

Fish in Rivers Factsheet

SHIRBD

Creagh River Catchment

Factsheet: 2023/03

The Creagh Catchment is located in the Shannon International River Basin District and covers an area of approximately 89km². The Creagh River flows westwards from Kilmihil, Co. Clare, before joining the sea at Doughmore Bay near Doonbeg. The geology of this catchment is sandstone and shale, with the land used primarily for agriculture. The Creagh River enters the sea at the Carrowmore Dunes Special Area of Conservation.

Inland Fisheries Ireland conducts annual nationwide fish sampling surveys to assess the status of stocks in

Ireland's rivers, lakes and transitional waters. This report presents the results of a catchment-wide survey of the Creagh River Catchment in 2023.

Eight sites were surveyed by electro-fishing (CEN 2003) on the Creagh River Catchment from the 14th to 17th of August 2023.

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).



The Creagh River at Clooneenagh, Co. Clare (Site 5).



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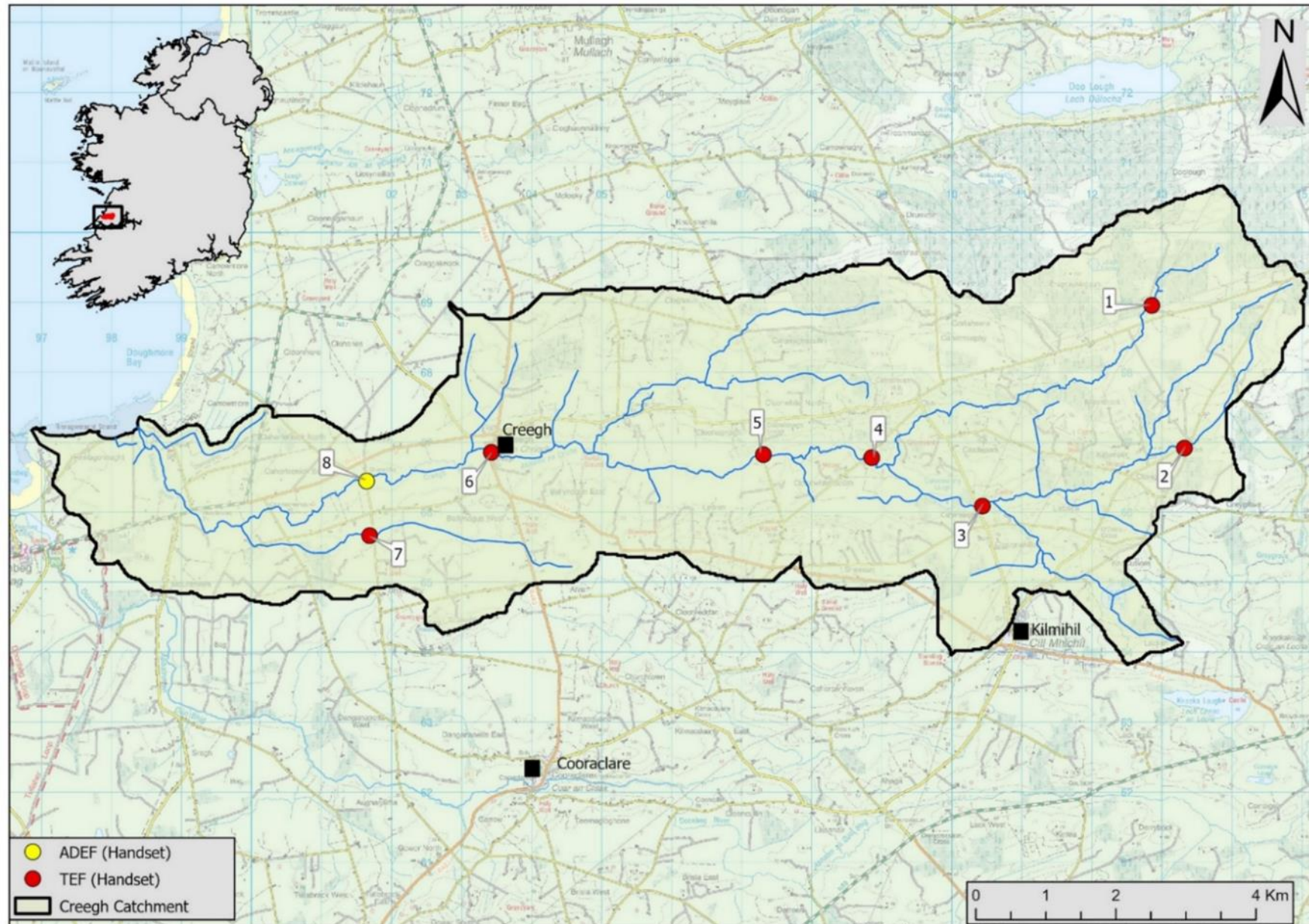


