nd of September 2025. Two sites were surveyed on the 23rd of July, and five sites were surveyed on the 2nd of September 2025.

The survey methods included 10-minute timed Electro-Fishing (TEF₁₀), and Area Delineated Electro-Fishing (ADEF handset). All TEF₁₀ fish count results were converted to minimum population estimates according to Matson *et al.* (2018).



Vartry River at Newrath Bridge (Site 6) (WFD Surveillance Monitoring Site), Co. Wicklow.



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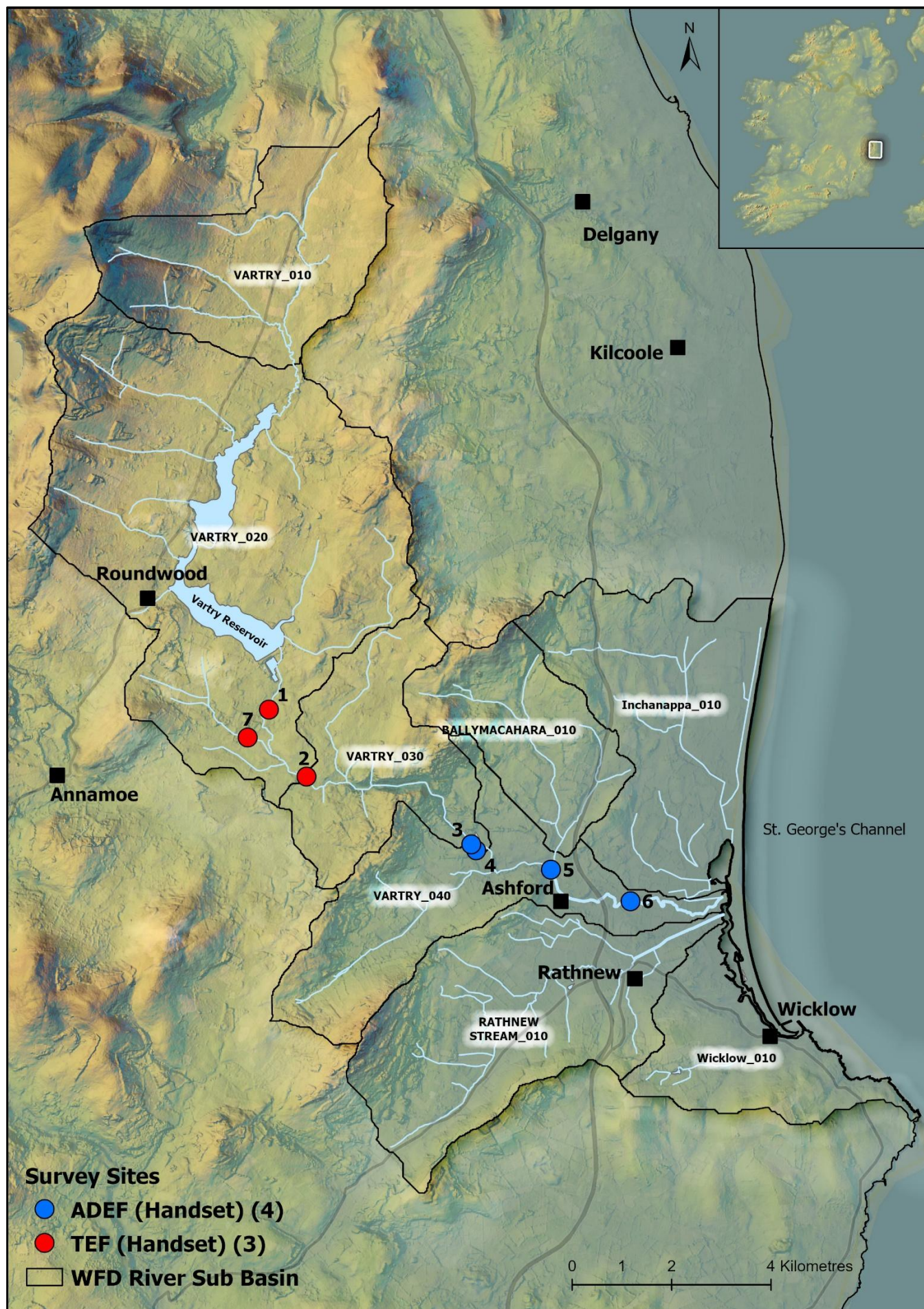


