

Fish in Rivers Factsheet

SERBD

River Barrow Catchment

Factsheet: 2020/1

The River Barrow is Ireland's second longest river; approximately 192km in length from source to sea. It drains a large catchment area (3,010km²), consisting of mountain, bog, urban areas, and agricultural land used for both pasture and tillage. The river rises in the Slieve Bloom Mountains, Co. Laois and flows through four counties before reaching the tidal limit at Saint Mullins, Co. Carlow. The river joins the River Nore upstream of New Ross, Co. Wexford and then merges with the River Suir at Cheekpoint. The upper reaches of the River Barrow run through calcareous limestone. The middle reaches and many of the eastern tributaries, rising in the Blackstairs Mountains, run through siliceous Leinster granite.

The morphology of the river was modified in the past for navigation purposes by constructing a series of weirs, canal cuts and locks. The Barrow Line of the Grand Canal links the Grand Canal at Lowtown, Co. Kildare to the River Barrow at Athy. The non-navigable sections are interlinked by 23 lateral canals or canal cuts.

The River Barrow main channel and many tributaries are located within the River Barrow and Nore Special Area of Conservation (SAC 002162). The SAC is designated for five fish species (i.e. sea, river and brook lamprey, twaite shad and salmon) and many other species.

The river is a mixed stock fishery containing brown trout, salmon, pike and many coarse fish species such as roach and bream. The invasive fish species dace is also present.

This report summarises the results of a catchment-wide electrofishing survey undertaken in selected River Barrow sub-catchments during 2020. A total of 91 sites were surveyed by electrofishing (CEN, 2003) across the catchment in summer 2020. Surveys were carried out using 10-minute, timed electro-fishing (TEF₁₀), with results converted to first pass Area Delineated Electro Fishing (ADEF) according to Matson *et al.* (2018). Fish ecological status is also reported for each site for Water Framework Directive purposes.



River Greese at Bridge, northeast of Belan House (Site 53).

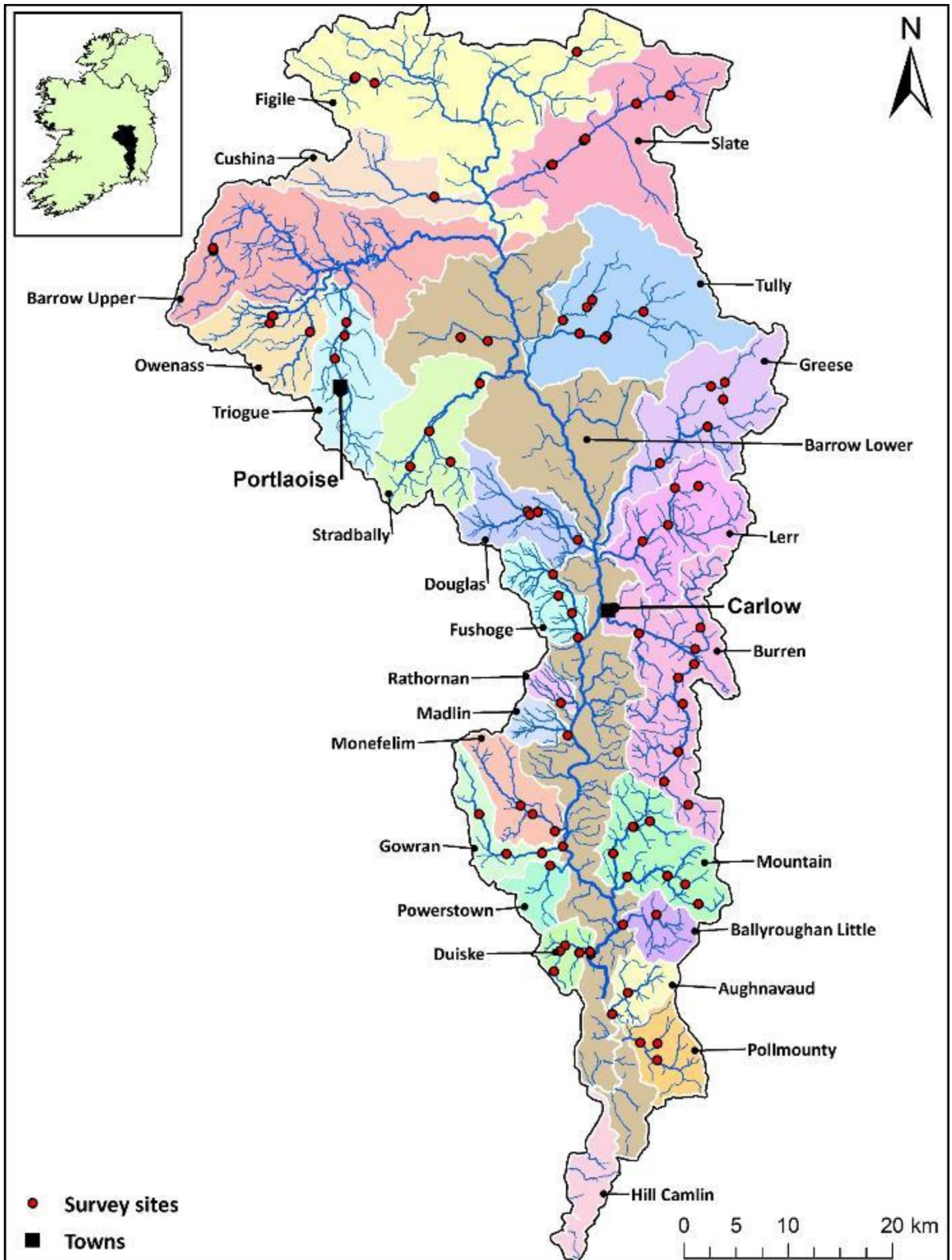


Fig. 1. River Barrow sub-catchments and electrofishing survey sites, 2020.

Pollmounty, Aughnavaud, Duiske and Clashganny (Ballyroughan) sub-catchments

Seven sites were surveyed in the Pollmounty (sites 1-3), Aughnavaud (sites 4-5) and Clashganny (Ballyroughan) (sites 12-13) subcatchments of the River Barrow in Co. Carlow. Six sites (sites 6-11) were surveyed in the Duiske River sub-catchment, Co. Kilkenny (Fig. 2 and Table 1).

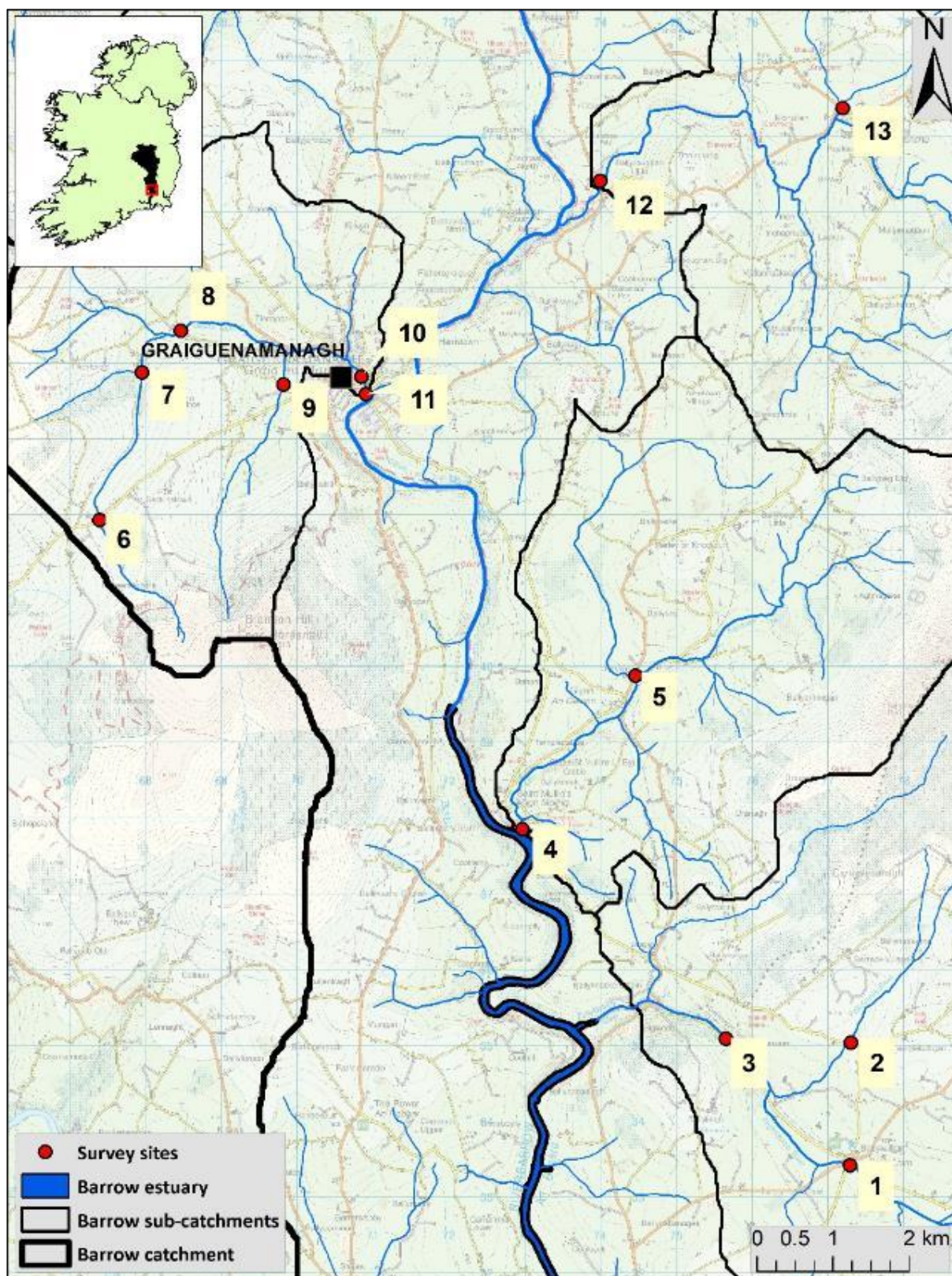


Fig. 2. Pollmounty (sites 1-3), Aughnavaud (sites 4-5), Duiske (sites 6-11), and Clashganny (Ballyroughan) (sites 12-13) sub-catchments and electrofishing survey sites, 2020.

Table 1. Site survey details for the Pollmouny, Aughnavaud, Duiske, and Clashganny sub-catchments, 2020.

No.	River	Site	WFD	Date
Pollmouny sub-catchment				
1	Aughnacrew River	Ballywilliam	–	03/07/2020
2	Pollmouny River	Templeudigan	–	02/07/2020
3	Pollmouny River	Curraun abstraction	–	02/07/2020
Aughnavaud sub-catchment				
4	Aughnavaud River	Bauck Hill	–	02/07/2020
5	Aughnavaud River	Turra Br.	–	02/07/2020
Duiske sub-catchment				
6	Duiske River	Raheendenore	–	10/07/2020
7	Duiske River	Tikerlevan	–	10/07/2020
8	Duiske River	Priestsvalley	–	09/07/2020
9	Coolroe River	Coolroe House	–	09/07/2020
10	Duiske River	Well Lane	–	09/07/2020
11	Duiske River	Peg's Lane	–	09/07/2020
Clashganny (Ballyroughan) sub-catchment				
12	Clashganny River	Ballyroughan West	–	03/07/2020
13	Clashganny River	Ballymurphy	–	06/07/2020



Aughnavaud River at Bauck Hill (Site 4).

Table 2. Minimum fish density estimates (no. fish/m²) for the Pollmounty and Aughnavaud sub-catchments, Duiske, and Clashganny sub-catchments, 2020. Previous results are shown where applicable.