Figure 1. Location of electrofishing survey sites, Creagh Catchment, August 2023 (Sites 1-8)

Table 1. Site survey details, Creagh Catchment, August 2023.

No.	River	Site	Method	WFD	Date
Creagh Catchment					
1	Creagh	Cragnashingaun	TEF (handset)	No	15/08/2023
2	Glenmore	Clonigulane	TEF (handset)	No	17/08/2023
3	Kiltumper	Cahermurphy Bridge	TEF (handset)	No	16/08/2023
4	Creagh	Cloonwhite Mound	TEF (handset)	No	15/08/2023
5	Creagh	Clooneenagh	TEF (handset)	No	15/08/2023
6	Creagh	Creagh Bridge	TEF (handset)	No	16/08/2023
7	Ballynagun West	Drumellihy North	TEF (handset)	No	16/08/2023
8	Creagh	Drumellihy Bridge	ADEF (Handset)	Yes	14/08/2023



The Creagh River at Drumellihy Bridge, Co. Clare (Site 8).

Table 2. Minimum density estimates of fish (no. fish/m²), Creagh Catchment, August 2023 (previous results are shown where applicable).

Site no.	1		2	3	4		5	
Species	2017	2023	2023	2023	2017	2023	2017	2023
Brown trout	0.098	0.025	1.043	0.094	0.095	0.083	0.134	0.093
0+ brown trout	0.073	-	0.823	0.020	0.043	0.013	0.081	0.018
1+ & older brown trout	0.024	0.025	0.220	0.074	0.052	0.071	0.054	0.076
Salmon	-	-	-	0.030	0.086	0.205	0.197	0.053
0+ salmon	-	-	-	0.020	0.038	0.103	0.125	0.009
1+ & older salmon	-	-	-	0.010	0.048	0.103	0.072	0.045
European eel	0.037	-	-	-	-	-	0.027	0.045
Sea trout	-	-	-	-	0.005	-	-	-
Flounder	-	-	-	-	-	-	-	-
Three-spined stickleback	-	-	-	-	-	-	-	-
All fish	0.135	0.025	1.043	0.123	0.185	0.288	0.358	0.191
Site no.	6		7		8			
Species	2017	2023	2017	2023	2009	2012	2017	2023
Brown trout	0.174	0.115	0.109	0.221	0.028	0.046	0.123	0.039
0+ brown trout	0.071	0.010	0.047	0.078	0.001	0.006	0.043	0.012
1+ & older brown trout	0.103	0.105	0.063	0.143	0.028	0.040	0.081	0.027
Salmon	0.054	0.042	-	-	0.023	0.023	0.066	0.024
0+ salmon	0.022	0.016	-	-	0.002	0.003	0.028	0.003
1+ & older salmon	0.033	0.026	-	-	0.022	0.021	0.038	0.021
European eel	-	-	0.047	-	0.001	0.001	0.062	0.015
Sea trout	-	0.003	-	-	-	0.002	-	0.003
Flounder	-	-	-	-	0.002	0.001	-	0.003
Three-spined stickleback	-	-	0.297	-	0.001	-	-	0.003
All fish	0.228	0.160	0.453	0.221	0.228	0.073	0.251	0.087

Table 3. Salmonid % age class structure Creagh Catchment, August 2023.