Figure 1. Location of electrofishing survey sites on the Vartry River Catchment, September 2025.

Table 1. Site survey details, Vartry River Catchment, July & September 2025.

No.	WFD Sub-basin	River	Site	Method	WFD	Date
River Vartry Catchment						
1	VARTRY_020	Vartry River	Knockadreet	TEF (Handset)	NO	02/09/2025
2	VARTRY_030	Vartry River	Annagolan Bridge	TEF (Handset)	NO	02/09/2025
3	VARTRY_030	Vartry River	Nun's Cross Bridge Site B	ADEF (Handset)	NO	23/07/2025
4	VARTRY_030	Vartry River	Nun's Cross Bridge Site A	ADEF (Handset)	NO	23/07/2025
5	VARTRY_040	Vartry River	Ashford Bridge	ADEF (Handset)	NO	02/09/2025
6	VARTRY_040	Vartry River	Newrath Bridge	ADEF (Handset)	YES	02/09/2025
7	VARTRY_020	Tomdarragh River	Tomdarragh	TEF (Handset)	NO	02/09/2025

Table 2. Minimum density estimates of fish (no. fish/m²), Vartry River Catchment, July & September 2025

Vartry River Catchment							
Site no.	1			2			3
Species	2019	2022	2025	2019	2022	2025	2019
Brown trout	0.080	0.082	0.017	0.057	0.068	0.119	0.172
0+ brown trout	0.055	-	-	0.023	0.010	-	0.030
1+ & older brown trout	0.025	0.082	0.017	0.034	0.058	0.119	0.141
European eel	-	-	-	-	-	-	0.013
Minnow	0.118	0.384	0.096	0.201	0.198	0.362	-
Stone loach	-	0.010	0.038	-	0.006	-	-
Three-spined stickleback	0.025	0.149	0.021	-	0.084	-	-
All fish	0.223	0.624	0.171	0.257	0.357	0.481	0.185
Vartry River Catchment							
Site no.	3	4			5		
Species	2025	2018	2022	2025	2018	2022	2025
Brown trout	0.251	0.245	0.052	0.392	0.277	0.217	0.447
0+ brown trout	0.061	0.074	0.018	0.122	0.149	0.115	0.319
1+ & older brown trout	0.189	0.171	0.034	0.270	0.128	0.102	0.128
Salmon	0.015	-	0.003	0.095	0.014	0.018	0.181
0+ salmon	0.005	-	-	-	-	0.003	0.097
1+ & older salmon	0.010	-	0.003	0.095	0.014	0.016	0.084
European eel	0.005	0.015	0.010	0.047	0.009	0.018	0.027
Lamprey sp.	0.031	-	0.003	-	0.002	-	-
Minnow	0.010	-	-	-	-	-	-
Sea trout	-	-	-	0.007	0.002	-	-
Three-spined stickleback	0.005	-	-	-	0.007	0.003	-
All fish	0.317	0.260	0.068	0.541	0.313	0.257	0.655
Vartry River Catchment							
Site no.	6			7			
Species	2019	2022	2025	2019	2022	2025	
Brown trout	0.078	0.131	0.194	0.271	0.066	0.308	
0+ brown trout	0.067	0.065	0.132	0.271	0.040	0.199	
1+ & older brown trout	0.011	0.065	0.062	-	0.026	0.109	
Salmon	0.030	0.063	0.033	-	-	-	
0+ salmon	0.027	0.057	0.022	-	-	-	
1+ & older salmon	0.003	0.005	0.011	-	-	-	
European eel	0.022	0.014	0.033	-	-	-	
Lamprey sp.	-	0.003	-	-	-	-	
Minnow	0.024	0.084	0.011	0.065	0.317	0.199	
Sea trout	0.011	0.025	0.011	-	-	-	
Three-spined stickleback	-	0.005	0.004	-	0.212	0.060	
All fish	0.164	0.324	0.286	0.336	0.595	0.566	