Pollmounty sub-catchment							Aughnavaud sub-catchment				
Site no.	1		2		3		4		5		
Species	2015	2020	2015	2020	2015	2020	2015	2020	2014	2015	2020
Brown trout	0.083	0.302	0.573	0.467	0.328	0.275	0.246	-	0.293	0.117	0.212
0+ brown trout	0.017	-	0.573	0.234	0.28	-	-	-	-	0.026	-
1+ & older brown trout	0.067	0.302	-	0.234	0.049	0.275	0.246	-	0.293	0.09	0.212
Salmon	-	0.014	-	0.067	0.876	0.218	0.608	0.194	-	0.011	0.166
0+ salmon	-	-	-	0.067	0.827	0.073	0.213	0.028	-	-	0.037
1+ & older salmon	-	0.014	-	-	0.049	0.145	0.394	0.167	-	0.011	0.129
Dace	-	-	-	-	-	-	-	-	-	-	-
European eel	-	-	-	-	-	-	0.115	0.021	-	0.005	-
Three-spined stickleback	0.133	-	-	-	-	-	-	-	-	0.011	-
All Fish	0.216	0.317	0.573	0.534	1.204	0.492	0.969	0.215	0.293	0.143	0.378

Duiske sub-catchment										
Site no.	6		7		8		9	10	11	
Species	2015	2020	2015	2020	2015	2020	2020	2020	2015	2020
Brown trout	0.292	0.22	0.052	0.348	0.172	0.566	0.616	0.226	0.396	0.074
0+ brown trout	0.292	0.22	0.052	0.294	0.043	0.352	0.541	0.051	0.022	0.032
1+ & older brown trout	-	-	-	0.054	0.129	0.215	0.075	0.175	0.374	0.042
Salmon	-	-	1.108	0.401	0.732	1.25	0.112	0.278	0.472	0.632
0+ salmon	-	-	0.799	0.294	0.172	0.977	-	0.175	0.055	0.148
1+ & older salmon	-	-	0.309	0.107	0.56	0.273	0.112	0.103	0.418	0.485
European eel	-	-	-	-	-	0.059	-	0.072	0.033	0.032
Lamprey sp.	-	-	-	0.054	-	-	-	-	-	-
Stone loach	-	-	-	-	-	-	-	-	-	0.116
All Fish	0.292	0.22	1.16	0.803	0.905	1.875	0.728	0.576	0.901	0.854

Clashganny (Ballyroughan) sub-catchment				
Site no.	12		13	
Species	2015	2020	2015	2020
Brown trout	0.580	0.260	0.826	0.080
0+ brown trout	0.255	0.012	0.826	-
1+ & older brown trout	0.325	0.247	-	0.080
Salmon	0.271	0.012	0.035	-
0+ salmon	0.116	-	-	-
1+ & older salmon	0.155	0.012	0.035	-
Dace	0.031	-	-	-
European eel	-	-	-	0.100
Lamprey sp.	0.008	0.019	0.492	0.160
Minnnow	0.015	-	-	-
Stone loach	0.015	-	-	-
Three-spined stickleback	-	-	0.053	-
All Fish	0.921	0.29	1.406	0.340

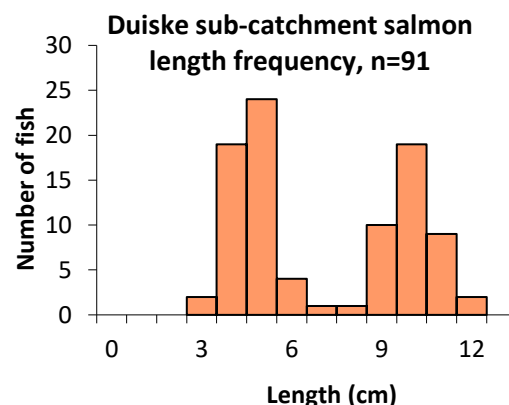
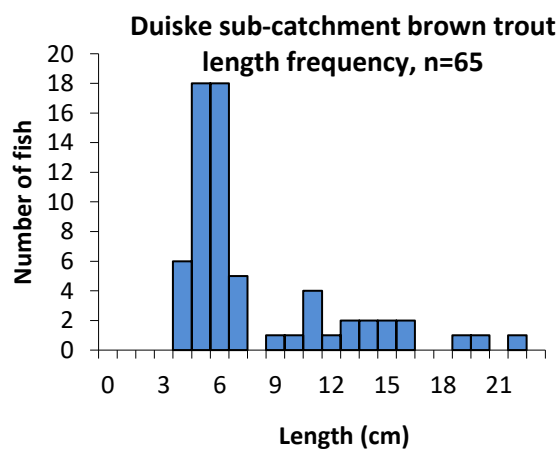
Table 3. Salmonid % age class structure (where recorded) for the Pollmounty, Aughnavaud, Duiske, and Clashganny (Ballyroughan) sub-catchments, 2020.

Site No.	Brown trout				
	% catch				
	0+	1+	2+	3+	4+
Pollmounty					
1	-	65	30	5	-
2	57	39	4	-	-
3	-	64	16	20	-
Aughnavaud					
5	-	91	9	-	-
Duiske					
6	100	-	-	-	-
7	88	12	-	-	-
8	69	25	6	-	-
9	90	5	5	-	-
10	28	36	36	-	-
11	50	50	-	-	-
Clashganny (Ballyroughan)					
12	4	35	48	13	-
13	100	-	-	-	-

Site No.	Salmon		
	% catch		
	0+	1+	2+
Pollmounty			
1	-	100	-
2	100	-	-
3	36	64	-
Aughnavaud			
4	14	86	-
5	22	78	-
Duiske			
7	75	25	-
8	81	19	-
9	-	100	-
10	64	36	-
11	23	77	-
Clashganny (Ballyroughan)			
12	-	100	-

Table 4. Fish ecological status for the Pollmounty, Aughnavaud, Duiske, and Clashganny (Ballyroughan) sub-catchments for 2020. Previous results are shown where applicable.

Site No.	2015	2020
Pollmounty		
1	Poor	Moderate
2	Moderate	Good
3	High	Good
Aughnavaud		
4	Good	Poor
5	Moderate	Moderate
Duiske		
6	Moderate	Moderate
7	Moderate	Good
8	Good	High
9	-	Good
10	Good	Good
11	Good	Good
Clashganny (Ballyroughan)		
12	Good	Moderate
13	Good	Moderate



Mountain, Gowran, Barrowmount, and Monefelim sub-catchments

Eight sites were surveyed in the Mountain River (sites 14-21) subcatchment of the River Barrow, Co. Carlow. Eight sites (22-25) were also surveyed in the Gowran (Sites 22-25), Barrowmount (Powerstown) (site 26) and Monefelim (Sites 27-29) subcatchments, Co. Kilkenny (Fig. 3 and Table 5).

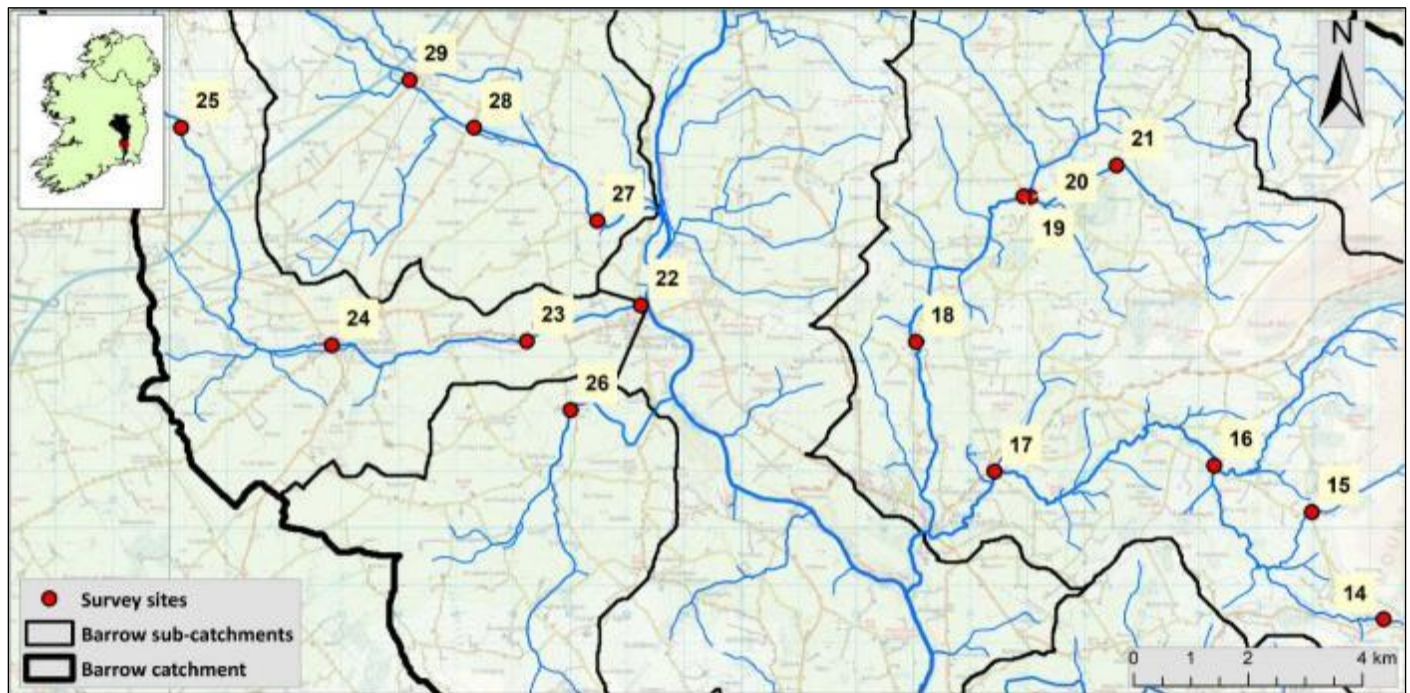


Fig. 3. Mountain (sites 14-21), Gowran (sites 22-25), Barrowmount (Powerstown) (site 26), and Monefelim (sites 27-29) sub-catchments and electrofishing survey sites, 2020.

Table 5. Site survey details for the Mountain, Gowran, Powerstown, and Monefelim sub-catchments, 2020.

No.	River	Site	WFD	Date
Mountain sub-catchment				
14	Augnabrisky River	Spearpoint	-	06/07/2020
15	Mountain River	Rathanna Br.	-	07/07/2020
16	Mountain River	Earthworks Br.	-	07/07/2020
17	Mountain River	Owlbeg	-	07/07/2020
18	Dinin (Black) River	Kilcloney Br.	-	23/07/2020
19	Dinin (Black) River	Corries Br.	-	23/07/2020
20	Dinin (Killoughternane) River trib.	Corries Confl.	-	23/07/2020
21	Dinin (Seskinnamadra) River trib.	Ballinree Br.	-	23/07/2020
Gowran sub-catchment				
22	Gowran River	Br. N of Goresbridge (S Channel)	YES	13/07/2020
23	Gowran River	Grange Lower	YES	13/07/2020
24	Gowran River	Gowran Village	-	15/07/2020
25	Gowran River	Grangehill	-	15/07/2020
Barrowmount (Powerstown) sub-catchment				
26	Barrowmount River	Johnville Br.	-	13/07/2020
Monefelim sub-catchment				
27	Acore River	Barraghcore Br.	-	15/07/2020
28	Monefelim River	Monefelim	-	15/07/2020
29	Monefelim River	Garryduff	-	16/07/2020

Table 6. Minimum density estimates (no. fish/m²) for the Mountain, Gowran, Barrowmount (Powerstown), and Monefelim sub-catchments, 2020. Previous results are shown where applicable.

