

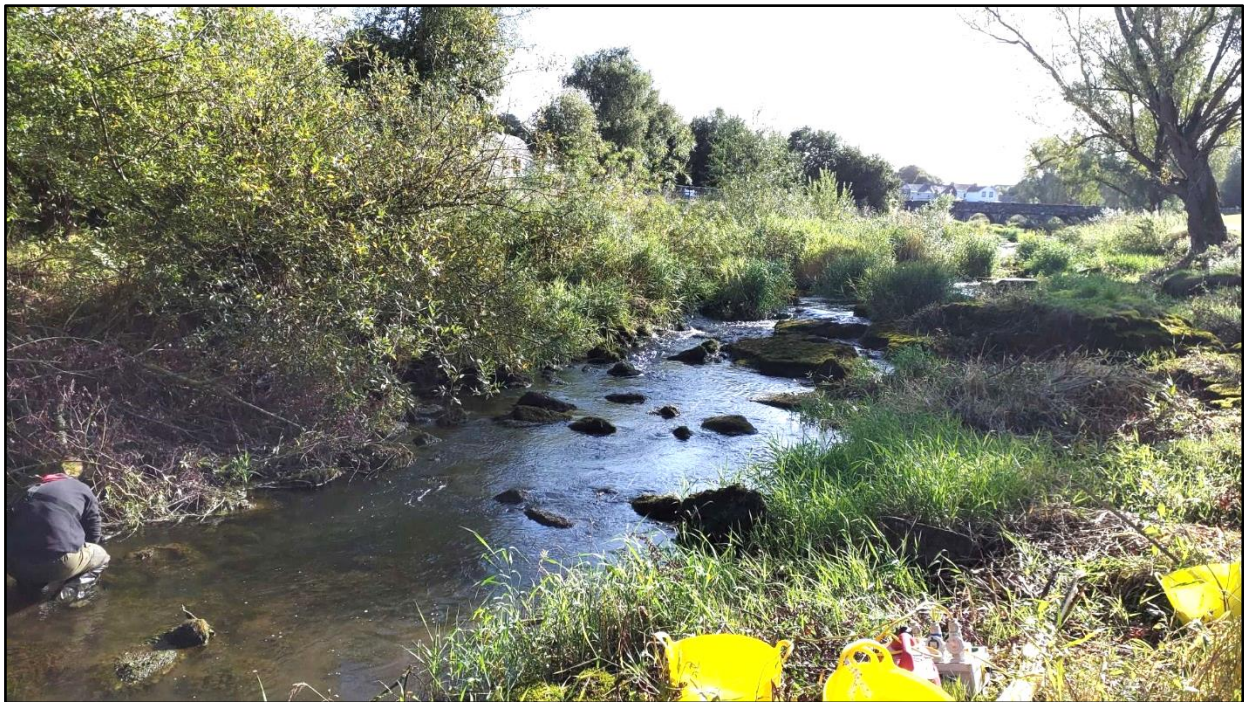
Fish in Rivers Factsheet

The River Maigue Catchment is located within the Shannon International River Basin District and covers an area of approximately 1020km². The River Maigue rises in north Co. Cork to the west of Charleville and flows in a north-westerly direction passing through the towns of Charleville, Croom and Adare, and eventually reaching the Shannon Estuary. The catchment includes the Loobagh, Morningstar, Camoge and Greanagh sub-catchments. A small section of the Maigue, the 20km tidal section downstream of Adare to the Upper Shannon Estuary, is included in the Lower Shannon (Special Area of Conservation). The geology of the catchment is predominantly limestone with small pockets of mudstone (EPA 2016).

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 a catchment-wide survey of the River Maigue catchment conducted jointly by two teams from the IFI Research Division (National Research Survey Programme (NRSP) and OPW funded Environmental Drainage Maintenance Research Programme (EDMRP) teams). Thirty-nine sites were surveyed on the River Maigue catchment between 15th July and the 12th of September 2024.

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



River Maigue at Buree Park (Site 9), Co. Limerick.