Table 3. Salmonid % age class structure (where recorded), Vartry River Catchment (Sites 1-7), 2025.

Species	Site No.	% of catch				
		0+	1+	2+	3+	4+
Brown trout	1	-	-	100	-	-
	2	-	67	33	-	-
	3	25	51	22	2	-
	4	31	40	27	-	2
	5	71	25	4	-	-
	6	66	14	20	-	-
	7	71	23	6	-	-
Salmon	3	33	67	-	-	-
	4	-	100	-	-	-
	5	54	46	-	-	-
	6	76	24	-	-	-

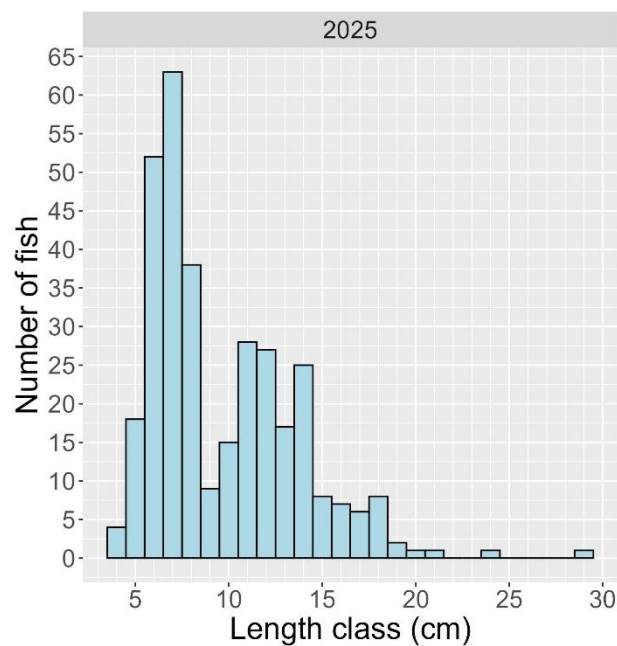


Figure 3. Length frequency distribution for brown trout (n = 331), Vartry River Catchment, 2025 (No. sites = 7).

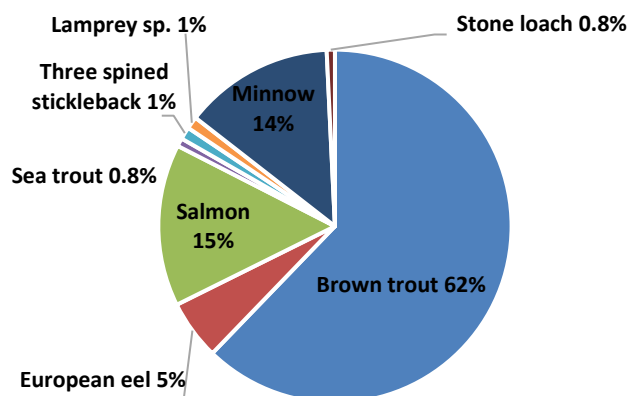


Figure 2. Fish species composition (%), Vartry River Catchment, 2025.

Table 4. Fish ecological status, Vartry Catchment, September 2025.