Mountain sub-catchment											
Site no.	14		15		16		17		18	19	
Species	2015	2020	2015	2020	2015	2020	2015	2020	2020	2015	2020
Brown trout	0.582	0.357	0.358	0.215	0.025	0.121	0.043	0.164	0.101	0.468	0.424
0+ brown trout	0.220	0.082	0.034	0.133	0.025	0.042	-	0.092	0.025	0.056	0.042
1+ & older brown trout	0.362	0.275	0.324	0.082	-	0.08	0.043	0.072	0.077	0.412	0.382
Salmon	-	0.153	-	-	0.337	0.327	0.15	0.454	0.006	-	0.050
0+ salmon	-	0.092	-	-	0.236	0.218	0.107	0.405	0.000	-	0.050
1+ & older salmon	-	0.061	-	-	0.101	0.109	0.043	0.048	0.006	-	-
European eel	-	-	-	0.031	-	-	-	-	0.009	0.024	0.025
All Fish	0.582	0.51	0.358	0.246	0.362	0.448	0.193	0.618	0.116	0.492	0.498

Mountain sub-catchment					Gowran sub-catchment					
Site no.	20		21		22			23		
Species	2015	2020	2015	2020	2013	2015	2020	2013	2015	2020
Brown trout	0.190	0.156	0.898	0.604	0.088	0.230	0.111	0.268	0.288	0.155
0+ brown trout	0.110	0.111	0.489	0.022	0.018	0.048	0.017	0.024	0.029	0.043
1+ & older brown trout	0.080	0.045	0.409	0.582	0.070	0.182	0.094	0.244	0.259	0.112
Salmon	-	0.245	-	-	0.023	0.063	0.102	-	-	0.017
0+ salmon	-	0.178	-	-	-	0.032	0.017	-	-	0.000
1+ & older salmon	-	0.067	-	-	0.023	0.032	0.085	-	-	0.017
European eel	-	-	-	0.077	0.012	-	0.026	-	0.029	0.086
Lamprey sp.	-	-	-	-	0.006	-	-	-	-	-
Minnow	-	-	-	-	0.012	-	-	-	-	-
Stone loach	-	-	-	-	0.023	0.151	0.179	-	-	-
Three-spined stickleback	-	-	-	-	0.14	0.016	-	0.005	0.029	-
All Fish	0.19	0.401	0.898	0.681	0.304	0.46	0.417	0.273	0.345	0.258

Gowran sub-catchment				Barrowmount		Monefelim sub-catchment					
Site no.	24		25		26		27		28		29
Species	2015	2020	2015	2020	2015	2020	2015	2020	2015	2020	2020
Brown trout	0.256	0.157	0.820	0.302	0.190	0.039	0.319	0.180	0.407	0.145	0.020
0+ brown trout	0.148	0.112	0.800	0.302	0.105	0.039	0.124	0.020	0.194	0.097	-
1+ & older brown trout	0.108	0.045	0.021	-	0.084	-	0.195	0.160	0.213	0.048	0.020
Salmon	0.01	0.008	0.041	0.095	0.190	0.078	0.260	0.104	2.035	0.558	0.549
0+ salmon	-	0.008	-	0.095	0.084	0.078	0.221	0.080	1.764	0.315	0.386
1+ & older salmon	0.010	-	0.041	-	0.105	0	0.039	0.024	0.271	0.242	0.163
Dace	-	-	-	-	-	-	-	0.016	-	-	-
European eel	-	-	-	-	-	0.023	0.020	0.012	0.058	0.036	-
Lamprey sp.	0.010	-	-	-	0.042	0.031	0.007	-	-	-	0.020
Minnow	-	-	-	-	-	0.039	-	-	-	-	-
Stone loach	-	-	0.041	0.032	-	-	-	-	-	-	0.224
Three-spined stickleback	0.113	0.025	0.646	0.117	0.432	0.093	0.124	-	0.058	-	-
All Fish	0.389	0.19	1.549	0.546	0.854	0.303	0.729	0.312	2.558	0.739	0.813

Table 7. Salmonid % age class structure (where recorded) for the Mountain, Gowran, Barrowmount (Powerstown), and Monefelim sub-catchments, 2020.

Site No.	Brown trout				
	% catch				
	0+	1+	2+	3+	4+
Mountain					
14	28	50	11	11	-
15	67	25	8	-	-
16	40	33	20	7	-
17	63	16	21	-	-
18	29	53	12	6	-
19	12	80	8	-	-
20	75	25	-	-	-
21	4	80	12	-	4
Gowran					
22	17	66	17	-	-
23	33	45	22	-	-
24	74	21	5	-	-
25	100	-	-	-	-
Barrowmount					
26	100	-	-	-	-
Monefelim					
27	14	55	23	8	-
28	71	29	-	-	-
29	-	100	-	-	-

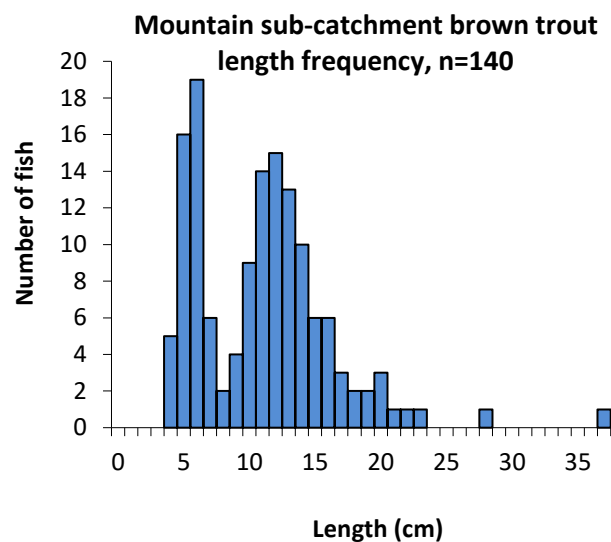
Site No.	Salmon		
	% catch		
	0+	1+	2+
Mountain			
14	63	37	-
16	70	30	-
17	90	10	-
18	-	100	-
19	100	-	-
20	73	27	-
Gowran			
22	17	83	-
23	-	100	-
24	100	-	-
Barrowmount			
26	100	-	-
Monefelim			
27	80	20	-
28	58	42	-
29	67	33	-



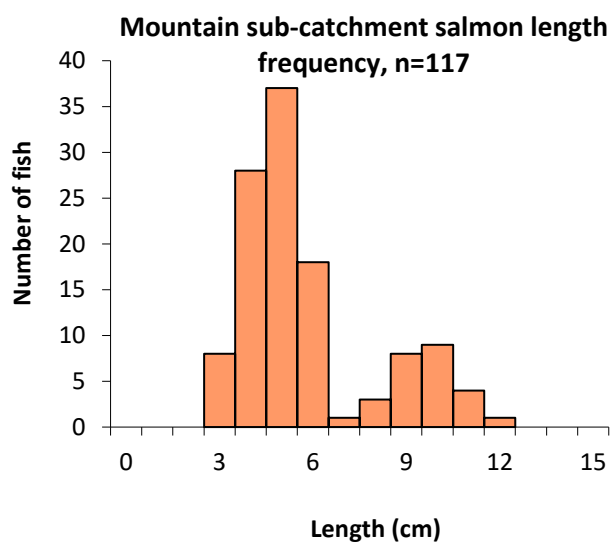
Monefelim (Acore) River at Barraghcore Bridge (site 27).

Table 8. Fish ecological status for the Mountain, Gowran, Barrowmount (Powerstown), and Monefelim sub-catchments, 2020. Previous results are shown where applicable.

Site No.	2010	2013	2015	2020
Mountain				
14	-	-	Good	High
15	-	-	Moderate	Moderate
16	-	-	Good	High
17	-	-	High	High
18	-	-	-	Moderate
19	-	-	Moderate	Moderate
20	-	-	Moderate	Good
21	-	-	Good	Good
Gowran				
22	Moderate	Moderate	Moderate	Moderate
23	-	Moderate	Moderate	Moderate
24	-	-	Moderate	Moderate
25	-	-	Good	Good
Barrowmount				
26	-	-	Moderate	Moderate
Monefelim				
27	-	-	Good	Good
28	-	-	High	High
29	-	-	-	Moderate



Mountain River at Earthworks Br (Site 16)



Burren, Madlin, Rathornan, and Fushoge sub-catchments

Eleven sites were surveyed in the Burren (sites 30-38), Madlin (site 39), Rathornan (site 40) subcatchments of the River Barrow, Co. Carlow. Four sites (22-25) were also surveyed in the Fushoge (sites 41-44) sub-catchment, Co. Laois (Fig. 4 and Table 9).

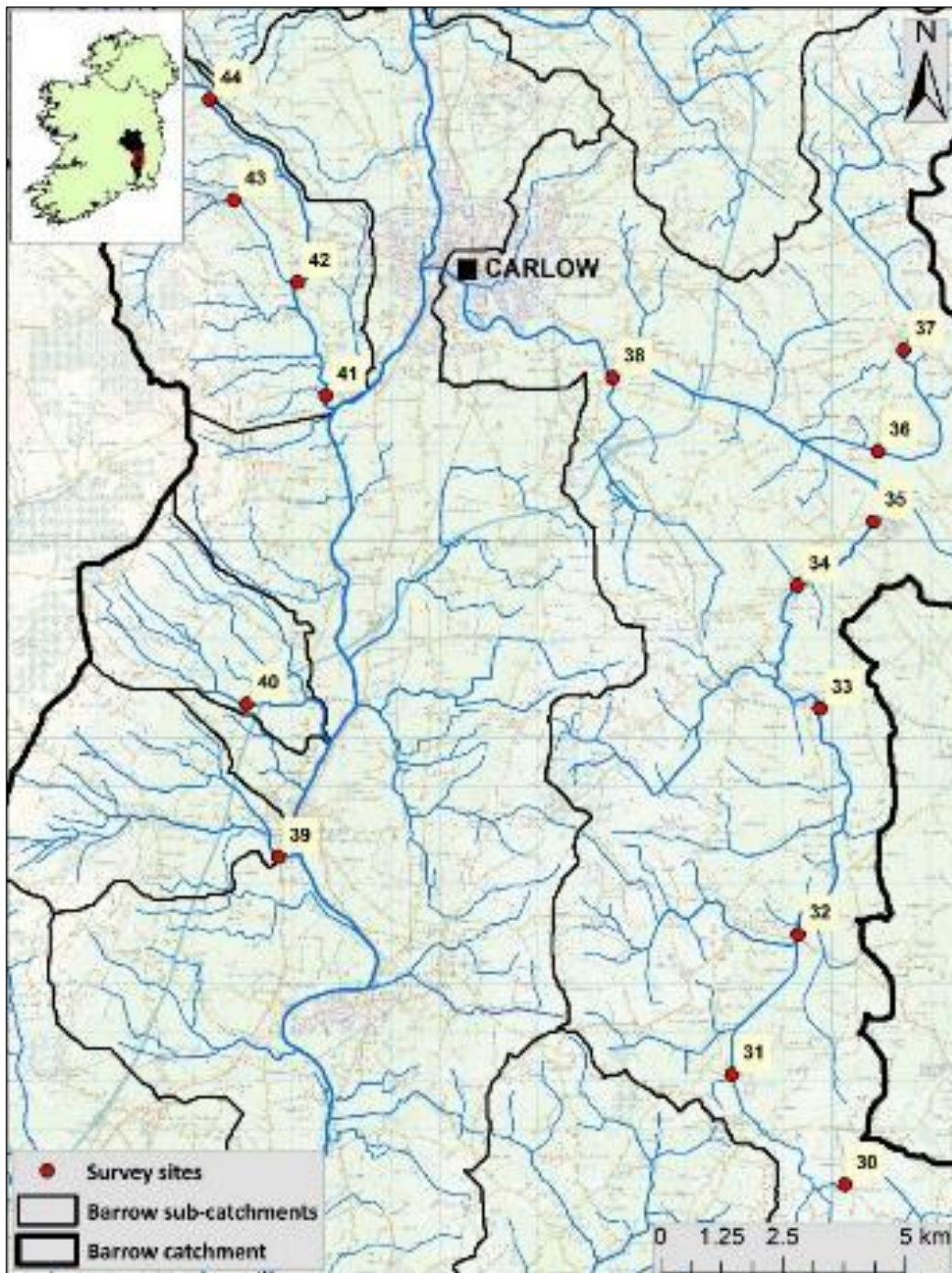


Fig. 4. Burren (sites 30-38), Madlin (site 39), Rathornan (site 40), and Fushoge (sites 41-44) sub-catchments and electrofishing survey sites, 2020.

Table 9. Site survey details for the Burren, Madlin, Rathornan, and Fushoge sub-catchments, 2020.

No.	River	Site	WFD	Date
Burren sub-catchment				
30	Burren River	Coolsneachta	-	14/07/2020
31	Burren River	Garyhill Br.	-	14/07/2020
32	Burren River	Ullard Br.	YES	14/07/2020
33	Burren River	Ballintraine Crossroads	-	15/07/2020
34	Burren River	Ballynunnery Church	-	15/07/2020
35	Burren River	Rathoe Br.	-	15/07/2020
36	Aghalona River	Inchisland	-	16/07/2020
37	Aghalona River	Grangeford	-	16/07/2020
38	Burren River	Staplestown	-	15/07/2020
Madlin sub-catchment				
39	Madlin River	Madlin Br.	-	15/07/2020
Rathornan sub-catchment				
40	Coolnakisha River	Coolnakisha East	-	31/07/2020
Fushoge sub-catchment				
41	Fushoge River	Fushoge Br.	-	13/07/2020
42	Fushoge River	Olderrig Br.	-	13/07/2020
43	Fushoge (Killeshin) River trib.	Killeshin	-	13/07/2020
44	Fushoge River	Coolrain	-	13/07/2020

Table 10. Minimum fish density estimates (no. fish/m²) for the Burren sub-catchment, 2020. Previous results are shown where applicable.