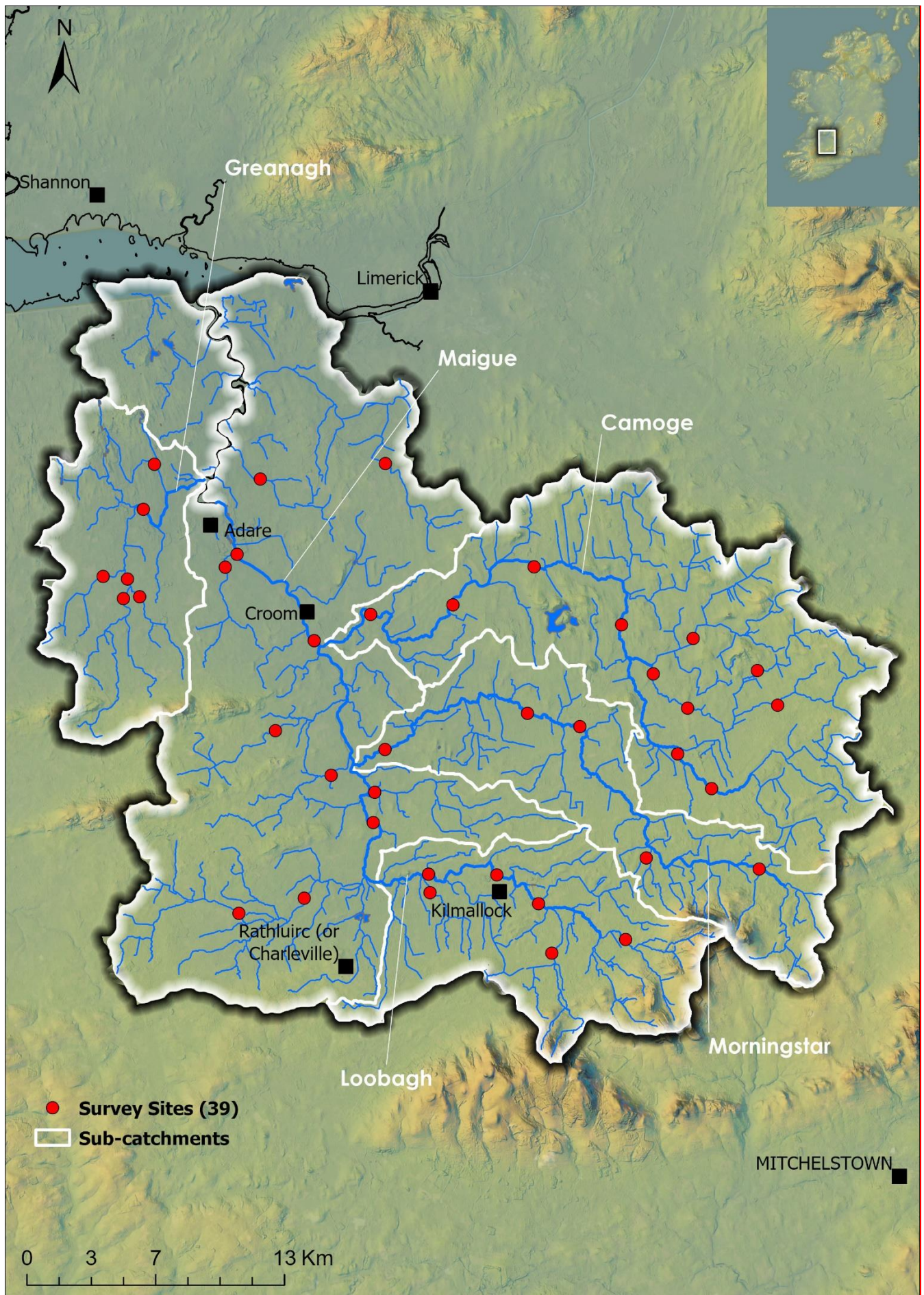


Figure 1. Location of electrofishing survey sites on the River Maigue Catchment, 2024. Sub-catchments are also highlighted.

Maigue Catchment - main channel and Greanagh sub-catchment.

Seventeen sites were surveyed in the western part of the Maigue Catchment in 2024. This included six sites on the Greanagh sub-catchment and eleven sites on the River Maigue main channel and smaller tributaries. One long-term Water Framework Directive (WFD) surveillance monitoring (SM) site was surveyed on the River Maigue at Castleroberts Bridge (Site 11) (Figure 2 and Table 1).

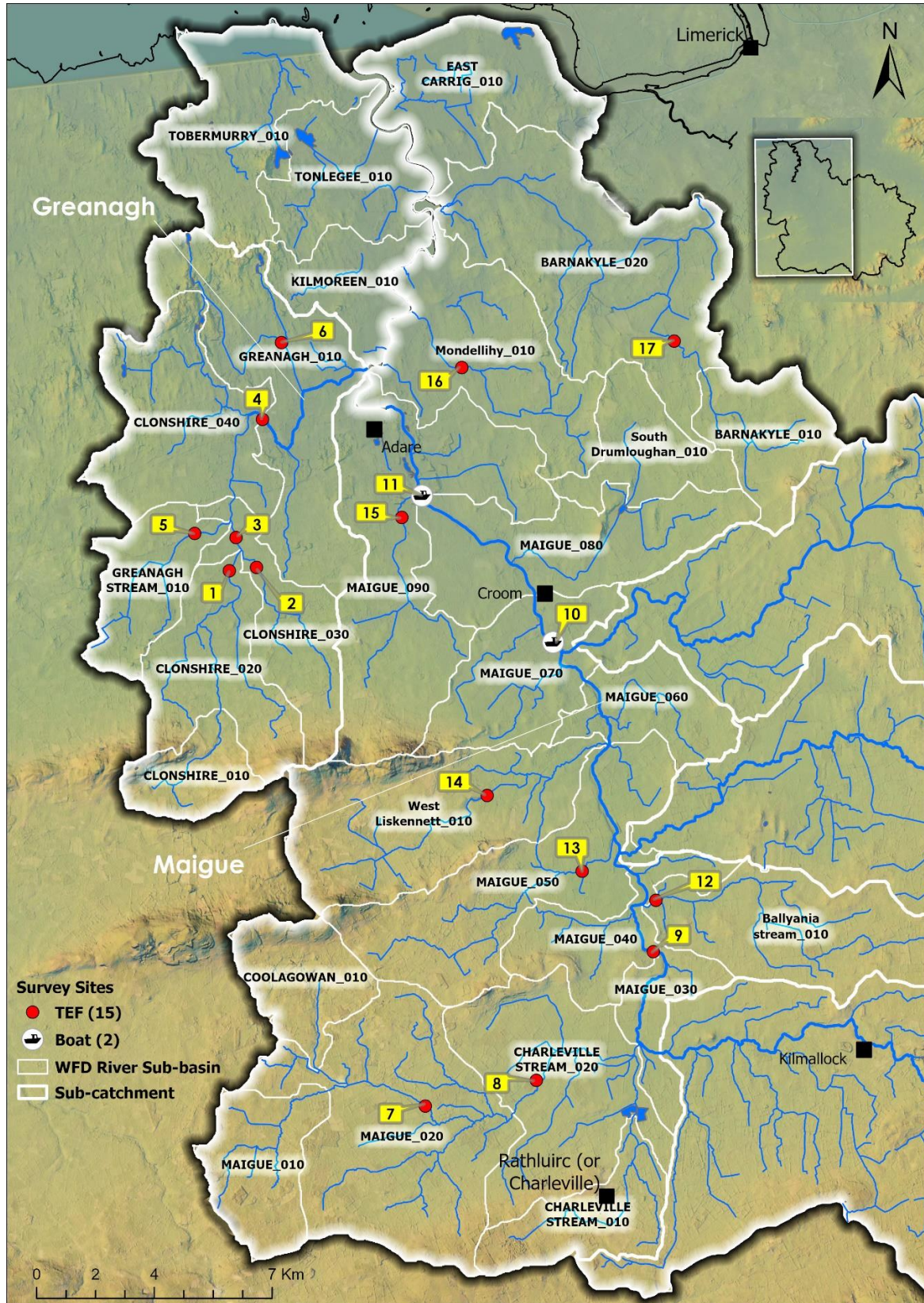
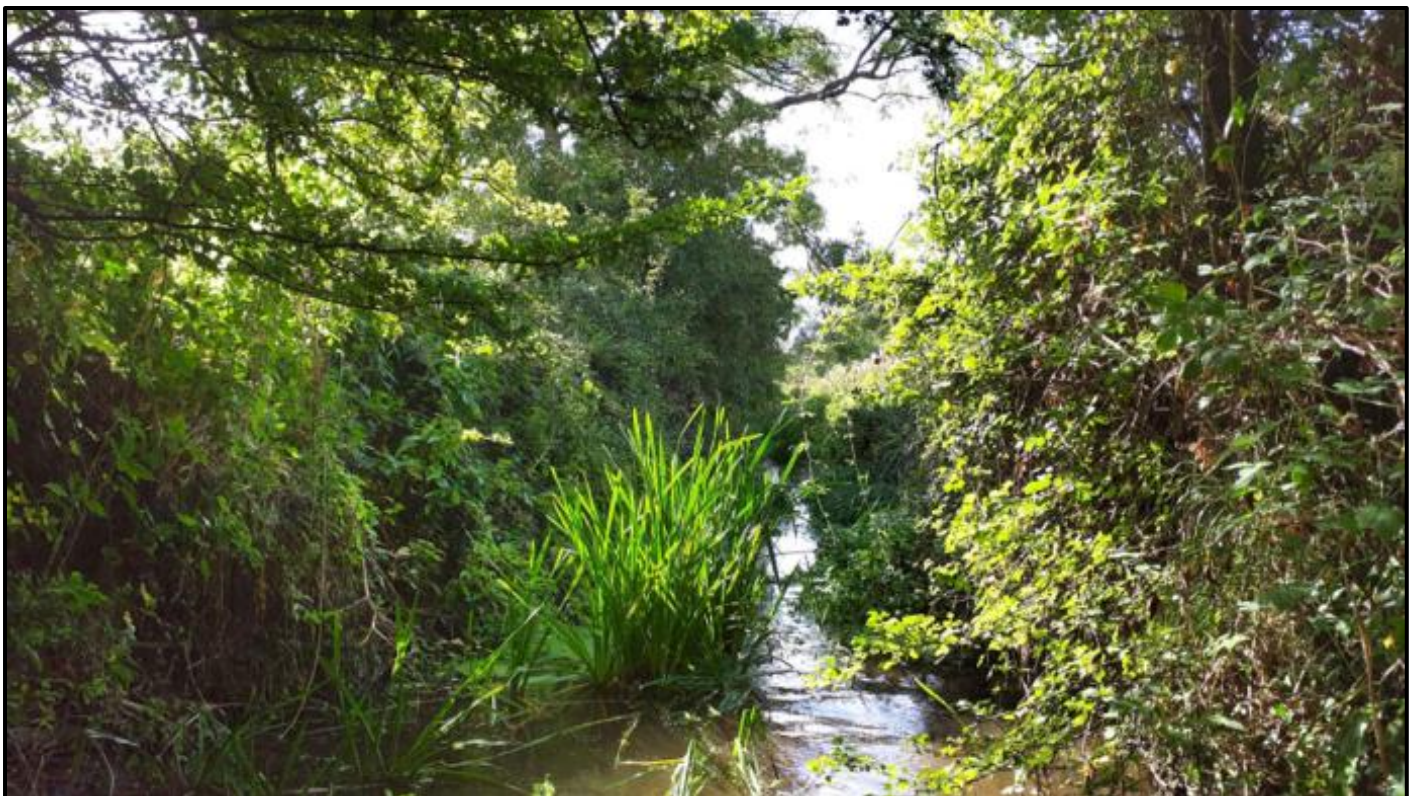