Site No.	2017	2018	2019	2022	2025
1	P	M	M	M	P
2	M	M	M	M	M
3	-	-	M	-	G
4	M	M	-	M	G
5	G	G	-	G	H
6	G	G	N/A	G	G
7	M	M	M	M	G

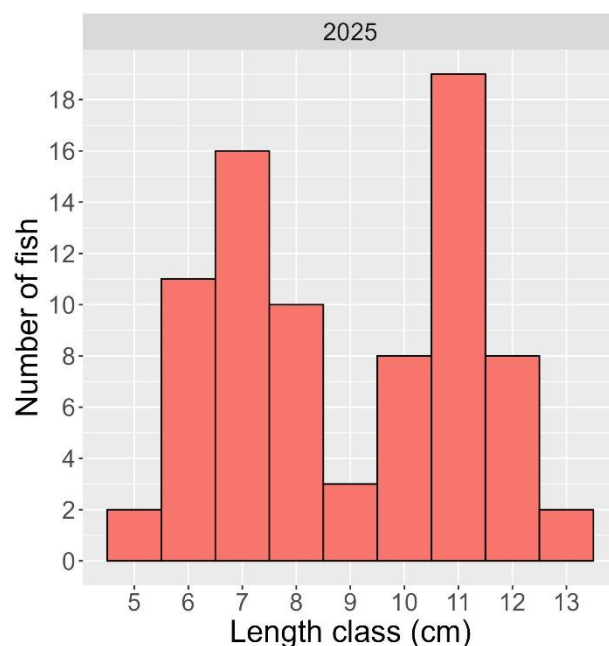


Figure 4. Length frequency distribution for salmon (n = 79), Vartry River Catchment, 2025 (No. sites = 4).

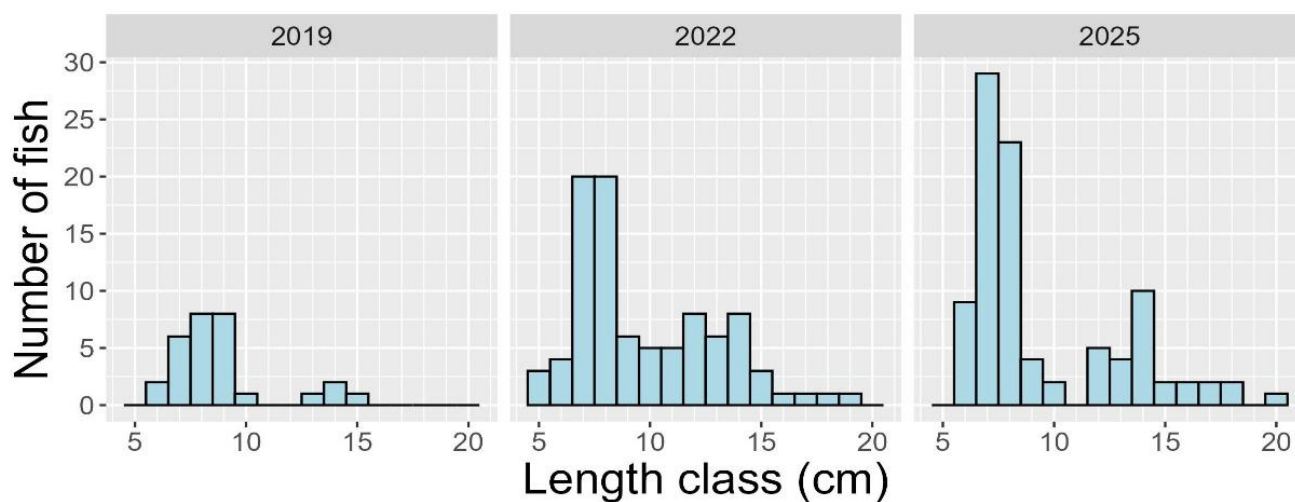


Figure 5. Length frequency distribution of brown trout (2019 n=29, 2022 n=92, 2025 n=95) at Newrath Bridge (Site 6), a WFD surveillance monitoring site, on the Vartry River Catchment.