Burren sub-catchment										
Site no.	30	31	32	33	34	35	36	37	38	
Species	2020	2020	2020	2020	2020	2020	2020	2020	2015	2020
Brown trout	0.143	0.115	0.306	0.353	0.357	0.315	0.428	0.28	0.373	0.228
0+ brown trout	0.02	0.102	0.017	0.022	0.075	0.029	0.193	0.173	0.282	0.041
1+ & older brown trout	0.124	0.014	0.289	0.331	0.282	0.286	0.235	0.107	0.091	0.187
Salmon	-	0.237	0.068	0.276	0.564	0.114	-	0.213	0.872	0.358
0+ salmon	-	0.074	0.034	0.21	0.47	-	-	0.187	0.855	0.276
1+ & older salmon	-	0.162	0.034	0.066	0.094	0.114	-	0.027	0.017	0.081
European eel	0.02	-	-	-	-	-	-	-	-	-
Lamprey sp.	-	-	0.026	-	-	-	-	-	-	-
Minnow	-	-	-	0.132	-	0.458	0.471	-	0.009	0.439
Nine-spined stickleback	-	-	0.009	-	-	-	-	-	-	-
Stone loach	-	0.061	0.077	0.044	0.038	0.162	-	-	0.017	0.317
Three-spined stickleback	-	-	0.026	-	-	-	0.064	0.04	0.026	-
All Fish	0.163	0.413	0.511	0.806	0.978	1.049	0.963	0.533	1.298	1.341

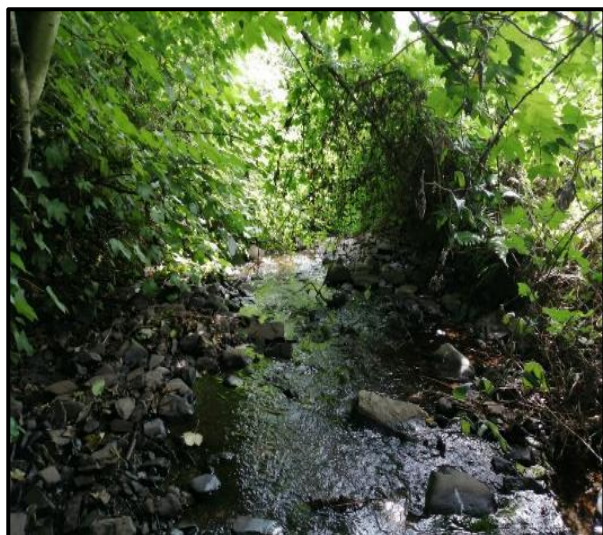
Table 11. Minimum fish density estimates (no. fish/m²) for the Madlin, Rathornan, and Fushoge sub-catchments, 2020. Previous results are shown where applicable.

Madlin sub-catchment		Rathornan		Fushoge sub-catchment						
Site no.	39	40	41		42		43		44	
Species	2020	2020	2015	2020	2015	2020	2015	2020	2015	2020
Brown trout	0.029	0.116	0.026	0.103	0.232	0.314	0.025	-	0.315	0.048
0+ brown trout	-	0.116	0.026	-	0.232	0.184	-	-	0.315	0.048
1+ & older brown trout	0.029	-	-	0.103	-	0.13	0.025	-	-	-
Salmon	-	0.021	0.225	0.011	1.407	0.232	-	-	0.195	0.048
0+ salmon	-	0.021	0.225	-	1.389	0.123	-	-	0.195	0.048
1+ & older salmon	-	-	-	0.011	0.017	0.109	-	-	-	-
Dace	0.200	-	-	0.06	-	-	-	-	-	-
European eel	-	-	-	0.016	-	-	0.125	-	-	-
Lamprey sp.	-	-	-	-	0.111	0.014	-	-	-	-
Minnow	0.305	-	0.099	0.163	-	0.293	-	-	0.023	0.071
Nine-spined stickleback	-	-	-	-	0.009	-	-	-	-	-
Stone loach	0.010	-	0.021	0.022	-	-	-	-	-	0.053
Three-spined stickleback	0.024	0.232	0.016	-	0.026	0.252	0.150	0.366	0.023	0.131
All Fish	0.566	0.369	0.387	0.374	1.784	1.104	0.300	0.366	0.556	0.350

Table 12. Salmonid % age class structure (where recorded) for the Burren, Madlin, Rathornan, and Fushoge sub-catchments, 2020.

Site No.	Brown trout				
	% catch				
	0+	1+	2+	3+	4+
Burren					
30	18	55	27	-	-
31	90	10	-	-	-
32	6	35	53	6	-
33	7	33	60	-	-
34	26	32	42	-	-
35	13	25	50	13	-
36	50	50	-	-	-
37	100	-	-	-	-
38	21	29	50	-	-
Madlin					
39	-	100	-	-	-
Rathornan					
40	100	-	-	-	-
Fushoge					
41	0	67	22	11	-
42	65	31	4	-	-
44	100	-	-	-	-

Site No.	Salmon		
	% catch		
	0+	1+	2+
Burren			
31	100	-	-
32	50	50	-
33	77	23	-
34	83	17	-
35	-	100	-
37	88	13	-
38	77	23	-
Rathornan			
40	100	-	-
Fushoge			
41	-	100	-
42	100	-	-
44	100	-	-



Fushoge River tributary at Killeshin (site 43).

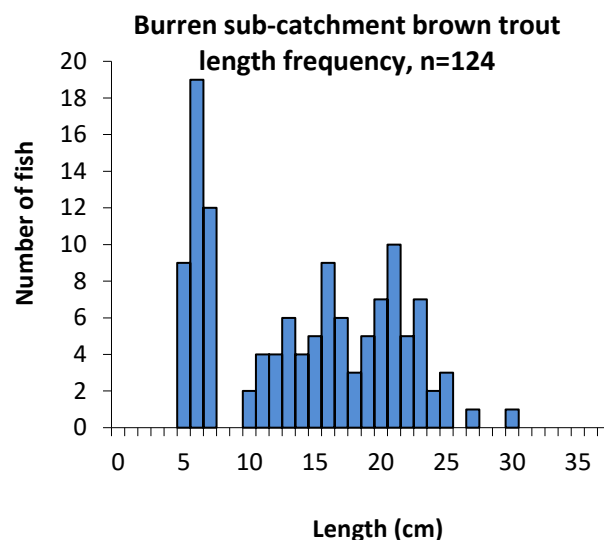
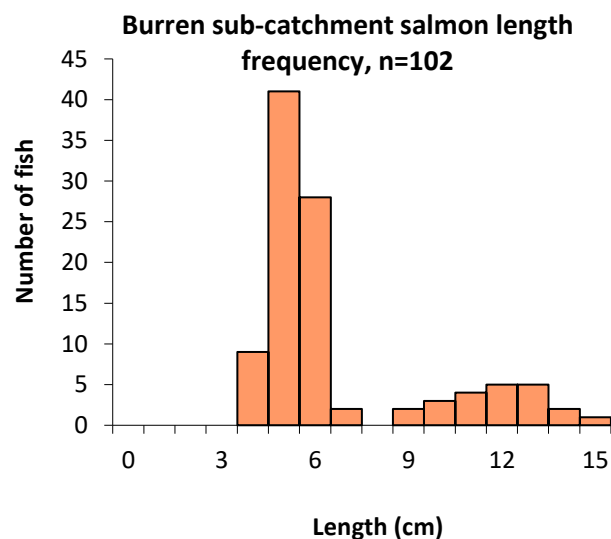


Table 13. Fish ecological status for the Burren, Madlin, Rathornan, and Fushoge sub-catchments, 2020. Previous results are shown where applicable.

Site No.	2015	2020
Burren		
30	-	Moderate
31	-	Good
32	-	Good
33	-	High
34	-	High
35	-	Good
36	-	Moderate
37	-	Good
38	Good	Good
Madlin		
39	-	Poor
Rathornan		
40	-	Moderate
Fushoge		
41	Moderate	Poor
42	Good	High
43	Poor	Poor
44	Moderate	Moderate



Coolnakisha River (Site 40)

Douglas, Lerr, and Greese sub-catchments

Four sites were surveyed in the Douglas River (sites 45-48) sub-catchment in Co. Laois during 2020. Nine sites were surveyed in the Lerr (sites 49-52) and Greese (sites 53-57) subcatchments, Co. Kildare (Fig. 5 and Table 14).

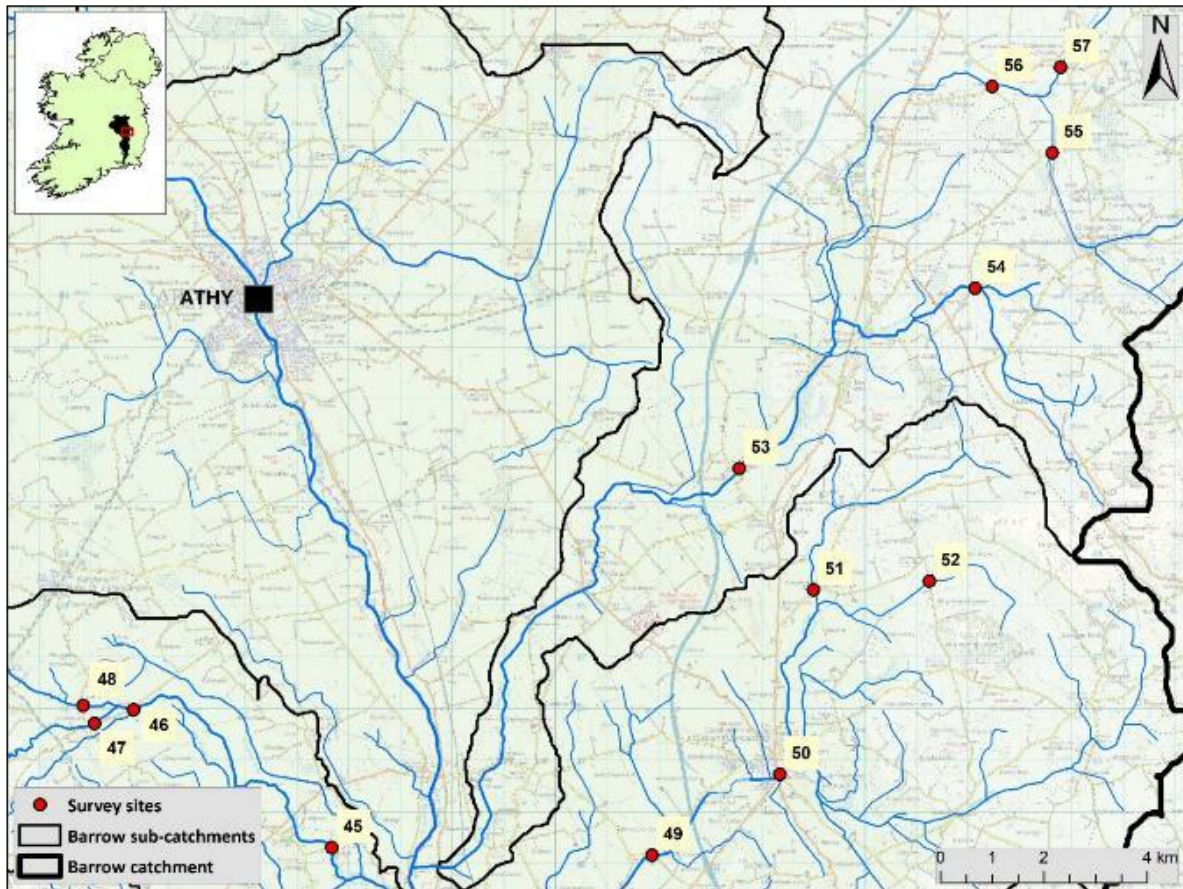


Fig. 5. Douglas (sites 45-48), Lerr (sites 49-52), and Greese (sites 53-57) sub-catchments and electrofishing survey sites, 2020.

Table 14. Site survey details for the Douglas (Laois), Lerr and Greese sub-catchments, 2020.

