



Northern Ireland Environment Agency  
Gníomhaireacht Comhshaoil Thuaisceart Éireann  
Northern Ireland Environment Agency

# Freshwater Pearl Mussel (*Margaritifera margaritifera*)

## Preliminary Survey Results Report

Owenkillew River and Owenreagh River  
Survey years: 2024–2025

Version: Draft (preliminary) | Date: 09 February 2026



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and Rural Affairs**

## Document control

Version	Date	Author	Notes
0.1	09/02/2026	NIEA	Draft prepared from preliminary data supplied.

## Status statement

This document presents preliminary survey results for 2024–2025.

Counts and interpretations may change following data verification/QA, completion of any outstanding survey units, and review of survey comparability.

## Executive summary

This report summarises preliminary freshwater pearl mussel survey results for the Owenkillew River and Owenreagh River for the 2024–2025 survey period. Surveys were undertaken with reference to Common Standards Monitoring Guidance for Freshwater Fauna, which sets out the standardised approach for monitoring population attributes including distribution, density, recruitment indicators and associated habitat attributes.

Owenkillew River (Survey Section 12, sub-sections 12A–12M): A total of 1134 live freshwater pearl mussels were recorded across 13 sub-sections during surveys in 2024.

Owenreagh River: (Survey Section 1-15): A total of 8089 live freshwater pearl mussels were recorded across these sections in 2025.

Because this is a preliminary report, it focuses on the recorded population counts available at the time of drafting. It does not provide a full CSM condition assessment outcome for the rivers, as supporting attribute data including age structure, dead shell rates, water quality metrics, fine sediment/redox, host fish were not supplied within the preliminary dataset.

## Introduction

Freshwater pearl mussel (*Margaritifera margaritifera*) is a long-lived freshwater bivalve with a complex life cycle that depends on high-quality river habitat and the presence of suitable salmonid host fish. In Northern Ireland, extant populations persist in a limited number of rivers, including the Owenkillew, designated as both an SAC and ASSI, and the Owenreagh, designated as an ASSI.

Northern Ireland Freshwater pearl mussel populations are subject to condition assessment on an approximately six-year cycle; condition assessments were previously carried out on behalf of the Department in 2011 and 2017 and followed standardised protocols aligned to the JNCC Common Standards Monitoring framework. The CSM Freshwater Fauna Guidance 2015, sets out attribute targets and monitoring methods for FPM, including targeted placement of transects in suitable habitat, advice on survey timing and guidance on survey frequency.

This report compiles preliminary survey results for 2024–2025 for the Owenkillew and Owenreagh. It is intended to provide a trend figure before the full condition assessment is released later in 2026.

## Study area

The Owenkillew River and Owenreagh River are located in County Tyrone and form part of the network of rivers in Northern Ireland with known freshwater pearl mussel populations. Survey units reported here correspond to previously defined survey sections/sub-sections used in earlier assessments, to support comparability over time.

With regards to the Owenkillew, results are presented for Survey Section 12 sub-sections 12A to 12M. In reference to the Owenreagh, results are presented with historical context from prior survey cycles.

## Methods

Surveys were conducted under the Common Standards Monitoring Guidance for Freshwater Fauna protocol for freshwater pearl mussel. CSM recommends targeted selection of survey transects in suitable habitat where mussels occur, reflecting the typically clumped distribution of mussel beds. The standardised approach generally uses multiple 50 m transects within each assessment unit, supported by recording relevant habitat and pressure indicators. Where populations are small or localised, CSM allows for exhaustive searches to map and count mussels while minimising disturbance.

The preliminary dataset provided for this report consists of live mussel counts by survey subsection of the Owenkillew and Owenreagh. No additional attribute data including quadrat excavation/juvenile length measurements, dead shell counts, water chemistry, redox, electrofishing/host fish were supplied for inclusion in this draft; therefore, a full CSM condition assessment is outside the current scope of this document.

## Results

### Owenkillew River – 2024 results (Survey Section 12A–12M)

Survey Year	Monitoring unit	Total mussels
2007	Section 12 (Units A–M)	824+
2011	Section 12 (Units A–M)	2,391
2016	Section 12 (Units A–M)	1,312
2024	Section 12 (Units 12A–12M)	1134

Table 1 summarises available Owenkillew Section 12 totals from historic survey cycles and the 2024 dataset supplied.

Sub-section	Mussels
12A	158
12B	87
12C	56
12D	69
12E	81
12F	21
12G	86
12H	26
12I	10
12J	229
12K	32
12L	135
12M	144
TOTAL	1134

Table 2 presents the 2024 Owenkillew counts by survey date and sub-section as supplied.

### Owenreagh River – 2025 results (sections 1-12)

Owenreagh section	2011	2017	2025
1	2	0	—
2	0	0	—
3	50	171	369
4	773	1012	24
5	926	1211	842
6	1007	554	677
7	10	25	0
8	364	418	298
9	601	1240	606
10	1676	3415	3256
11	1100	432	619
12	1100	809	805
13	353	372	367
14	233	91	216
15	0	0	10
Total (all sections)	8195	9750	8089

Table 3 presents historical counts for Owenreagh survey sections as reported in previous condition assessments and includes the 2025 count. Historical totals are provided for context.

## References

JNCC (2015). Common Standards Monitoring Guidance for Freshwater Fauna. Issue date: October 2015.

Horton, M., Bell, D., Keys, A. & Mitchell, F. (2018). Freshwater pearl mussel survey of Northern Ireland 2017. Report prepared for Northern Ireland Environment Agency (Research and Development Series).

Reid, N., Preston, S.P. & Keys, A. (2011). Freshwater pearl mussel survey of Northern Ireland 2011. Report prepared for Northern Ireland Environment Agency (Research and Development Series No. 12/08).



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