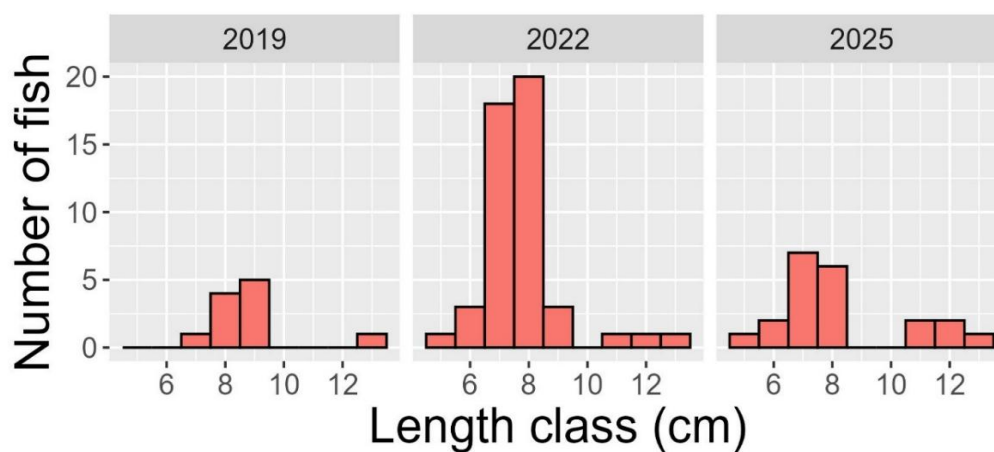
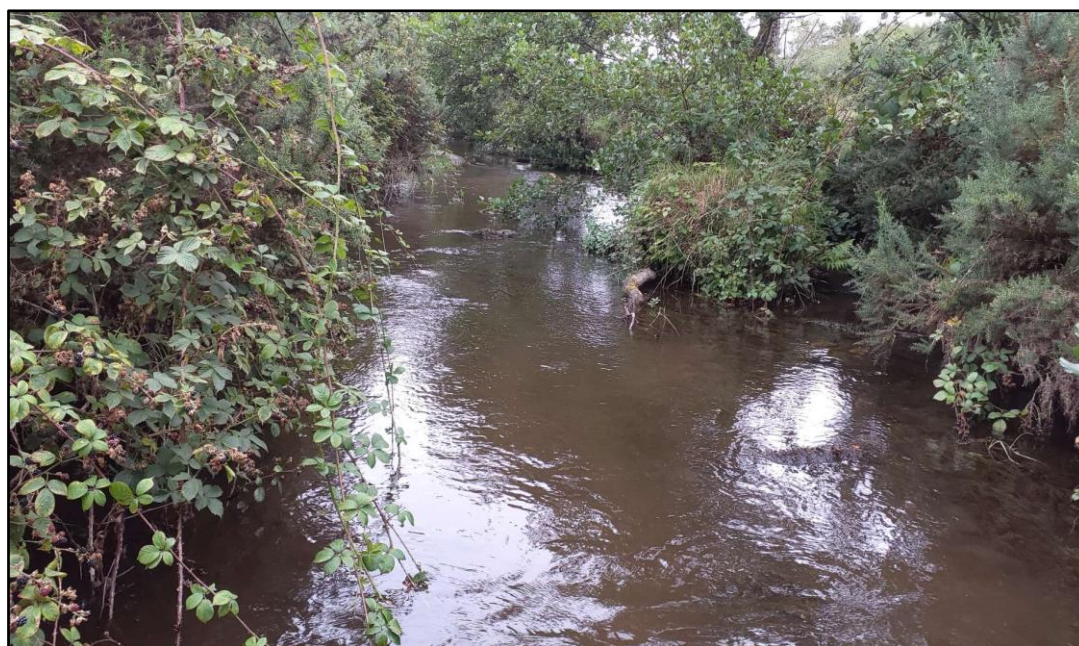


Figure 6. Length frequency distribution of salmon (2019 n=11, 2022 n=48, 2025 n=21) at Newrath Bridge (Site 6), a WFD surveillance monitoring site, on the Vartry River Catchment.