No.	River	Site	WFD	Date
Douglas sub-catchment				
45	Douglas (Laois), River	Clonagh Br.	–	30/07/2020
46	Douglas (Laois), River	Gales Br.	–	28/07/2020
47	Douglas (Laois), River	Castletown Br.	–	29/07/2020
48	Douglas (Laois)(Trib), River	Fuer Br.	–	29/07/2020
Lerr sub-catchment				
49	Lerr River	Prumplestown Br.	–	30/07/2020
50	Lerr River	Mullarney	–	30/07/2020
51	Lerr River	Grangeford Br.	–	30/07/2020
52	Lerr River	Alymerstown Br.	–	28/07/2020
Greese sub-catchment				
53	Greese, River	Br. NE of Belan House	YES	15/07/2020
54	Greese, River	Ballycore	–	28/07/2020
55	Greese, River	Ballynure Park	–	28/07/2020
56	Greese, River	Spratstown Br	–	15/07/2020
57	Greese, River	Colbinstown	–	28/07/2020

Table 14. Minimum density estimates (no. fish/m²) for the Douglas, Lerr, and Greese sub-catchments, 2020.
Previous results are shown where applicable.

Douglas sub-catchment									
Site no.	45			46		47		48	
Species	2014	2015	2020	2015	2020	2015	2020	2015	2020
Brown trout	0.007	0.032	0.007	0.186	0.010	0.221	-	0.657	-
0+ brown trout	0.007	0.032	0.007	0.186	0.010	0.221	-	0.633	-
1+ & older brown trout	-	-	-	-	-	-	-	0.024	-
Salmon	0.027	0.145	0.007	1.059	0.261	0.520	0.116	0.048	0.039
0+ salmon	0.027	0.133	0.007	0.995	0.251	0.520	0.090	0.024	-
1+ & older salmon	-	0.013	-	0.064	0.010	-	0.026	0.024	0.039
Dace	-	-	-	-	-	-	-	-	-
Lamprey sp.	0.003	0.006	-	-	-	-	-	-	0.049
Minnow	0.013	-	0.107	1.053	0.657	0.021	0.258	-	-
Stone loach	0.007	0.057	0.033	0.039	0.075	0.043	-	0.024	-
Three-spined stickleback	0.017	0.114	-	-	0.356	-	0.039	0.490	2.726
All Fish	0.074	0.354	0.155	2.337	1.360	0.806	0.412	1.219	2.814

Lerr sub-catchment								
Site no.	49			50		51	52	
Species	2012	2015	2020	2015	2020	2020	2015	2020
Brown trout	0.177	0.112	0.093	0.335	0.286	0.081	0.268	0.166
0+ brown trout	0.027	0.082	0.093	0.140	0.036	0.081	0.255	0.166
1+ & older brown trout	0.151	0.030	-	0.195	0.249	-	0.013	-
Salmon	0.155	0.137	0.017	0.134	0.036	0.135	-	0.055
0+ salmon	0.142	0.137	0.017	0.097	0.036	0.108	-	0.055
1+ & older salmon	0.013	-	-	0.037	-	0.027	-	-
Dace	0.093	-	-	-	-	-	-	-
European eel	-	-	-	-	-	-	-	-
Lamprey sp.	-	0.004	-	-	-	-	0.013	-
Minnow	-	-	-	-	-	-	-	-
Stone loach	-	-	-	0.012	-	-	-	-
Three-spined stickleback	0.004	-	-	0.037	-	-	0.077	-
All Fish	0.430	0.253	0.110	0.518	0.322	0.216	0.358	0.221

Greese sub-catchment										
Site no.	53		54		55		56		57	
Species	2012	2020	2015	2020	2015	2020	2015	2020	2015	2020
Brown trout	0.163	0.138	2.304	0.836	0.457	0.031	0.205	0.237	0.628	0.130
0+ brown trout	0.047	0.034	2.225	0.677	0.438	0.019	0.075	0.000	0.589	0.028
1+ & older brown trout	0.116	0.103	0.079	0.159	0.019	0.012	0.130	0.237	0.039	0.102
Salmon	0.054	0.199	0.132	0.212	0.514	0.124	0.010	0.041	0.570	0.130
0+ salmon	0.043	0.183	0.105	0.190	0.476	0.087	0.010	0.031	0.570	0.111
1+ & older salmon	0.012	0.015	0.026	0.021	0.038	0.037	-	0.010	-	0.019
Dace	0.004	-	-	-	-	-	-	-	-	-
European eel	0.004	-	-	-	-	-	-	-	-	-
Lamprey sp.	0.004	-	-	-	1.000	0.267	-	-	-	-
Minnow	0.016	0.180	-	-	-	-	-	-	-	-
Stone loach	0.004	-	-	-	-	-	-	-	-	-
Three-spined stickleback	0.066	0.011	-	0.032	-	-	0.085	0.046	-	-
All Fish	0.314	0.527	2.436	1.079	1.971	0.423	0.301	0.325	1.197	0.260

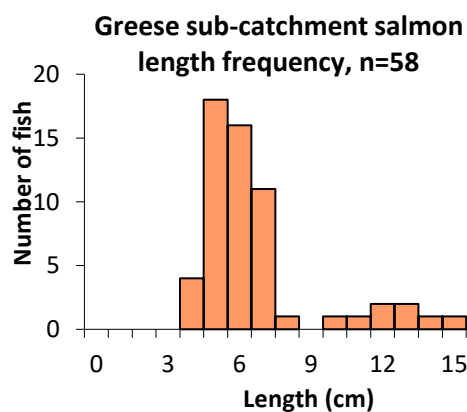
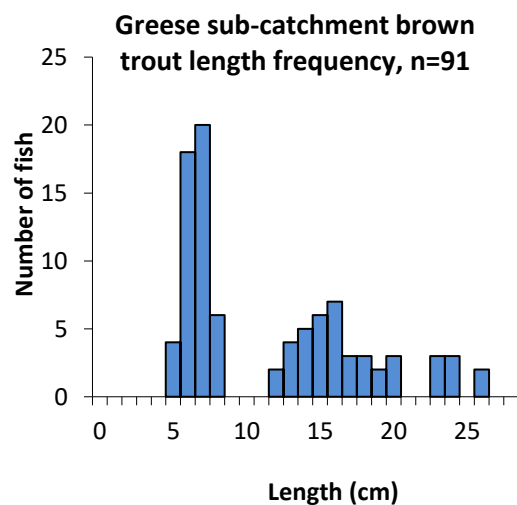
Table 15. Salmonid % age class structure (where recorded) for the Douglas, Lerr, and Greese sub-catchments, 2020.

Site No.	Brown trout				
	% catch				
	0+	1+	2+	3+	4+
Douglas					
45	100	-	-	-	-
46	100	-	-	-	-
Lerr					
49	100	-	-	-	-
50	13	63	23	-	-
51	100	-	-	-	-
52	100	-	-	-	-
Greese					
53	32	16	53	-	-
54	83	18	-	-	-
55	67	33	-	-	-
56	-	73	27	-	-
57	100	-	-	-	-

Site No.	Salmon		
	% catch		
	0+	1+	2+
Douglas			
45	100	-	-
46	96	4	-
47	78	22	-
48	100	-	-
Lerr			
49	100	-	-
50	100	-	-
51	80	20	-
52	100	-	-
Greese			
53	93	7	-
54	90	10	-
55	70	30	-
56	75	25	-
57	86	14	-

Table 16. Fish ecological status for the Douglas, Lerr, and Greese sub-catchments, 2020. Previous results are shown where applicable.

Site No.	2012	2015	2020
Douglas			
45	-	Moderate	Poor
46	-	Good	Moderate
47	-	-	Poor
48	-	Good	Poor
Lerr			
49	Moderate	-	Poor
50	-	Good	Good
51	-	-	Moderate
52	-	Good	Moderate
Greese			
53	Good	-	Good
54	-	Good	High
55	-	Good	Moderate
56	-	-	Moderate
57	-	Good	Good



Stradbally, Glasha, Triogue, Owenass sub-catchments and Barrow main channel and tributary

Thirteen sites were surveyed in Stradbally (sites 58-61), Glasha (Barrow Lower) (sites 62-63), Triogue (sites 64-66) and Owenass (sites 67-70) sub-catchments in Co. Laois. Three sites were also surveyed on the Upper Barrow main channel and tributary upstream of Mountmellick, Co. Laois (Fig. 6 and Table 17).

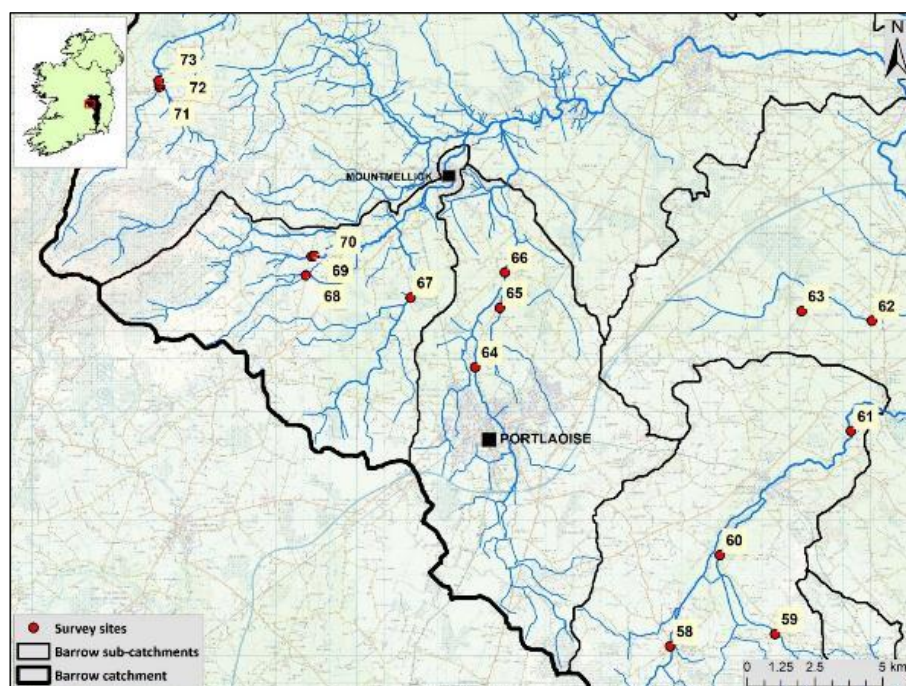


Fig. 6. Stradbally (sites 58-61), Glasha (Barrow Lower) (sites 62-63), Triogue (sites 64-66), Owenass (sites 67-70), and Barrow Upper (sites 71-73) sub-catchments and electrofishing survey sites, 2020.

Table 17. Site survey details for the Stradbally, Glasha (Barrow Lower), Triogue, Owenass sub-catchments and River Barrow (Upper) main channel and tributary, 2020.

No.	River	Site	WFD	Date
Stradbally sub-catchment				
58	Timahoe River trib.	Timahoe Village	–	29/07/2020
59	Crooked River	Clopook	–	28/07/2020
60	Stradbally River	Timogue Br.	–	28/07/2020
61	Stradbally River	Clone Br.	–	28/07/2020
Glasha (Barrow Lower) sub-catchment				
62	Glasha River	Rosnamullane	–	31/07/2020
63	Glasha River	Tonafarna	–	31/07/2020
Triogue sub-catchment				
64	Triogue River	Kyle Br.	–	30/06/2020
65	Triogue River trib.	Knocknagroagh	–	30/06/2020
66	Triogue River	Eyne Br.	–	30/06/2020
Owenass sub-catchment				
67	Blackwater River	Rossnagad	–	21/07/2020
68	Owennahallia River	Esker	–	20/07/2020
69	Owenass River	Barkmill West	–	21/07/2020
70	Owenass River	Barkmill	–	21/07/2020
Barrow Upper sub-catchment				
71	Glenlahan River	Clarahill	–	20/07/2020
72	Barrow, River	Rathcoffey Br.	–	20/07/2020
73	Barrow, River	Rathcoffey woods	–	20/07/2020

Table 18. Minimum density estimates (no. fish/m²) for the Stradbally, Glasha, Triogue, Owenass sub-catchments and River Barrow (Upr.) main channel and tributary, 2020. Previous results are shown where applicable.