Species	Site No.	% of catch		
		0+	1+	2+
Brown trout	1	-	100	-
	2	81	17	2
	3	22	45	33
	4	17	50	33
	5	20	60	20
	6	9	67	24
	7	38	62	-
	8	30	55	15
Salmon	3	67	33	-
	4	50	50	-
	5	17	83	-
	6	38	62	-
	8	10	90	-

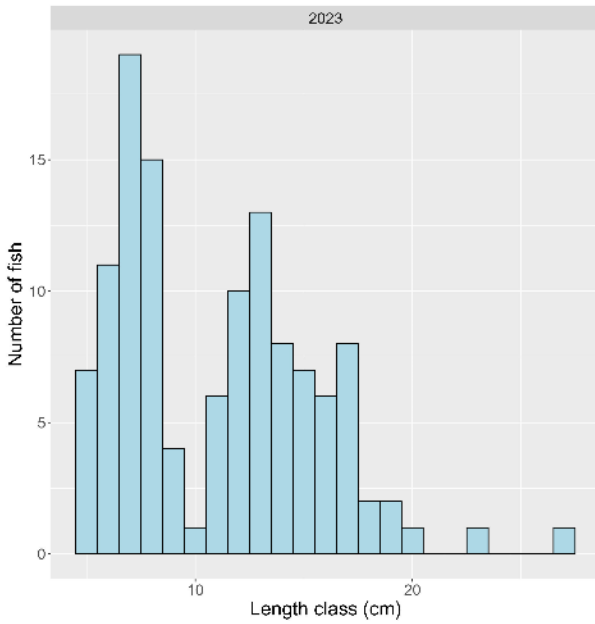


Figure 3. Length frequency distribution for brown trout (N=122) in the Creagh Catchment, August 2023 (no. sites = 8).

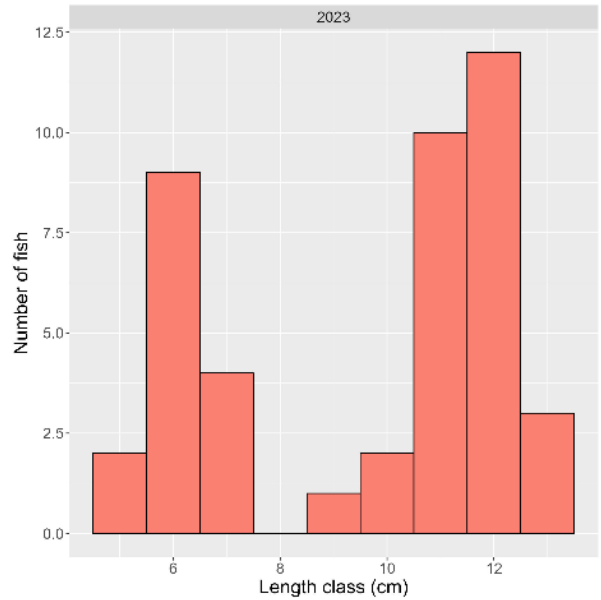


Figure 4. Length frequency distribution for salmon (N=43) in the Creagh Catchment, August 2023 (no. sites = 5).