Figure 2. Location of electrofishing survey sites: Greanagh (sites 1-6) and Lower Maigue main channel and tributaries (sites 7-17), sub-catchments, 2024.

Table 1. Site survey details, River Maigue Catchment (Sites 1 – 17), July-September 2024.

No	WFD Sub basin	River	Site	Method	WFD	Date
Greanagh sub-catchment						
1	Clonshire_020	Finshenagh	Oldcourt	TEF (Handset)	No	12/09/2024
2	Clonshire_030	Clonshire	Kiltenan South	TEF (Handset)	No	12/09/2024
3	Clonshire_030	Clonshire	Kiltenan North	TEF (Handset)	No	13/08/2024
4	Clonshire_040	Clonshire	Rower more	TEF (Handset)	No	13/08/2024
5	Greanagh stream_010	Greanagh stream	Croagh	TEF (Handset)	No	12/09/2024
6	Greanagh_010	Currahchase North	Mullanmosheen Br.	TEF (Handset)	No	16/07/2024
Maigue main channel and tributaries						
7	Maigue_020	Maigue	Drewscourt Bridge	TEF (Handset)	No	16/07/2024
8	Charleville Stream_020	Maigue	Fort Bridge East	TEF (Handset)	No	16/07/2024
9	Maigue_040	Maigue	Buree Park	TEF (Handset)	No	12/09/2024
10	Maigue_070	Maigue	Toreen	ADEF (Boat)	No	10/09/2024
11	Maigue_080	Maigue	Castleroberts Br.	ADEF Boat (Partial)	Yes	09/09/2024
12	Ballyania stream_010	Ballyania	Dromacommer East	TEF (Handset)	No	14/08/2024
13	Maigue_050	Glenma	Knockannacreeva	TEF (Handset)	No	14/08/2024
14	West liskennett_010	West Liskennett	Kilmore demense	TEF (Handset)	No	16/07/2024
15	Maigue_090	Dunnaman	Derryvinanne	TEF (Handset)	No	20/08/2024
16	Mondellihy_010	Mondellihy	Ballyloughnaa	TEF (Handset)	No	20/08/2024
17	Barnakyle_020	Barnakyle	Marlbrook	TEF (Handset)	No	13/08/2024



Finshenagh stream at Oldcourt (Site 1), Co. Limerick.

Table 2. Minimum density estimates of fish (no. fish/m²), River Maigue Catchment (Sites 1 – 17), July-September 2024 (previous results are shown where applicable).

Greenagh							Maigue	
Site no.	1	2	3	4	5	6	7	
Species	2024	2024	2024	2024	2024	2024	2024	
Brown trout	0.321	0.024	0.358	0.299	-	0.113	0.241	
0 + brown trout	0.036	0.024	0.34	0.275	-	0.113	0.025	
1+ & older brown trout	0.286	-	0.018	0.024	-	-	0.216	
Salmon	0.054	0.122	0.036	0.096	-	-	0.076	
0+ salmon	0.036	0.122	0.036	0.096	-	-	0.051	
1+ & older salmon	0.018	-	-	-	-	-	0.025	
European eel	-	-	0.116	0.467	-	0.245	-	
Flounder	-	-	-	0.060	-	-	-	
Lamprey sp.	0.018	-	-	-	-	-	-	
Minnow	-	-	-	0.024	-	-	0.063	
Stone loach	-	-	-	-	-	-	0.19	
Three-spined stickleback	-	0.037	-	0.036	-	-	-	
All fish	0.393	0.183	0.51	0.982	no fish	0.358	0.571	
Maigue								
Site no.	8		9	10	11			
Species	2016	2024	2024	2024	2008	2012	2016	2024
Brown trout	0.013	0.207	0.032	0.001	0.006	0.001	0.001	0.001
0 + brown trout	-	-	0.011	-	-	-	-	0.0002
1+ & older brown trout	0.013	0.207	0.021	0.001	0.006	0.001	0.001	0.0004
Salmon	0.026	0.018	0.084	0.004	0.001	0.002	0.001	0.001
0+ salmon	0.026	-	0.021	0.002	0.0001	-	-	0.001
1+ & older salmon	-	0.018	0.063	0.002	0.001	0.002	0.001	0.001
European eel	0.019	-	-	-	0.002	0.002	0.0001	-
Lamprey sp.	0.013	-	-	-	0.0001	0.003	0.0001	0.001
Minnow	0.129	0.333	-	0.0003	0.0002	0.01	0.005	-
Stone loach	0.058	-	0.011	0.001	0.002	0.003	0.006	0.001
Three-spined stickleback	0.078	-	-	-	-	0.001	-	-
All fish	0.336	0.559	0.126	0.007	0.01	0.015	0.008	0.004
Maigue								
Site no.	12	13	14	15	16	17		
Species	2024	2024	2024	2024	2024	2024		
Brown trout	0.021	-	0.100	0.1	0.283	0.368		
0 + brown trout	-	-	0.085	0.085	0.283	0.238		
1+ & older brown trout	0.021	-	0.015	0.015	-	0.130		
Salmon	0.042	-	0.015	0.015	-	-		
0+ salmon	0.021	-	0.015	0.015	-	-		
1+ & older salmon	0.021	-	-	-	-	-		
European eel	0.031	-	0.046	0.046	-	0.065		
Lamprey sp.	-	-	-	-	-	0.022		
Minnow	0.541	0.127	-	-	-	-		
Stone loach	0.437	0.058	-	-	-	-		
Three-spined stickleback	0.166	0.035	-	-	-	0.260		
All fish	1.239	0.219	-	0.162	0.283	0.714		

Table 3. Brown trout % age class structure (where recorded), River Maigue Catchment (Sites1-17), July-September 2024.