Stradbally sub-catchment									Glasla	
Site no.	58		59		60		61		62	63
Species	2015	2020	2015	2020	2015	2020	2015	2020	2020	2020
Brown trout	0.069	0.015	0.323	0.207	0.225	0.597	0.201	0.246	0.272	0.227
0+ brown trout	0.069	-	0.309	0.195	-	0.008	0.135	0.163	0.032	0
1+ & older brown trout	-	0.015	0.014	0.012	0.225	0.589	0.066	0.079	0.24	0.227
Salmon	-	-	0.042	-	-	-	0.271	0.167	0.128	0.022
0+ salmon	-	-	-	-	-	-	0.256	0.167	-	0.022
1+ & older salmon	-	-	-	-	-	-	0.015	0	0.128	-
Dace	-	-	-	-	-	-	-	0.046	-	-
European eel	-	-	-	-	-	-	-	-	0.024	-
Lamprey sp.	-	-	-	0.012	-	-	0.004	-	-	-
Minnow	0.023	0.476	-	-	-	-	-	-	0.152	-
Stone loach	0.126	0.069	-	0.012	0.007	-	-	0.042	-	-
Three-spined stickleback	0.276	0.507	-	0.798	0.007	0.061	0.004	0.15	-	-
All Fish	0.494	1.068	0.365	1.029	0.239	0.658	0.480	0.651	0.575	0.248

Triogue sub-catchment					Owenass sub-catchment						
Site no.	64		65		66		67	68		69	70
Species	2015	2020	2015	2020	2015	2020	2020	2017	2020	2020	2020
Brown trout	0.018	0.041	0.311	0.227	0.058	0.269	0.224	1.405	0.222	0.542	0.106
0+ brown trout	0.004	-	0.289	0.038	0.004	0	0.015	1.341	0.131	-	0.040
1+ & older brown trout	0.015	0.041	0.022	0.189	0.054	0.269	0.209	0.064	0.09	0.542	0.066
Salmon	0.041	0.006	-	-	0.013	0.018	-	-	0.016	-	-
0+ salmon	0.033	0.006	-	-	0.013	-	-	-	-	-	-
1+ & older salmon	0.007	-	-	-	-	0.018	-	-	0.016	-	-
Dace	-	-	-	-	0.083	-	-	-	-	-	-
Lamprey sp.	-	-	-	0.025	0.004	-	0.015	-	-	-	-
Minnow	-	0.006	-	-	-	0.17	0.093	-	-	-	-
Stone loach	0.007	0.041	-	-	0.004	0.054	-	-	-	0.0012	-
Three-spined stickleback	-	0.019	-	0.038	0.029	0.027	0.046	-	0.049	-	-
All Fish	0.066	0.113	0.311	0.29	0.192	0.538	0.379	1.405	0.287	0.554	0.106

Barrow main channel (upper) & tributary					
Site no.	71		72		73
Species	2020		2015	2020	2020
Brown trout	0.026		0.03	0.024	0.087
0+ brown trout	0.013		0.004	0.006	0.033
1+ & older brown trout	0.013		0.026	0.018	0.054
Salmon	0.355		1.452	0.313	0.145
0+ salmon	0.171		1.358	0.247	0.051
1+ & older salmon	0.184		0.094	0.066	0.094
Minnow	-		-	-	0.011
Stone loach	0.026		0.004	0.006	-
Three-spined stickleback	-		-	-	-
All Fish	0.407		1.486	0.343	0.243

Table 19. Salmonid % age class structure (where recorded) for the Stradbally, Glasha, Triogue, Owenass sub-catchments and River Barrow (Upper) main channel and tributary, 2020.

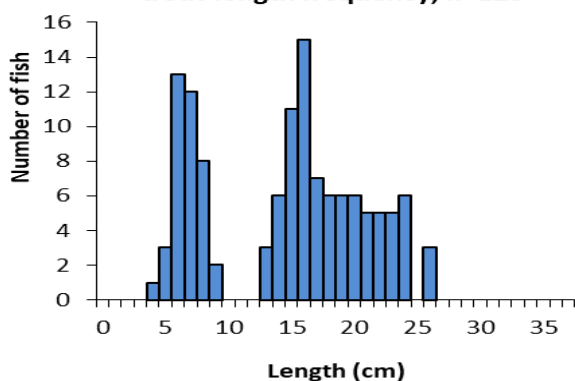
Brown trout					
Site No.	% catch				
	0+	1+	2+	3+	4+
Stradbally					
58	-	100	-	-	-
59	95	-	5	-	-
60	1	54	45	-	-
61	69	24	7	-	-
Glasha					
62	13	75	6	6	-
63	-	45	50	5	-
Triogue					
64	-	100	-	-	-
65	22	67	11	-	-
66	-	36	57	7	-
Owenass					
67	7	86	7	-	-
68	67	33	-	-	-
69	-	93	7	-	-
70	42	53	5	-	-
Barrow (upr.) main channel and trib.					
71	50	50	-	-	-
72	25	75	-	-	-
73	42	58	-	-	-

Salmon			
Site No.	% catch		
	0+	1+	2+
Stradbally			
61	100	-	-
Glasha			
62	-	100	-
63	100	-	-
Triogue			
64	100	-	-
66	-	100	-
Owenass			
68	-	100	-
Barrow (upr.) main channel and trib.			
71	48	52	-
72	79	21	-
73	35	65	-

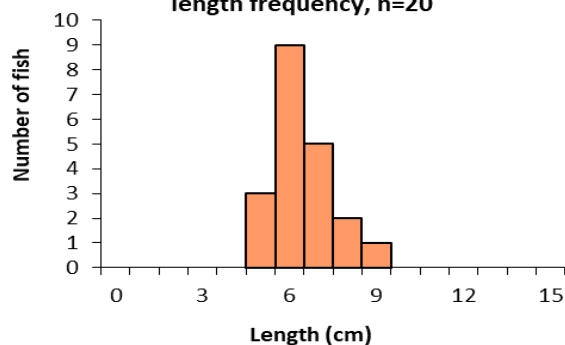
Table 20. Fish ecological status for the Stradbally, Glasha, Triogue, Owenass sub-catchment and Barrow (Upper) main channel and tributary, 2020. Previous results are shown where applicable.

Site No.	2015	2020
Stradbally		
58	Moderate	Poor
59	Moderate	Moderate
60	Moderate	Moderate
61	Good	Good
Barrow Lower		
62	-	Good
63	-	Moderate
Triogue		
64	Poor	Moderate
65	Moderate	Moderate
66	Moderate	Moderate
Owenass		
67	-	Moderate
68	Good	Good
69	-	Moderate
70	-	Moderate
Barrow (Upr.) main channel and trib.		
71	-	Good
72	Good	Good
73	-	Good

Stradbally sub-catchment brown trout length frequency, n=123



Stradbally sub-catchment salmon length frequency, n=20



Cushina, Figile and Slate sub-catchments

Eleven sites were surveyed in the Cushina (site 74), Figile (sites 75-78), and Slate (sites 79-84) sub-catchments, during 2020 (Fig. 7 and Table 21).

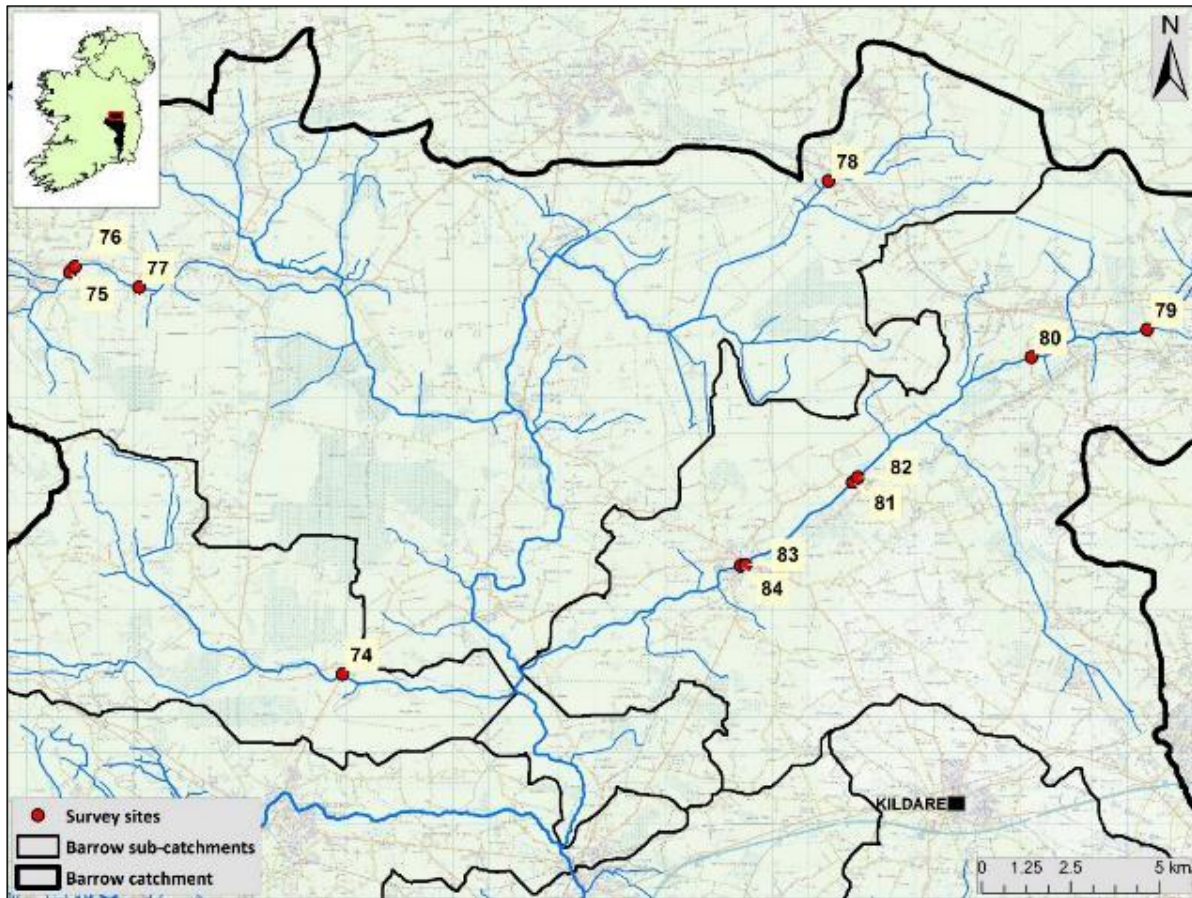


Fig. 7. Cushina (site 74), Figile (sites 75-78), and Slate (sites 79-84) sub-catchments and electrofishing survey sites, 2020.

Table 21. Site survey details for the Cushina, Figile, and Slate sub-catchments, 2020.

No.	River	Site	WFD	Date
Cushina sub-catchment				
74	Cushina River	Cushina Br.	–	01/07/2020
Figile sub-catchment				
75	Philipstown River	Magheramore West	–	02/07/2020
76	Philipstown River	Magheramore	–	02/07/2020
77	Philipstown River	Killoneen	–	02/07/2020
78	Figile River	Ticknevin	–	30/06/2020
Slate sub-catchment				
79	Slate River	NW of Robertstown	–	30/06/2020
80	Slate River	Ballyteige	–	30/06/2020
81	Slate River	Agar Br.	–	01/07/2020
82	Slate River	Glenaree	–	01/07/2020
83	Slate River	Tannery Park	–	30/07/2020
84	Slate River	Rathangan	–	30/07/2020



Cushina River at Cushina Bridge (site 74).

Table 22. Minimum density estimates (no. fish/m²) for the Cushina, Figle, and Slate sub-catchments, 2020. Previous results are shown where applicable.