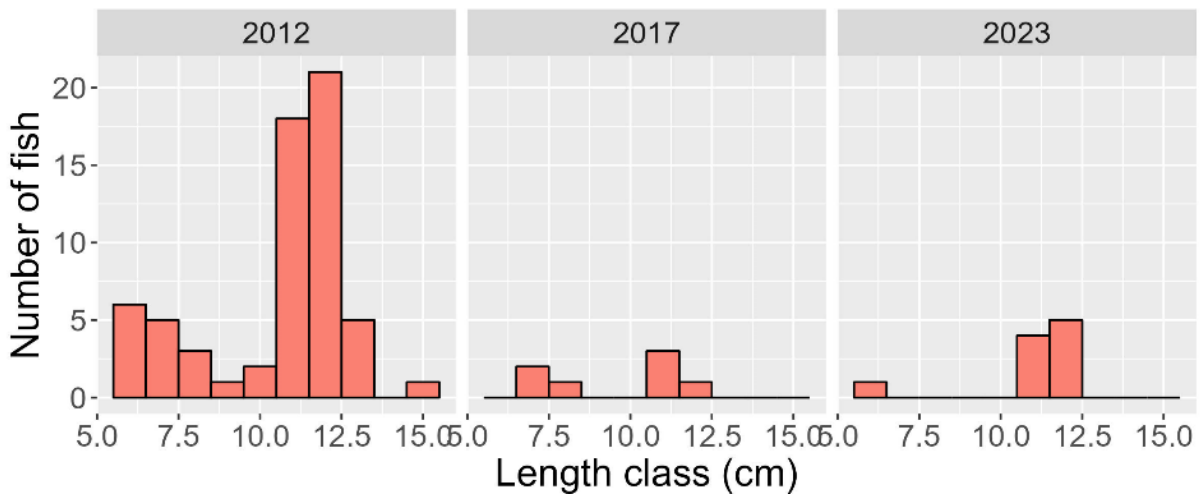


Figure 5. Length frequency distribution of salmon (2012 n= 62; 2017 n=7; 2023 n=10) in the Creagh Catchment at Site 8 (Drumellihy Bridge).

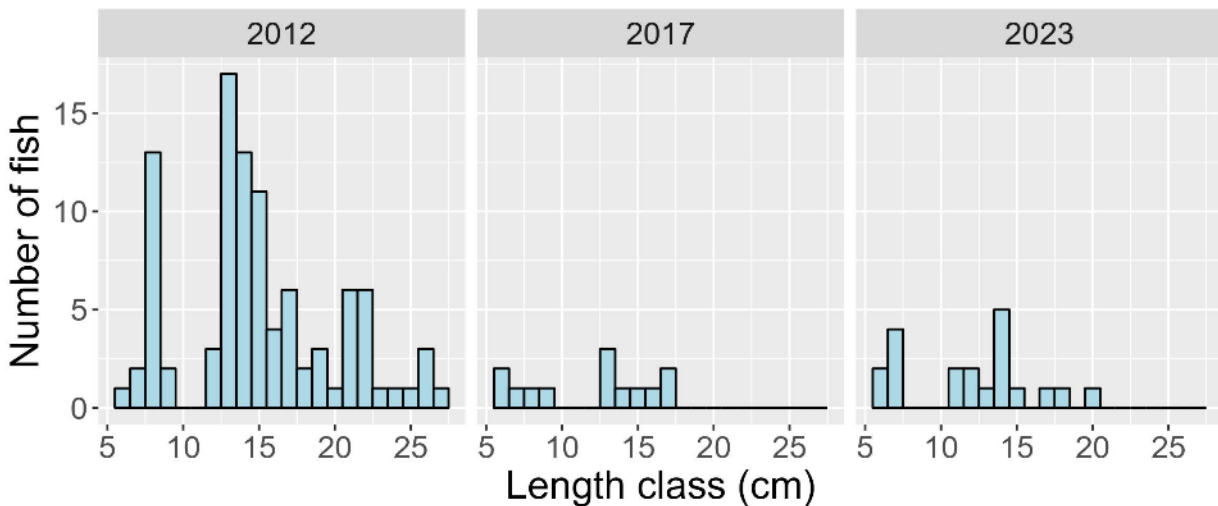


Figure 6. Length frequency distribution of brown trout (2012 n= 97; 2017 n=13; 2023 n=20) in the Creagh Catchment at Site 8 (Drumellihy Bridge).