Site No.	% of catch				
	0+	1+	2+	3+	4+
Greanagh					
1	12	76	12	-	-
2	100	-	-	-	-
3	95	5	-	-	-
4	92	8	-	-	-
6	100	-	-	-	-
Maigue main channel and tributaries					
7	11	11	56	11	11
8	-	-	45	-	55
9	33	-	67	-	-
10	-	25	50	25	-
11	33	-	34	-	33
12	-	100	-	-	-
14	86	14	-	-	-
15	100	-	-	-	-
17	63	37	-	-	-

Table 4. Salmon % age class structure (where recorded), River Maigue Catchment (Sites 1-17), July-September 2024.

Site No.	% of catch	
	0+	1+
Greanagh		
1	67	33
2	100	-
3	100	-
4	100	-
Maigue main channel and tributaries		
7	67	33
8	-	100
9	25	75
10	43	57
11	43	57
12	50	50
14	100	-
15	100	-

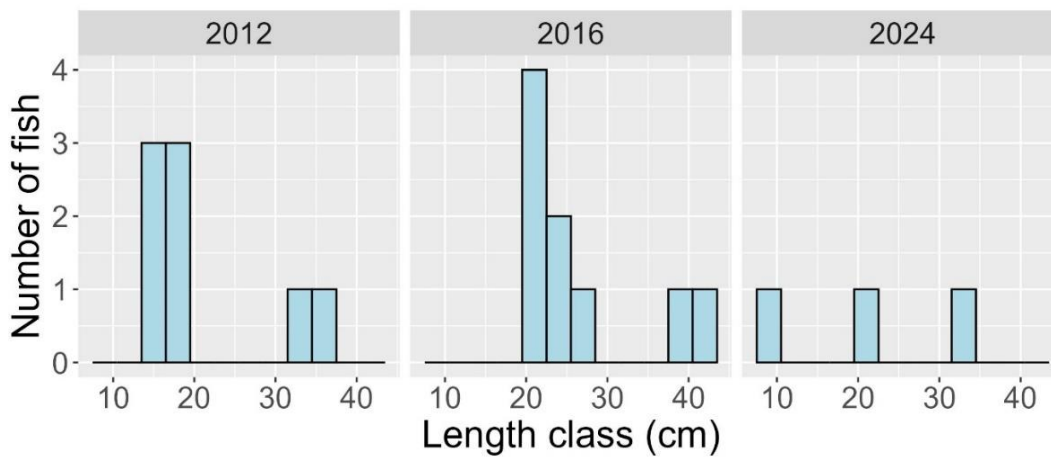


Figure 3. Length frequency distribution of brown trout (2012 n= 8, 2016 n= 9, 2024 n= 3) in the River Maigue Catchment at Site 11 (Castleroberts Bridge).

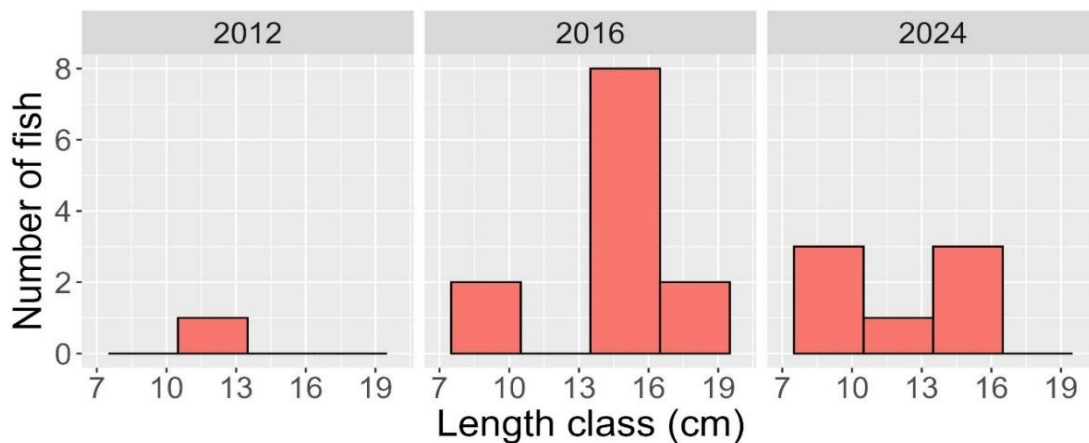
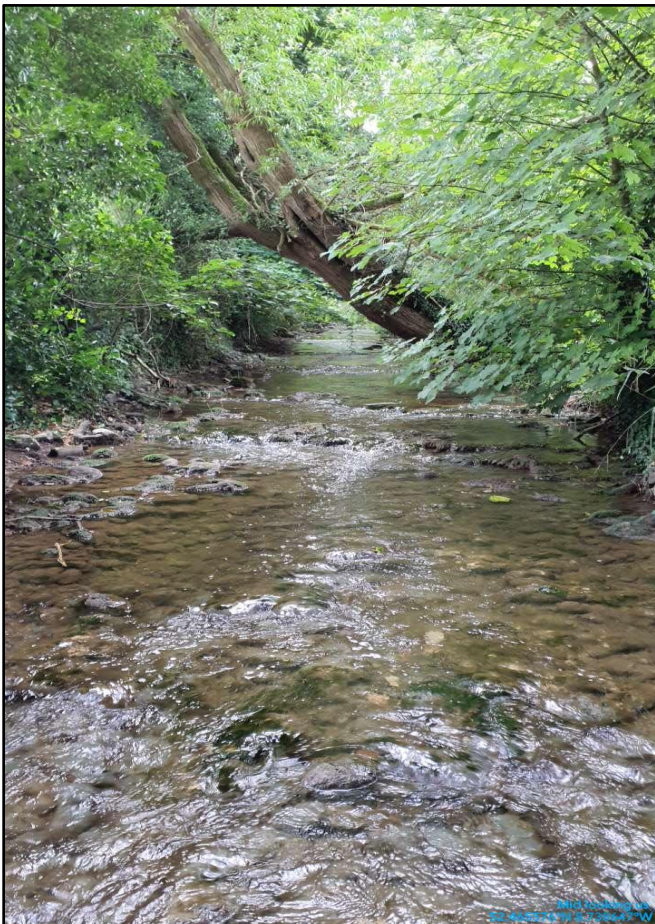


Figure 4. Length frequency distribution of salmon (2012 n= 1, 2016 n= 12, 2024 n= 7) in the River Maigue Catchment at Site 11 (Castleroberts Bridge).