Vartry River at Knockadreet (Site 1), Co. Wicklow.

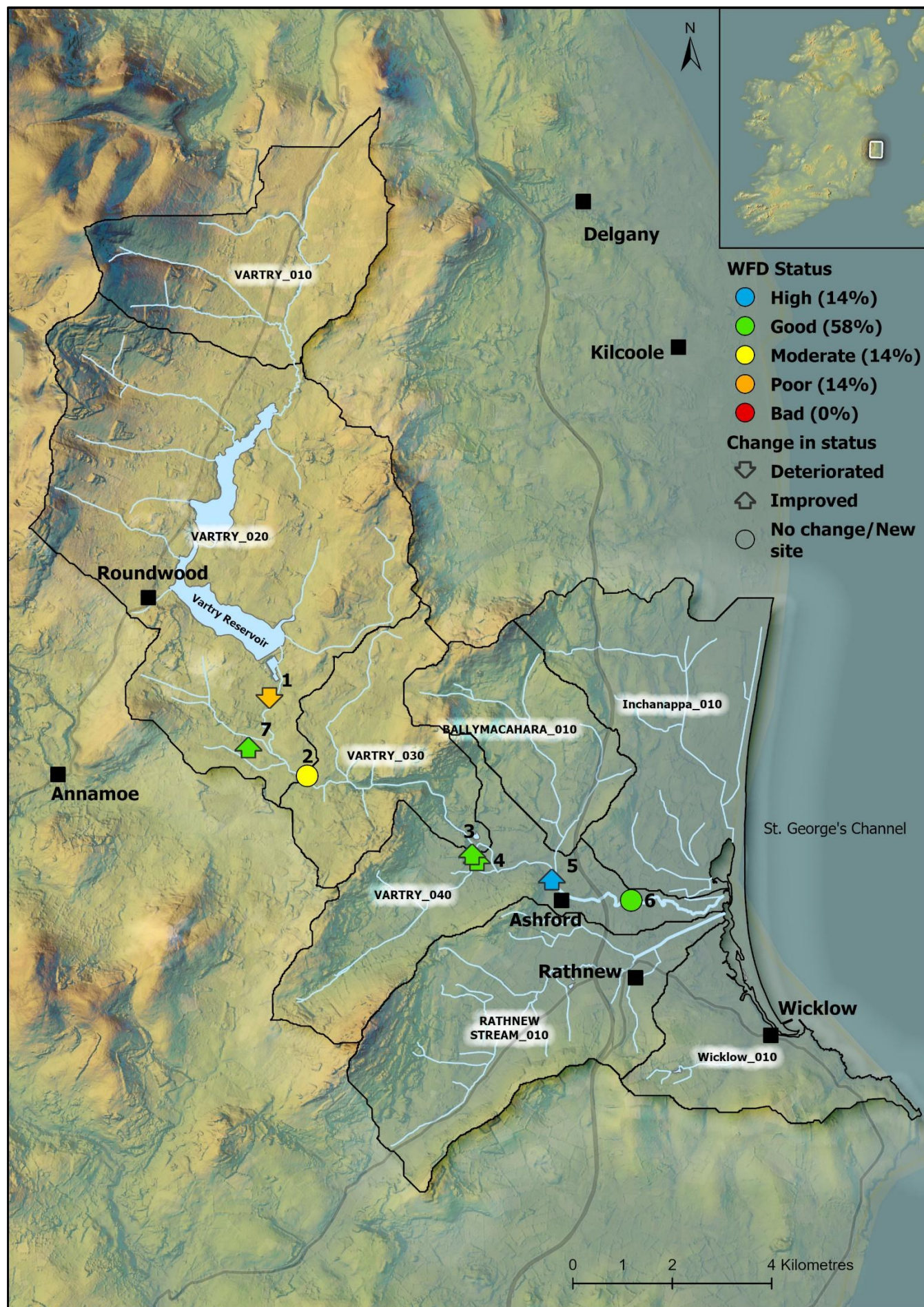


Figure 7. Fish ecological status in the Vartry River Catchment, 2025. Arrows indicate a change in status since previous surveys (where applicable).