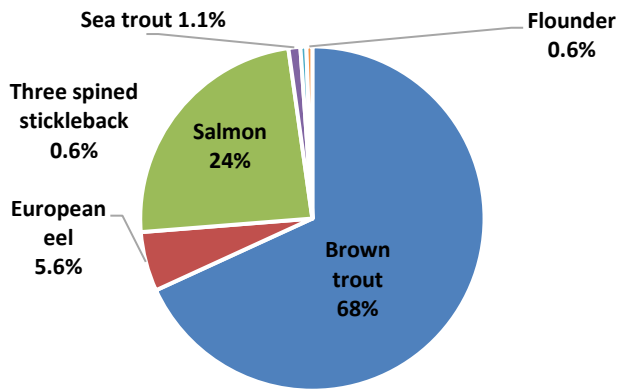


Figure 7. Fish species composition (%), Creagh Catchment, 2023.

Table 4. Fish ecological status Creagh Catchment 2023. Previous results are shown where applicable.

Site No.	2009	2012	2017	2023
1	-	-	Moderate	Poor
2	-	-	-	High
3	-	-	-	Moderate
4	-	-	Good	Good
5	-	-	Good	Good
6	-	-	Good	Moderate
7	-	--	Moderate	Moderate
8	Good	Good	Good	Moderate