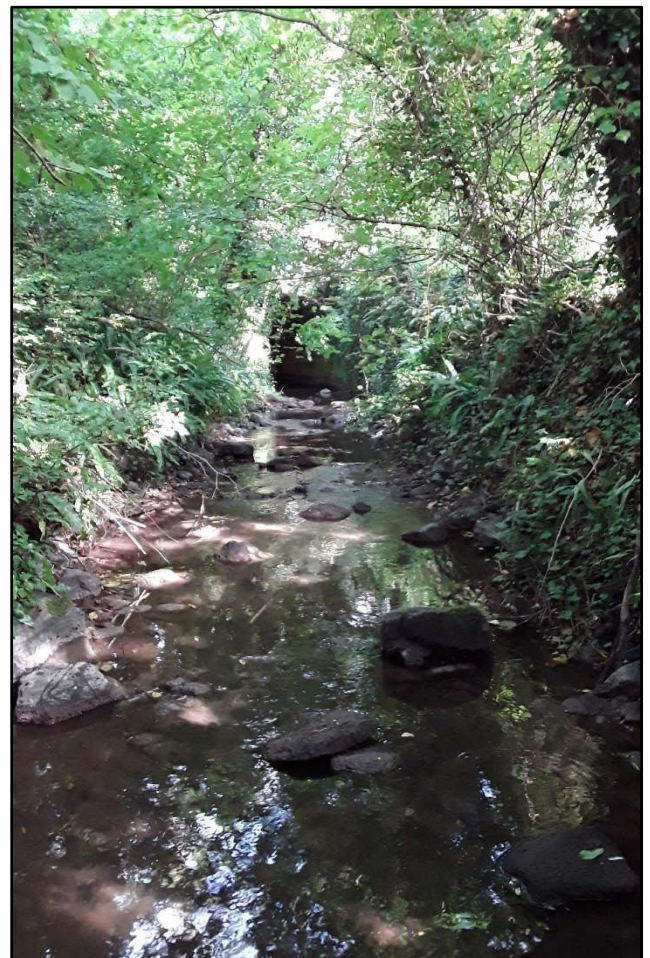
Ballyania stream at Dromacommer East (Site 12), Co. Limerick.



West Liskennett River at Kilmore Demesne (Site 14)

Table 5. Fish ecological status, River Maigue Catchment, July to September 2024.

Site No.	2008	2012	2016	2024
Greenagh sub-catchment				
1	-	-	-	M
2	-	-	-	M
3	-	-	-	G
4	-	-	-	G
5	-	-	-	B
6	-	-	-	M
Maigue main channel and tribs				
7	-	-	-	G
8	-	-	M	M
9	-	-	-	M
10	-	-	-	M
11	M	M	M	M
12	-	-	-	M
13	-	-	-	P
14	-	-	-	M
15	-	-	-	M
16	-	-	-	M
17	-	-	-	M



Mondelihy Stream at Ballyloughnaan (Site 16), |Co. Limerick.

Maigue Catchment - Loobagh, Morningstar and Camoge sub-catchments.

Twenty-two sites were surveyed in the eastern part of the Maigue Catchment in 2024. This included six sites on the Loobagh, five sites in the Morningstar and eleven sites in the Camoge sub-catchments (Figure 5 and Table 6).

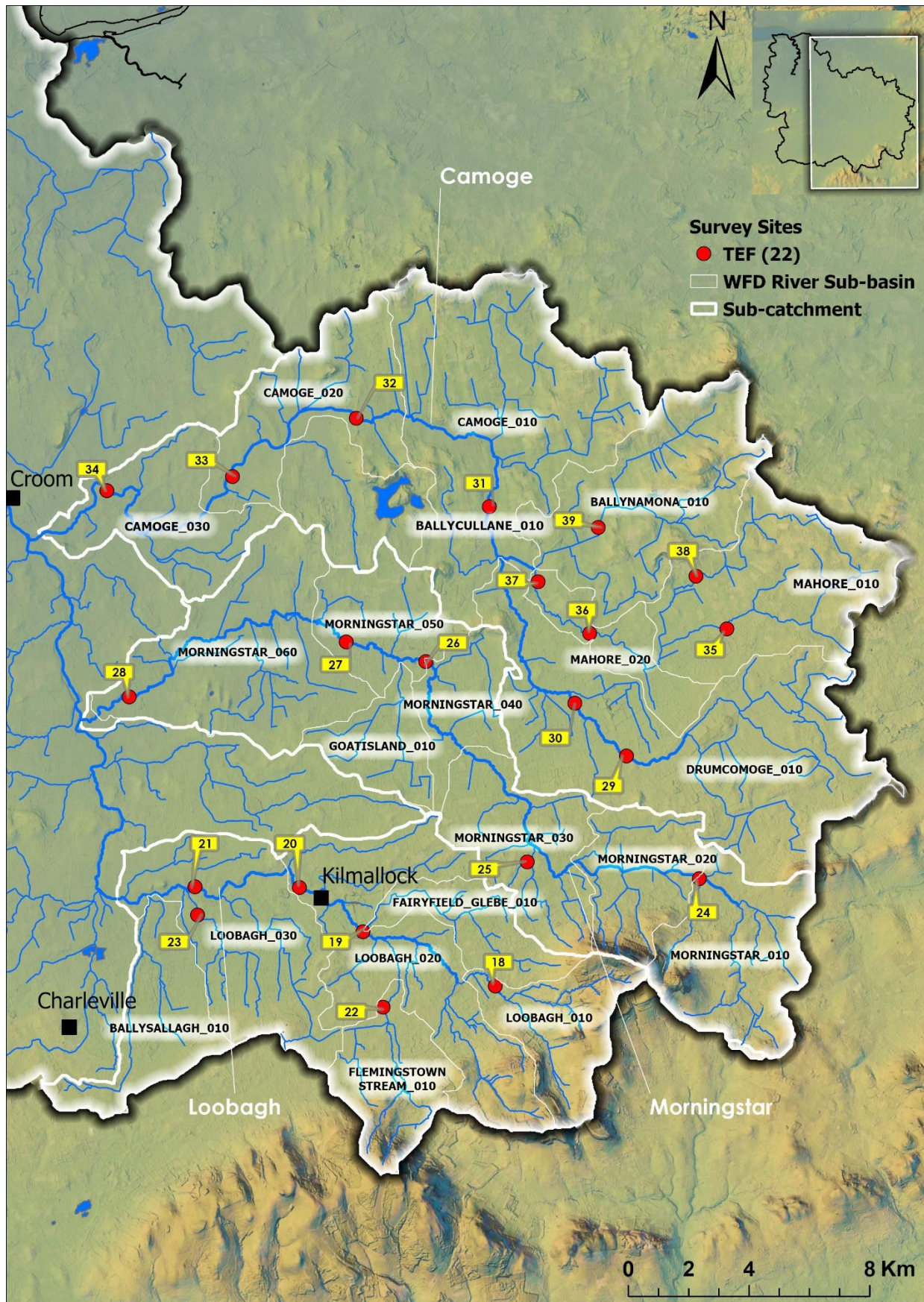


Figure 5. Location of electrofishing survey sites: Loobagh (sites 18-23), Morningstar (sites 24-28) and Camoge (sites 29-39), sub-catchments, 2024.