Summary

Seven fish species and sea trout, a separate 'variety' of trout were recorded at seven sites electro-fished on the Vartry River Catchment in 2025.

Brown trout was the most common species present (7 sites, 100%), followed by minnow (5 sites, 71%), salmon, three-spined stickleback and European eel (4 sites each, 57%), sea trout (2 sites, 29%), and stone loach and lamprey sp. (1 site each, 14%).

Brown trout were the most abundant species recorded, followed by salmon, minnow, European eel, lamprey sp., three-spined stickleback, sea trout and stone loach (Figure 2).

Brown trout ranged in length from 4 to 29cm (Figure 3). Five age classes of brown trout were present (0+, 1+, 2+, 3+ and 4+), with 1+ being the most abundant cohort. The highest density of brown trout (all ages combined) (0.447 fish/m²) was recorded at Site 5 (Ashford Bridge) on the Vartry River. The highest density of 0+ brown trout (0.319 fish/m²) was also recorded at Site 5 (Ashford Bridge). The highest density of 1+ and older brown trout (0.270 fish/m²) was recorded at Site 4 (Nun's Cross Bridge Site A).

Sea trout were captured in low numbers at two sites (Sites 4 & 6) and ranged in length from 22.0 cm to 32.1 cm.

Salmon were present at 4 sites and ranged in length from 5 to 13.3cm (Figure 4). Two age classes of salmon were present (0+, and 1+) with 1+ being the most abundant cohort. The highest density of salmon (all ages combined) (0.181 fish/m²) was recorded at Site 5 (Ashford Bridge) on the Vartry River. The highest density of 0+ salmon (0.097 fish/m²) was also recorded at Site 5 (Ashford Bridge). The highest density of 1+ and

older salmon (0.095 fish/m²) was recorded at Site 4 (Nun's Cross Bridge Site A) on the Vartry River.

A Water Framework Directive fish classification tool (FCS2) was developed for Irish rivers in 2011 (SNIFFER 2011). The tool works by comparing various fish community metric values within a site to those predicted for a site under un-impacted conditions. In general, a site will achieve High status if all indicator species (e.g. both salmonid cohorts 0+ and 1+ and older) are present and in expected numbers. Status will decline if such cohorts are missing, are in poor abundance, or if more tolerant species proliferate.

Fish ecological status was assigned to seven sites surveyed in the Vartry River Catchment during 2025 (Table 4 and Figure 7). One site was assigned High status, with four sites assigned Good status, one site Moderate and one site Poor. All seven sites were surveyed previously on this catchment and assigned fish ecological status. When compared with their most recent previous survey, four sites improved (Sites 3, 4, 5 and 7) one site deteriorated (Site 1) and the remainder were left unchanged.

The reasons for the failures (i.e. moderate status) in fish ecological status were due to lower-than-expected abundance of type specific indicator species (e.g., salmon and trout), absence of certain age cohorts indicating recruitment failures. Failures and deteriorations in fish ecological status can be caused by pressures such as nutrient enrichment, habitat modification and fish passage issues.

References

- CEN (2003) Water Quality Sampling of Fish with Electricity. CEN EN 14011:2000. Brussels. European Committee for Standardization.
- Matson, R., Delanty, K., Shephard, S., Coghlan, B. and Kelly, F. (2018). *Moving from multiple pass*

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SNIFFER (2011) *River Fish Classification Tool: Science Work. WFD68c, Phase 2.* Final Report. Version 6. Edinburgh. Scotland and Northern Ireland Forum for Environmental Research.

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