Cushina sub-catchment		Fidle sub-catchment					
Site no.	74	75	76		77		78
Species	2020	2020	2015	2020	2015	2020	2020
Brown trout	0.009	-	-	-	-	-	0.101
0+ brown trout	-	-	-	-	-	-	0.046
1+ & older brown trout	0.009	-	-	-	-	-	0.055
Gudgeon	0.009	-	-	-	-	-	-
Nine-spined stickleback	-	-	-	-	0.004	-	-
Pike	-	-	-	0.005	-	0.019	-
Stone loach	0.03	0.326	0.029	0.055	-	0.077	0.018
Three-spined stickleback	-	-	0.768	0.015	0.213	-	0.083
All Fish	0.047	0.326	0.797	0.075	0.217	0.097	0.203

Slate sub-catchment									
Site no.	79		80	81	82	83		84	
Species	2015	2020	2020	2020	2020	2015	2020	2015	2020
Brown trout	0.145	0.116	0.105	-	-	0.179	0.133	0.108	0.076
0+ brown trout	-	-	0	-	-	0.046	0.06	0.047	0.041
1+ & older brown trout	0.145	0.116	0.105	-	-	0.133	0.073	0.061	0.035
Salmon	-	-	-	-	-	0.119	0.053	0.047	0.082
0+ salmon	-	-	-	-	-	0.063	0.013	0.032	0.023
1+ & older salmon	-	-	-	-	-	0.056	0.040	0.014	0.058
Dace	-	-	-	-	-	0.200	-	0.040	-
European eel	-	-	-	0.014	0.007	-	-	0.004	-
Minnow	-	-	0.011	0.067	-	0.116	-	0.007	0.012
Roach	-	-	-	0.005	-	-	-	-	-
Stone loach	-	-	-	0.081	-	-	-	0.004	-
Three-spined stickleback	0.900	0.046	-	-	-	0.011	-	-	-
All Fish	1.045	0.162	0.116	0.167	0.012	0.623	0.186	0.209	0.169

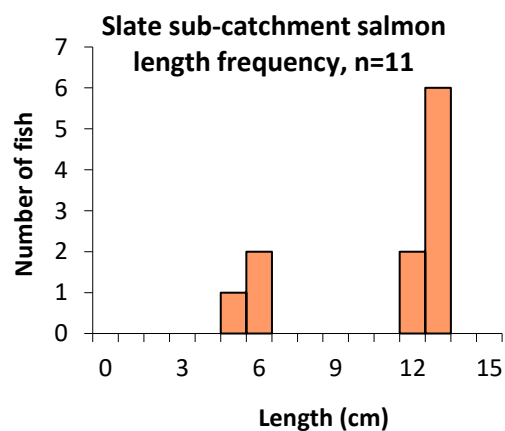
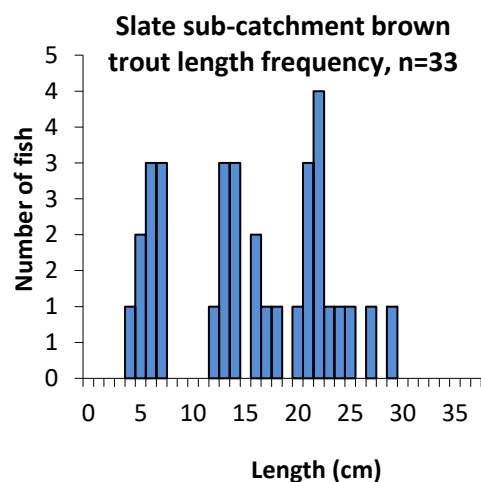
Table 23. Salmonid % age class structure (where recorded) for the Cushina, Figile, and Slate sub-catchments, 2020.

Site No.	Brown trout				
	% of catch				
	0+	1+	2+	3+	4+
Cushina					
74	-	100	-	-	-
Figile					
78	50	17	33	-	-
Slate					
79	-	43	43	14	-
80	-	33	67	-	-
83	50	20	20	10	-
84	57	43	-	-	-

Site No.	Salmon		
	% of catch		
	0+	1+	2+
Slate			
83	25	75	-
84	29	71	-

Table 24. Fish ecological status for the Cushina, Figile, and Slate sub-catchments, 2020. Previous results are shown where applicable.

Site No.	2015	2020
Cushina		
74	-	Poor
Figile		
75	-	Poor
76	Poor	Poor
77	Bad	Poor
78	-	Moderate
Slate		
79	Moderate	Moderate
80	-	Moderate
81	-	Poor
82	-	Bad
83	Good	Good
84	Good	Good



Tully River sub-catchment

Seven sites were surveyed in the Tully and Finnelly (sites 85-91) sub-catchment during 2020 (Fig. 8 and Table 25).

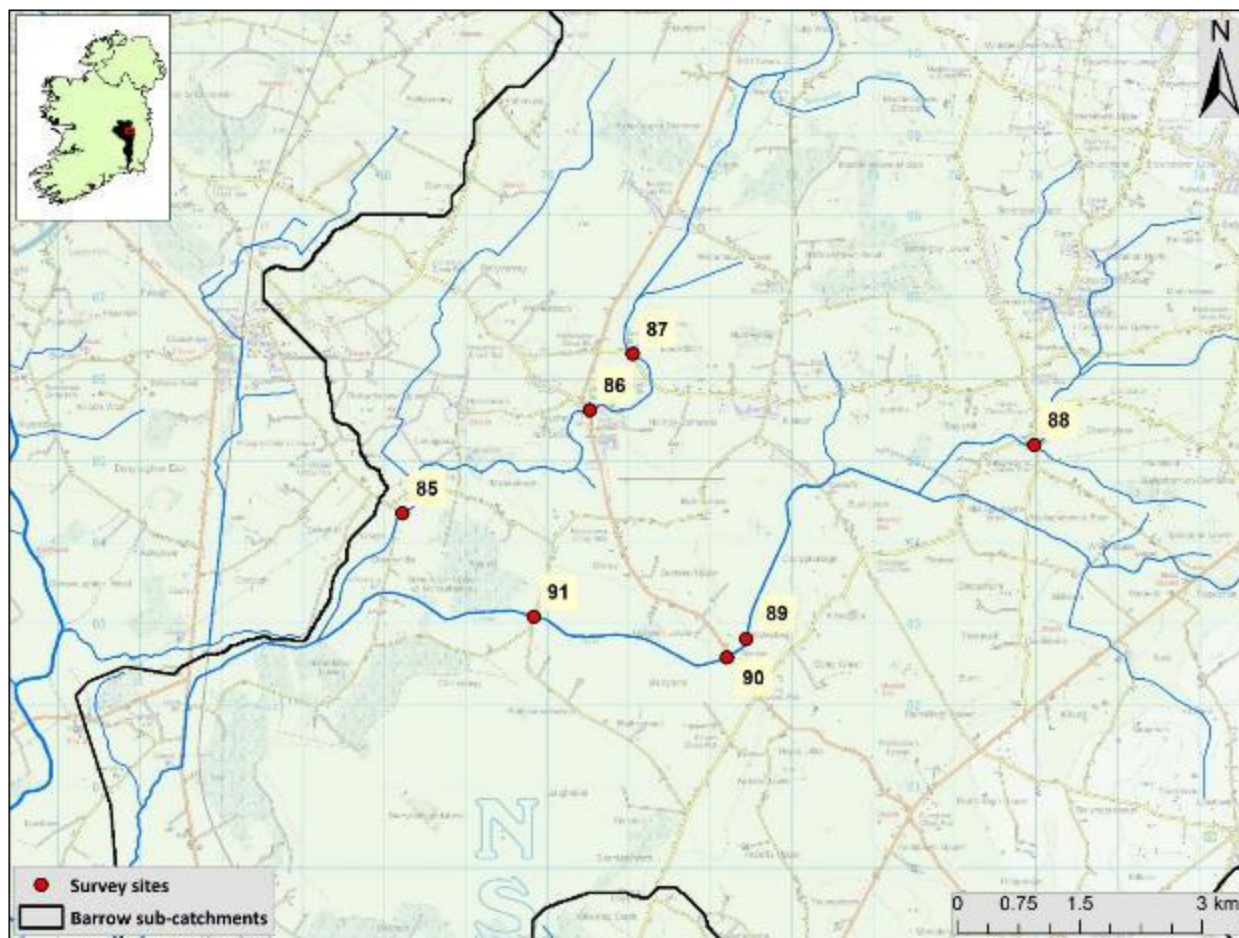


Fig. 8. Tully (sites 85-91) sub-catchment and electrofishing sites, 2020.

Table 25. Site survey details for the Tully sub-catchment, 2020.

No.	River	Site	WFD	Date
Tully sub-catchment				
85	Tully Stream	Pullagh	–	30/06/2020
86	Tully Stream	Nurney	–	30/06/2020
87	Tully Stream	Soomeragh Br.	YES	30/06/2020
88	Finnelly River	Asgulusian Br.	–	02/07/2020
89	Boherbaun Stream	Boleybeg	–	02/07/2020
90	Finnelly River	Gorteen Br.	–	02/07/2020
91	Finnelly River	Clarey	–	02/07/2020



Finnery Stream at Asgulusian Bridge (site 88).

Table 26. Minimum density estimates (no. fish/m²) for the Tully sub-catchment, 2020. Previous results are shown where applicable.

Tully sub-catchment													
Site no.	85		86		87			88	89	90		91	
Species	2020	2015	2020	2009	2012	2020	2020	2020	2015	2020	2015	2020	
Brown trout	0.245	0.367	0.45	0.032	0.108	0.534	0.089	0.275	0.262	0.183	0.16	0.107	
0+ brown trout	0.063	0.21	0.015	-	-	0.049	0.018	-	0.131	0.009	-	-	
1+ & older brown trout	0.183	0.157	0.435	0.032	0.108	0.485	0.072	0.275	0.131	0.174	0.16	0.107	
Salmon	0.029	0.015	0.031	-	-	-	0.054	-	0.083	0.070	-	-	
0+ salmon	-	-	-	-	-	-	0.054	-	0.074	0.009	-	-	
1+ & older salmon	0.029	0.015	0.031	-	-	-	-	-	0.009	0.061	-	-	
Dace	-	-	-	-	-	-	-	-	-	-	0.244	0.023	
European eel	-	0.097	-	-	0.01	-	-	-	-	-	-	-	
Lamprey sp.	-	-	-	-	-	-	-	-	0.013	-	-	-	
Minnow	0.096	-	-	-	-	-	-	-	-	-	-	0.011	
Nine-spined stickleback	-	-	-	0.008	-	-	-	-	0.004	-	-	-	
Perch	-	-	-	-	-	-	-	-	-	-	0.006	-	
Three-spined stickleback	-	0.067	-	0.119	0.02	-	0.054	-	0.092	-	0.039	-	
All Fish	0.370	0.547	0.481	0.159	0.138	0.534	0.197	0.275	0.453	0.253	0.449	0.141	

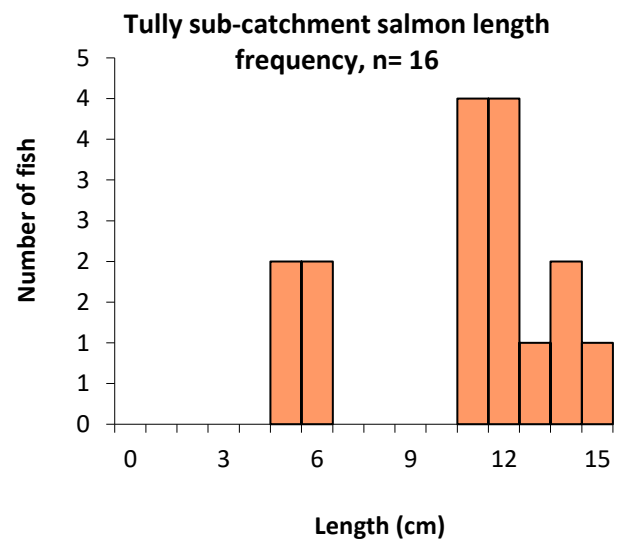
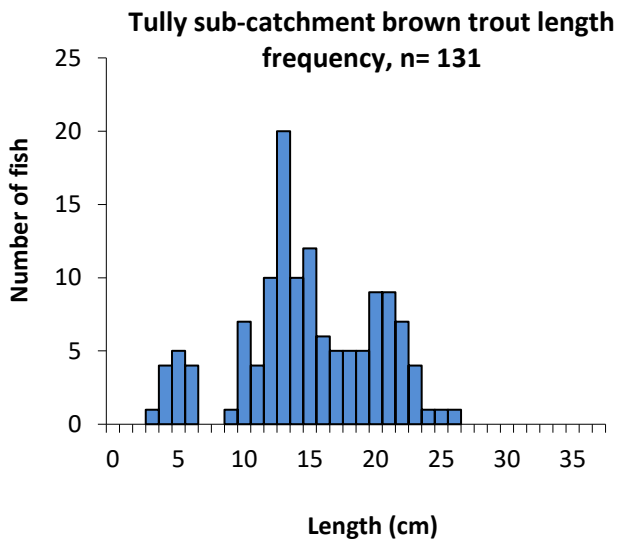
Table 27. Salmonid % age class structure (where recorded) for the Tully sub-catchment, 2020.