Table 6. Site survey details, River Maigue Catchment (Sites 18-39), July-September 2024.

No	WFD Sub basin	River	Site	Method	WFD	Date
Loobagh sub-catchment						
18	Loobagh_010	Loobagh	Bosnetstown	TEF (Handset)	No	15/07/2024
19	Loobagh_020	Loobagh	Riversfield Br.	TEF (Handset)	No	12/08/2024
20	Loobagh_020	Loobagh	Deebert	TEF (Handset)	No	12/08/2024
21	Loobagh_030	Tankardstown South	Tankards Town South	TEF (Handset)	No	14/08/2024
22	Flemingstown stream_010	Flemingstown	Ballynamolough	TEF (Handset)	No	15/07/2024
23	Loobagh_030	Knocksouna	Kilbreedy Br.	TEF (Handset)	No	12/09/2024
Morningstar sub-catchment						
24	Morningstar_010	Mitchelstowndown	Pinkers Cross	TEF (Handset)	No	19/08/2024
25	Morningstar_030	Bishopsfield	Bishopsfield	TEF (Handset)	No	19/08/2024
26	Morningstar_040	Morningstar	Kyle	TEF (Handset)	No	20/08/2024
27	Morningstar_050	Morningstar	Bruff	TEF (Handset)	No	20/08/2024
28	Morningstar_060	Morningstar	Athlacca	TEF (Handset)	No	21/08/2024
Camoge sub-catchment						
29	Drumcomoge_010	Camoge	Ballincarroona	TEF (Handset)	No	18/07/2024
30	Drumcomoge_010	Camoge	Ballycahill Br.	TEF (Handset)	No	18/07/2024
31	Camoge_010	Camoge	Moohane	TEF (Handset)	No	22/08/2024
32	Camoge_020	Camoge	Grange Br.	TEF (Handset)	No	22/08/2024
33	Camoge_020	Camoge	Cloghnamanagh Br.	TEF (Handset)	No	21/08/2024
34	Camoge_030	Camoge	d/s Monaster Br.	TEF (Handset)	No	21/08/2024
35	Mahore_010	Mahore	Kildrum	TEF (Handset)	No	17/07/2024
36	Mahore_020	Mahore	Bridge hospital	TEF (Handset)	No	17/07/2024
37	Mahore_020	Mahore	O'Carrolls Br.	TEF (Handset)	No	17/07/2024
38	Mahore_010	Killeennagallive	Garryncahera	TEF (Handset)	No	17/07/2024
39	Ballynamona_010	Ballynamona	Ballinlough	TEF (Handset)	No	14/08/2024

Table 7. Minimum density estimates of fish (no. fish/m²), Loobagh sub-catchment (Maigue Catchment), July-September 2024 (previous results are shown where applicable).

Loobagh						
Site no.	18	19	20	21	22	23
Species	2024	2024	2024	2024	2024	2024
Brown trout	0.483	0.144	0.168	0.062	0.575	-
0 + brown trout	0.093	0.046	0.016	0.021	0.490	-
1+ & older brown trout	0.390	0.098	0.152	0.041	0.085	-
Salmon	0.068	0.219	0.064	0.520	-	0.057
0+ salmon	0.051	0.207	0.032	0.492	-	0.057
1+ & older salmon	0.017	0.012	0.032	0.027	-	-
European eel	-	-	-	-	-	-
Lamprey sp.	-	0.012	0.008	-	-	-
Minnnow	-	0.081	-	0.034	-	-
Stone loach	-	0.086	0.248	0.137	-	-
Three-spined stickleback	-	-	-	-	-	0.575
All fish	0.551	0.541	0.488	0.752	0.575	0.631

Table 8. Minimum density estimates of fish (no. fish/m²), Morningstar sub-catchment (Maigue Catchment), July-September 2024 (previous results are shown where applicable).

Morningstar						
Site no.	24	25	26	27	28	29
Species	2024	2024	2024	2024	2024	2024
Brown trout	0.727	0.554	0.081	0.035	-	0.282
0 + brown trout	0.534	0.088	0.020	-	-	0.282
1+ & older brown trout	0.193	0.467	0.061	0.035	-	-
Salmon	0.178	0.029	0.122	0.156	0.015	0.063
0+ salmon	0.178	0.029	0.102	0.139	0.015	0.063
1+ & older salmon	-	-	0.020	0.017	-	-
European eel	-	-	-	-	-	-
Lamprey sp.	-	0.015	-	-	-	-
Minnow	-	0.160	0.275	0.026	0.355	0.753
Stone loach	-	0.131	0.193	0.035	0.391	0.173
Three-spined stickleback	0.045	-	-	-	0.138	0.69
All fish	0.949	0.889	0.672	0.252	0.899	1.961

Table 8. Minimum density estimates of fish (no. fish/m²), Camoge sub-catchment (Maigue Catchment), July-September 2024 (previous results are shown where applicable).

Camoge										
Site no.	30	31	32	33	34	35	36	37	38	39
Species	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024
Brown trout	0.244	0.105	0.049	0.344	0.049	0.299	0.199	0.169	0.735	0.045
0 + brown trout	0.220	0.021	0.049	0.244	-	0.299	0.199	0.071	0.735	0.045
1+ & older brown trout	0.024	0.082	-	0.100	0.049	-	-	0.098	-	-
Salmon	-	0.042	0.065	0.29	0.214	-	0.099	0.036	-	-
0+ salmon	-	-	0.065	0.199	0.181	-	0.071	0.018	-	-
1+ & older salmon	-	0.042	-	0.091	0.033	-	0.028	0.018	-	-
European eel	-	-	-	-	0.165	-	-	-	-	-
Lamprey sp.	0.171	-	-	-	-	0.017	-	-	-	-
Minnow	0.269	0.367	0.449	-	0.28	-	0.057	0.276	-	0.568
Stone loach	0.086	0.346	0.473	0.163	0.173	0.100	0.092	0.08	-	0.159
Three-spined stickleback	0.037	0.231	0.049	-	0.025	0.465	0.021	-	0.291	0.136
All fish	0.806	1.090	1.085	0.796	0.906	0.880	0.468	0.560	1.025	0.908



Knocksouna stream at Kilbreedy Bridge (Site 23), Co. Limerick.