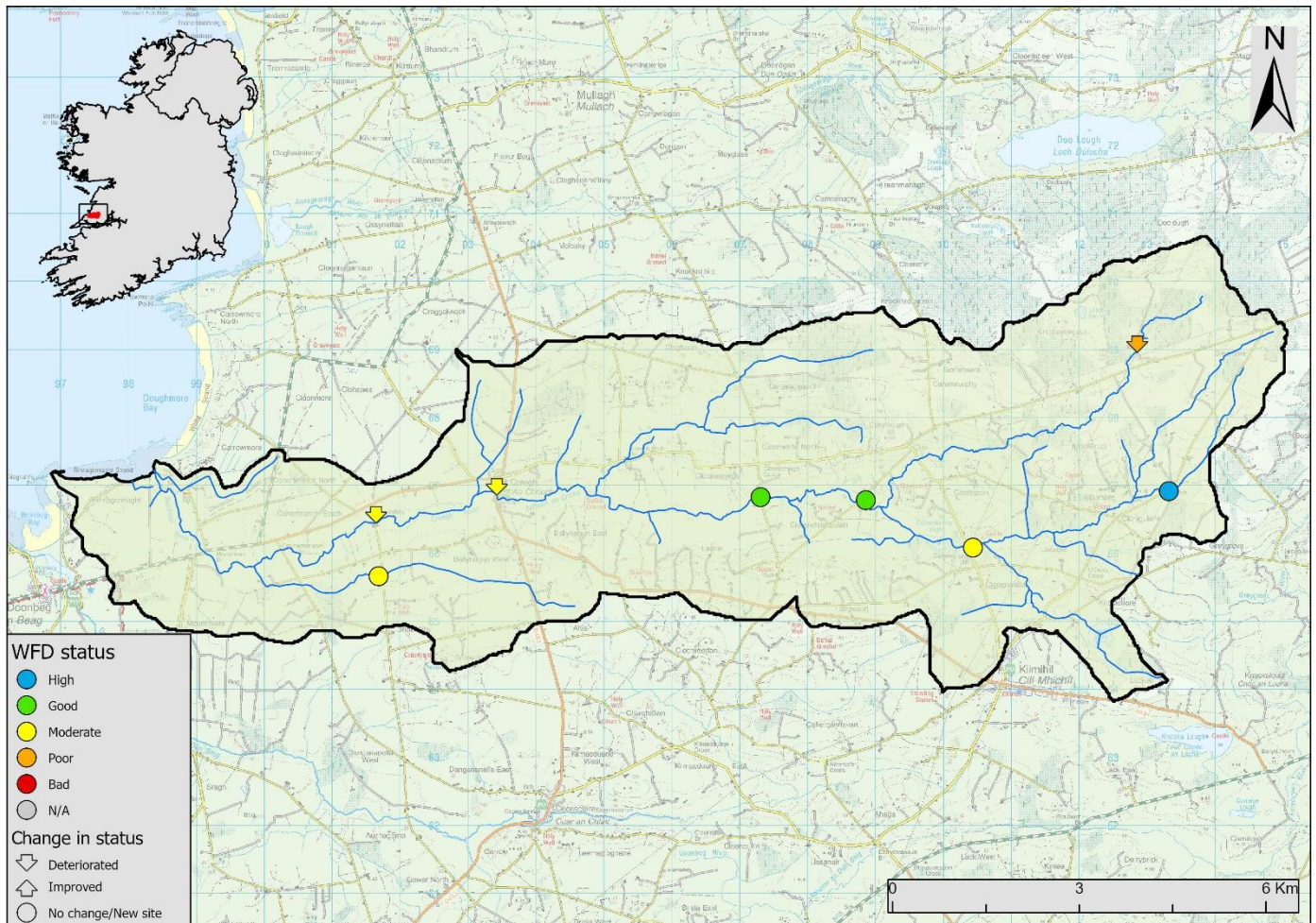


Figure 8. Fish ecological status in the Creagh Catchment, August 2023. Arrows indicate a change in status since previous surveys (where applicable).

Summary

A total of six fish species were recorded at eight sites surveyed on the Creagh Catchment in 2023.

Brown trout was the most common species present (eight sites, 100%). Salmon was recorded at five sites (62%). Sea trout and eel were present at two sites (25%) and flounder and three-spined stickleback were recorded at one site each (12.5%)

Brown trout was the most abundant species recorded, captured at all eight sites, followed by salmon, European eel, sea trout and flounder and three spined stickleback.

Salmon ranged in length from 5.2 to 13.8cm. Two age classes were present (0+ and 1+), with 1+ being the most abundant cohort. The highest density of salmon (all ages combined) (0.205 fish/m²) was recorded at Site 4 on the Creagh River at Cloonwhite Mound, with the highest density of 0+ salmon (0.103 fish/m²) and 1+ and older salmon (0.103 fish/m²) also recorded at Site 4.

Brown trout ranged in length from 5.0 to 27.4cm. Three age classes were present (0+, 1+ and 2+), with 0+ being the most abundant cohort. The highest density of brown trout (all ages combined) (1.043 fish/m²) was recorded at Site 2 on the Glenmore River at Clonigulane, with the highest density of 0+ brown trout (0.823 fish/m²) and 1+ and older brown trout (0.220 fish/m²) also recorded at Site 2.

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 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 eight sites surveyed in the Creagh Catchment during 2023 (Table 4 and Figure 8). One site was assigned High status, with two sites Good, four Moderate and one Poor. Six sites were surveyed previously on this catchment and assigned fish ecological status. When compared with

their most recent previous surveys three sites deteriorated and three sites remained unchanged (Table 4).

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 depletion to single pass timed electrofishing for fish community assessment in wadeable streams*. Fisheries Research, 198, 99-108.
- SNIFFER River Fish Classification Tool: Science Work. WFD68c, Phase 2. Final Report. Version 6. Edinburgh. Scotland and Northern Ireland Forum for Environmental Research.

Inland Fisheries Ireland: 3044 Lake Drive, Citywest Business Campus, Dublin, D24 Y265, Ireland

CITATION: Matson, R., Gordon, P., Kelly, K., McCarthy, E., Corcoran, W., Hyland, J., Cornthwaite, Y. and Kelly, F.L. (2024) Sampling Fish in Rivers 2023 – Creagh Catchment, Factsheet No. 2023/03. National Research Survey Programme. Inland Fisheries Ireland.

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