Site No.	Brown trout				
	% of catch				
	0+	1+	2+	3+	4+
Tully					
85	31	31	38	-	-
86	4	64	32	-	-
87	12	58	31	-	-
88	20	80	-	-	-
89	-	65	29	6	-
90	5	60	35	-	-
91	-	44	56	-	-

Site No.	Salmon		
	% of catch		
	0+	1+	2+
Tully			
85	-	100	-
86	-	100	-
88	100	-	-
90	13	88	-

Table 28. Fish ecological status for the Tully sub-catchment, 2020. Previous results are shown where applicable.

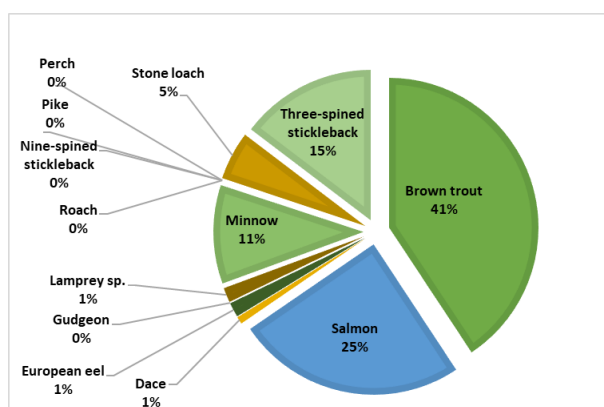
Site No.	2009	2012	2015	2020
Tully				
85	-	-	-	Moderate
86	-	-	Moderate	Moderate
87	Moderate	Moderate	-	Moderate
88	-	-	-	Good
89	-	-	-	Moderate
90	-	-	Good	Moderate
91	-	-	Moderate	Moderate



Summary

Thirteen fish species were recorded at 91 sites surveyed on the River Barrow catchment in 2020. Brown trout was the most common fish species recorded at 84 sites (92%), followed by salmon at 62 (68%) sites. European eel were recorded at 19 (21%) sites, lamprey sp. at 12 (13.2%) sites, dace at five (5.5%), pike at two (2.2%) and gudgeon, roach and nine-spined stickleback at one site each (1.1%). Three-spined stickleback and stone loach were also recorded, at 30 sites each (33%), while minnow were recorded at 25 sites (27%).

Brown trout was the most abundant species, representing 41% of the total fish density calculated for all sites.



Fish species composition (% total density), River Barrow catchment, 2020

The highest density of brown trout fry (0+) was recorded at site 54 on the Greese River at Ballycore (0.677 fish/m²). This was followed by sites 9 (0.541 fish/m²) and 8 (0.352 fish/m²) in the Duiske River sub-catchment and site 25 on the Gowran River at Grangehill (0.302 fish/m²). While the highest density of brown trout 1+ and older was recorded at site 60 (Stradbally River at Timogue bridge) (0.589 fish/m²) followed by site 21 (Dinin River tributary) (0.582 fish/m²) and site 69 (Owenass River at Barkmill west) (0.542 fish/m²).

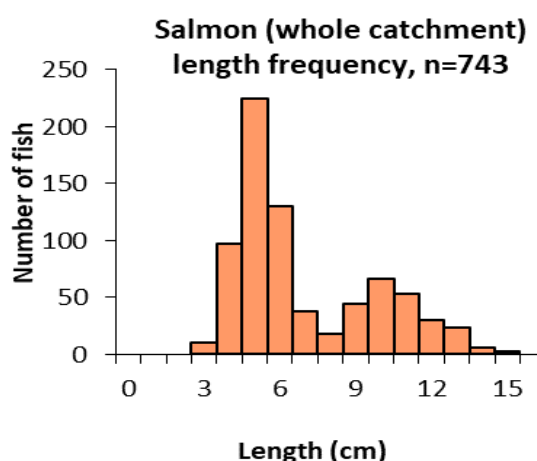
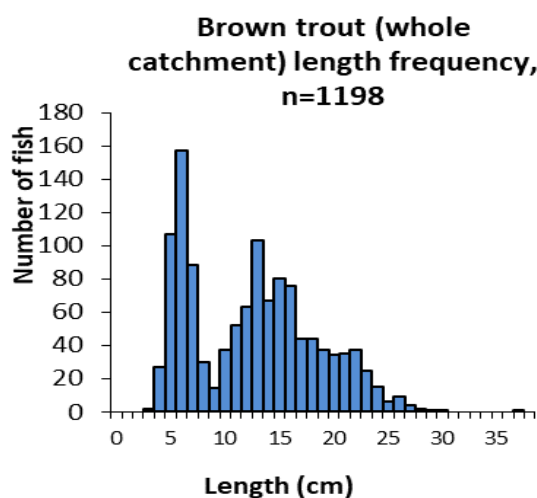
Salmon were the second most abundant species. The highest density of salmon fry (0+) was recorded at site 8 on the Duiske River at Priestsvally (0.977 fish/m²), followed by site 34 (Burren River at Ballynunnery church) (0.470 fish/m²), 17 (Mountain River at Owlbeg) (0.405 fish/m²), and sites 29 (0.386 fish/m²) and 28 (0.315 fish/m²) on the Monefelim River. The highest density of salmon 1+ and older was recorded at site 11 on the Duiske River at Pegs Lane (0.485 fish/m²) followed by site 8, also on the Duiske River (Priests

valley) (0.273 fish/m²) and site 28 on the Monefelim River (0.242 fish/m²).

The highest densities of three-spined stickleback were recorded at sites 48 on the Douglas River tributary at Fuer bridge (2.726 fish/m²) and sites 59 (0.798 fish/m²) and 58 (0.507 fish/m²) in the Stradbally sub-catchment. The highest density of minnow was recorded at site 46, Douglas River at Gales Bridge (0.657 fish/m²) followed by site 58 Timahoe River tributary in the Stradbally catchment (0.476 fish/m²) and site 36 Aghalona River in the Burren sub-catchment (0.471 fish/m²). Relatively high densities of stoneloach were also recorded at sites 75 on the Philipstown River (0.326 fish/m²) and site 38 on the Burren River at Staplestown (0.317 fish/m²).

Brown trout ranged in length from 3.0 to 37.7cm. Five age classes were present with 1+ and 0+ being the most abundant cohorts. The largest brown trout was recorded at site 21 (Dinin River tributary and measured 37.7cm.

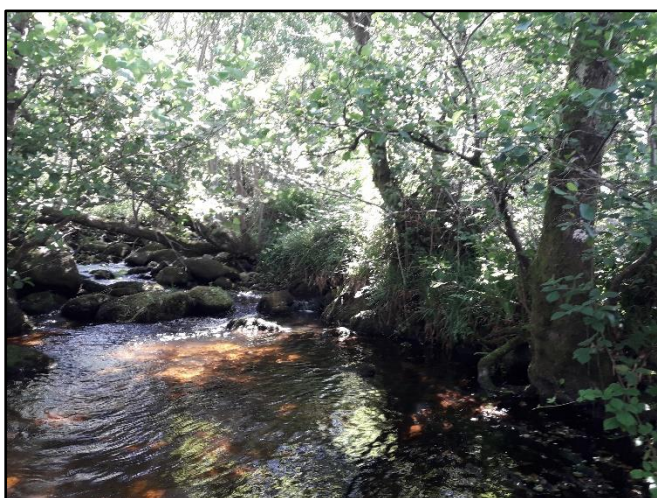
Salmon ranged in length from 3.2 to 15.8cm. Two age classes (0+ and 1+) were present.



A Water Framework Directive fish ecological classification tool (FCS2) was developed for Irish rivers in 2011 (SNIFFER, 2011). The tool works by comparing various fish community metric values observed at a site to those predicted for that site under un-impacted conditions. In general, a site will achieve High fish ecological status if all expected type specific indicator species (e.g. both salmonid age cohorts 0+ and 1+ and older) are present and have reached the expected abundance. Fish status will normally deteriorate if such cohorts are missing, reach lower than expected abundance, or if more tolerant fish species proliferate.

Fish ecological status was assigned to 91 sites surveyed in the River Barrow catchment during 2020 (Fig. 9). Nine (10%) sites achieved High fish status, and 27 sites (30%) achieved Good fish status. The remaining sites were assigned a status of Moderate (40), Poor (14) and one site was Bad.

A total of fifty nine sites had been surveyed on at least one occasion previously. When compared to the most recent survey, thirty five sites remained stable. Eleven sites in the Pollmounty (sites 1 and 2), Duiske (sites 7 and 8), Mountain (sites 14 and 16), Fushoge (site 42), Greese (site 54), Triogue (site 64) and Figile (site 77) sub-catchments improved by one class and five of these improved from Good to High fish ecological status. However 13 sites in the Pollmounty (site 3), Clashganny (sites 12 and 13), Fushoge (site 41), Douglas (sites 45, 46 and 48), Lerr (sites 49 and 52), Greese (site 54), Stradbally (site 58) and Tully (site 90) sub-catchments also deteriorated by one class. Four of these sites were less than good status previously; however there were six new fish status failures at sites 12, 13, 46, 48, 52 and 55.



Aughnabrisky River at Spearpoint (site 14)

The reasons for the failures (less than good) and the deterioration in fish status were due to lower than expected type specific indicator species (e.g. salmon

and trout), absence of certain age cohorts (e.g. 0+) which is indicative of a recruitment failure or the presence of tolerant fish species. Salmonids were absent at six sites in the Fushoge (site 43), Slate (sites 82 and 83) and Figile (sites 76 to 78) sub-catchments. While tolerant fish species (e.g. three-spined stickleback, minnow and stone loach) were the dominant fish species at 18 sites across 10 sub-catchments including multiple sites in the Burren, Fushoge, Douglas and Stradbally sub-catchments. These species are more tolerant to pollution than salmon and trout and therefore when dominant or present at a site in relatively high densities can be an indicator of poor water quality (stone loach may be an indicator of organic pollution in some cases where they proliferate at a site) (Kelly *et al.*, (2007).



Phillipstown River at Killoneen (Site 77)

The most significant deterioration in fish ecological status was recorded at site 48 (Douglas River tributary at Fier bridge) which changed from Good to Poor between sampling occasions. Brown trout fry and both salmon age cohorts were not recorded at this site during the 2020 survey, while the highest density (2.726 fish/m²) of three-spined stickleback across the catchment was also recorded at the site. These factors indicate that there may have been a deterioration in water quality upstream of the site during the winter of 2019/2020 resulting in a recruitment failure.

These and other recruitment failures recorded throughout the catchment were likely caused by pressures such as nutrient enrichment, fish passage issues and habitat modification.

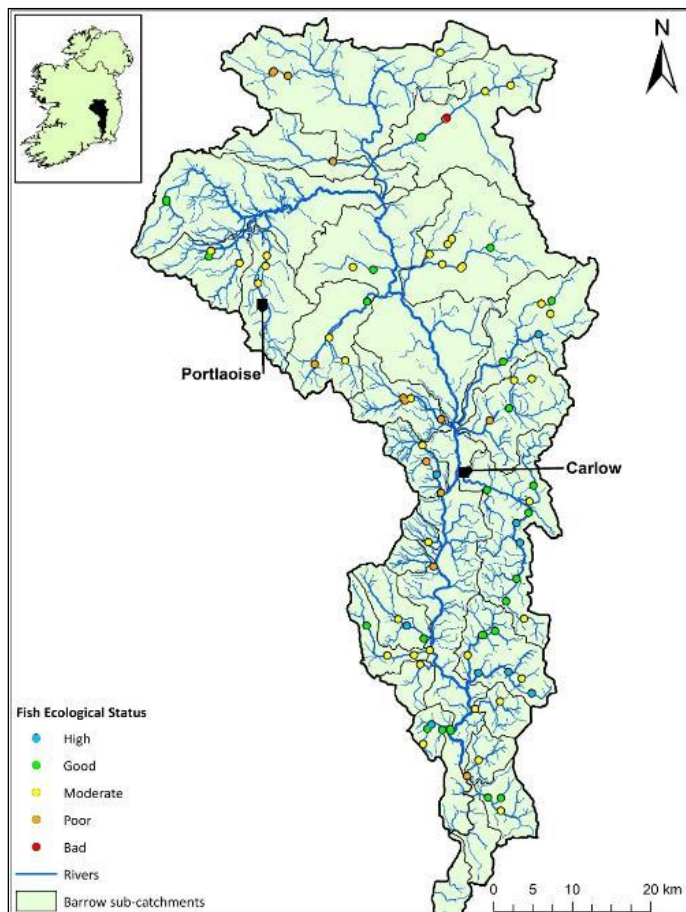


Figure 9. Fish ecological status map of River Barrow catchment, 2020.

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