Table 9. Brown trout % age class structure (where recorded), River Maigue Catchment (sites 18-39), July-September 2024.

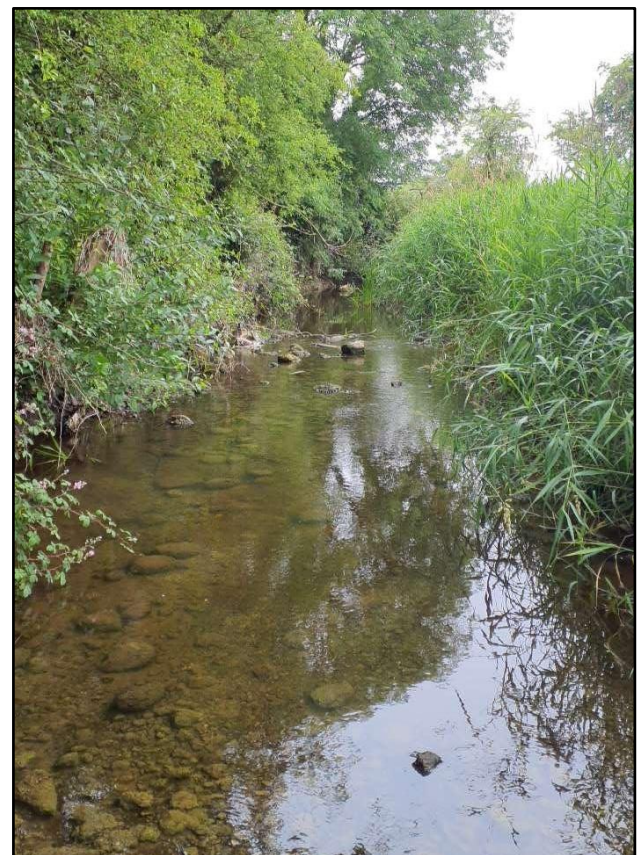
Site No.	% of catch			
	0+	1+	2+	3+
Loobagh				
18	22	46	25	7
19	33	67	-	-
20	10	70	20	-
21	40	40	20	-
22	87	10	3	-
Morningstar				
24	74	22	4	-
25	17	55	22	6
26	25	25	50	-
27	-	50	50	-
Camoge				
29	100	-	-	-
30	90	-	10	-
31	20	-	60	20
32	100	-	-	-
33	72	28	-	-
34	-	-	33	67
35	100	-	-	-
36	100	-	-	-
37	40	-	60	-
38	100	-	-	-
39	100	-	-	-

Table 10. Salmon % age class structure (where recorded), Maigue River Catchment (sites 18-39), July-September 2024.

Site No.	% of catch	
	0+	1+
Loobagh		
18	75	25
19	95	5
20	50	50
21	95	5
23	100	-
Morningstar		
24	100	-
25	100	-
26	83	17
27	89	11
28	100	-
Camoge		
29	100	-
31	-	100
32	100	-
33	69	31
34	85	15
36	71	29
37	100	-



Morningstar River at Kyle (Site 26), Co. Limerick.



Camoge River at Ballycahill Bridge (Site 30), Co. Limerick.

Table 11. Fish ecological status, River Maigue Catchment (Sites 18-39) (sites 18-39), July and September 2024.

Site No.	2008	2012	2016	2024
Loobagh sub-catchment				
18	-	-	-	G
19	-	-	-	M
20	-	-	-	G
21	-	-	-	G
22	-	-	-	M
23	-	-	-	M
Morningstar sub-catchment				
24	-	-	-	H
25	-	-	-	G
26	-	-	-	M
27	-	-	-	M
28	-	-	-	P
Camoge sub-catchment				
29	-	-	-	M
30	-	-	-	M
31	-	-	-	M
32	-	-	-	M
33	-	-	-	G
34	-	-	-	M
35	-	-	-	M
36	-	-	-	G
37	-	-	-	G
38	-	-	-	M
39	-	-	-	P

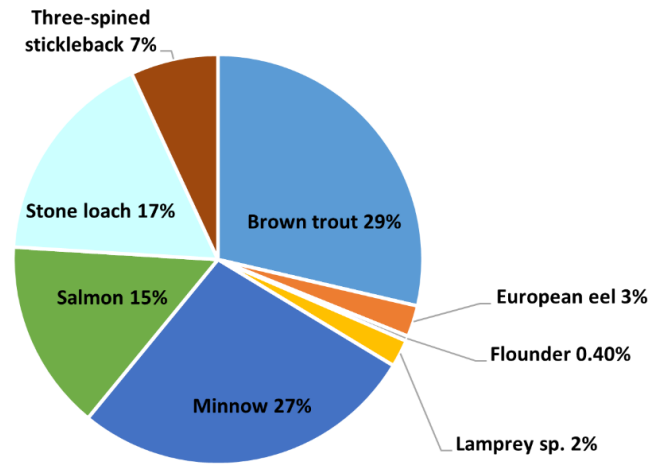


Figure 6. Fish species composition (%), River Maigue Catchment, 2024.

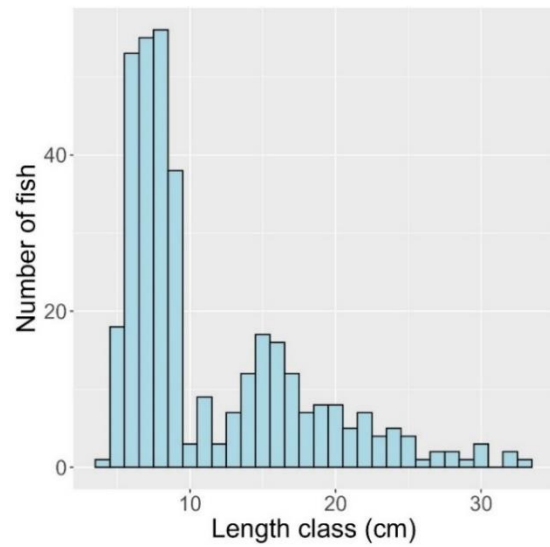


Figure 7. Length frequency distribution for brown trout (n = 360), River Maigue Catchment, 2024 (No. sites = 34).



Mahore River at O'Carrolls Bridge (Site 37), Co. Limerick.

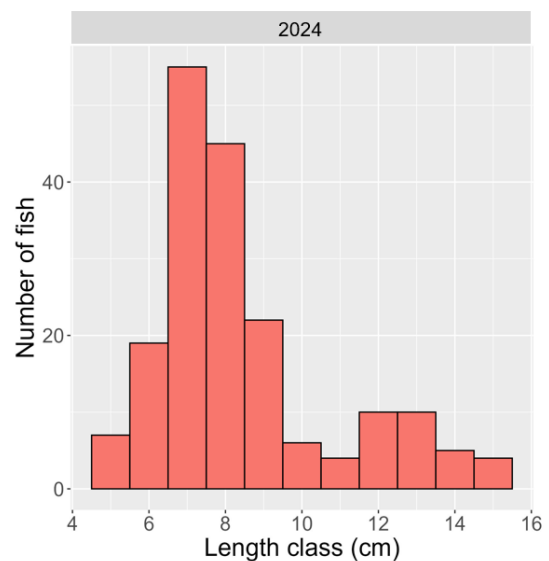


Figure 8. Length frequency distribution for salmon (n = 188), River Maigue Catchment, 2024 (No.-sites = 29).

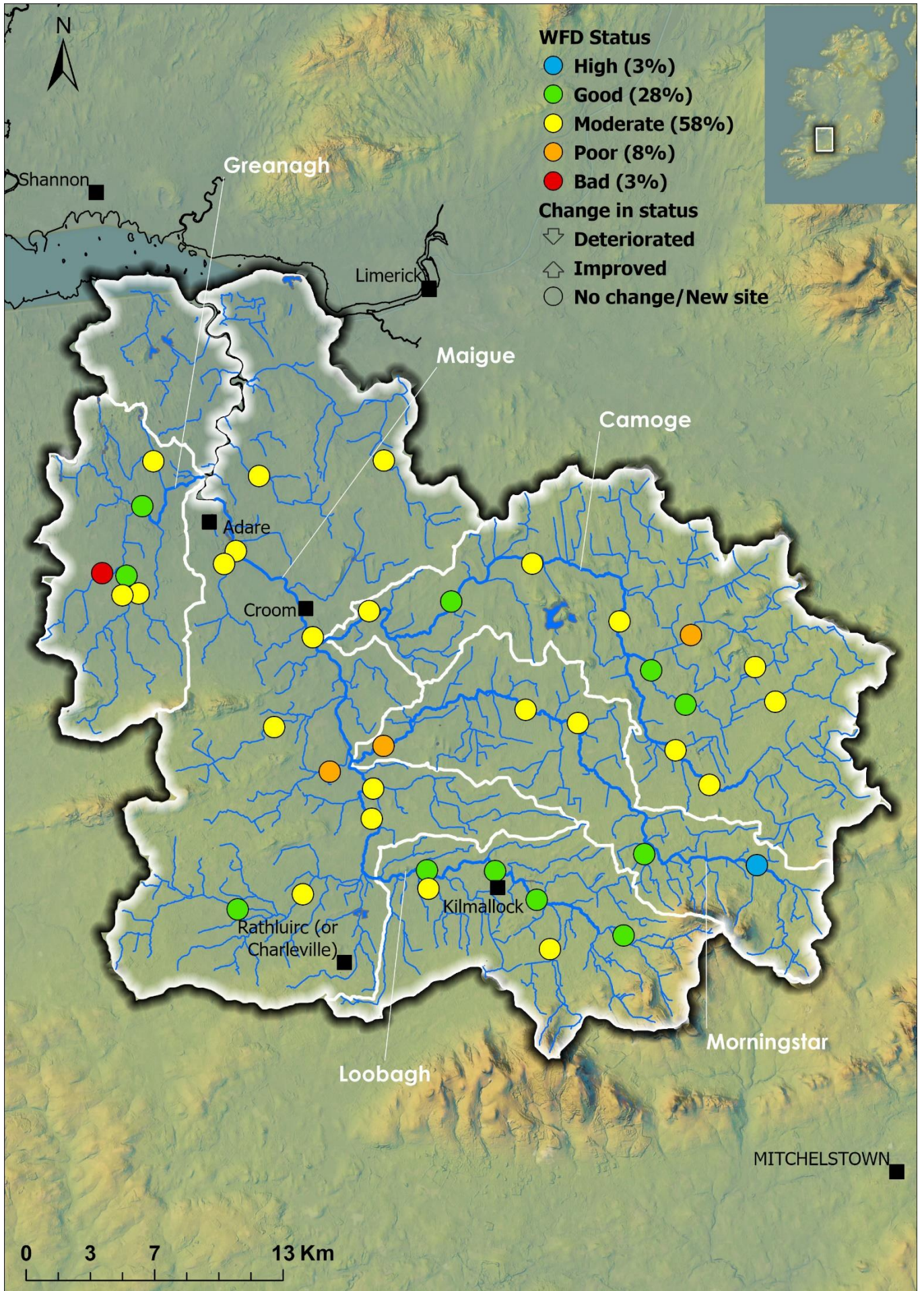


Figure 9. Fish ecological status in the River Maigue Catchment, 2024. Arrows indicate a change in status since previous surveys (where applicable).

Summary

Eight fish species were recorded at thirty-nine sites electrofished on the Maigue River Catchment in 2024.

Brown trout was the most common species present (35 sites, 90%) followed by salmon (29 sites, 74%), stone loach (23 sites, 59%), minnow (20 sites, 51%), three spined stickleback (17 sites, 44%), European eel and lamprey spp. (8 sites each, 21%) and flounder (one site, 2%).

Brown trout was the most abundant species present, followed by minnow, stone loach, three-spined stickleback, salmon, European eel, lamprey spp. and flounder.

Brown trout ranged in length from 4.0 to 33cm. Five age classes were present (0+, 1+, 2+, 3+, 4+), with 0+ being most abundant. The highest density of brown trout (all ages combined) (0.735 fish/m²) was recorded at Site 38 (Garryncahera) on the Killeennagallive River (Camoge sub-catchment). The highest density of 0+ brown trout (0.735 fish/m²) was also recorded at Site 38. The highest density of brown trout 1+ and older (0.467 fish/m²) was recorded at Site 25 (Bishopsfield) on the Bishopsfield River (Morningstar sub-catchment).

Salmon ranged in length between 5cm to 15.2cm. Three age classes of salmon 0+, 1+ and 2+ were present. The highest density of salmon (all ages combined) (0.520 fish/m²) was recorded at Site 21 (Tankardstown South) on the Tankardstown South stream (Loobagh sub-catchment). The highest density of 0+ salmon (0.492 fish/m²) was also recorded at Site 21. The highest density of 1+ & older salmon (0.091 fish/m²) was recorded at Site 33 (Cloghnamanagh Bridge) on the Camoge 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 thirty-nine sites surveyed in the Maigue Catchment during 2024. One site was assigned High status, with eleven sites Good, twenty-three Moderate, three Poor and one Bad. Two sites (sites 8 and 11) were surveyed previously on this catchment and assigned fish ecological status. When compared with their most recent previous surveys, they remained unchanged (Figure 9 and Table 5).

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.

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