

The background of the entire page is a photograph of numerous eels in a tank. The eels are dark, slender, and highly convoluted, filling most of the frame. They are set against a light-colored, perforated metal mesh, likely part of a filtration system. The lighting is somewhat dim, highlighting the texture of the eels' skin and the grid of the mesh.

**ACTIVITY REPORT  
OF THE  
TECHNICAL EXPERT GROUP ON EEL  
2024**

**REPORT OF THE TECHNICAL EXPERT GROUP ON EEL TO  
THE NORTH-SOUTH STANDING SCIENTIFIC COMMITTEE ON  
INLAND FISHERIES (NSSSCIF)**

**Feb 2026**

**Disclaimer:** This report includes data and analyses that are supplied by various agencies for the purposes of supporting the implementation of the Eel Management Plans in Ireland. The data will be subject to scientific review for the National Report to the EU in 2024.

The data and analyses are part of an on-going scientific assessment and are, therefore, preliminary and may be subject to change, updating or reanalysis. Some data may also be submitted for peer-review publication. The contents of this report should not be reproduced without the prior permission of the Technical Expert Group on Eel.

The Technical Expert Group on Eel would like  
to note the sad passing of Dr. Patrick Boylan

## Glossary of terms

Glass eel	Young, unpigmented eel, recruiting from the sea into continental waters. WGEEL consider the glass eel term to include all recruits of the 0+ cohort age. In some cases, however, also includes the early pigmented stages.
Elver	Young eel, in its first year following recruitment from the ocean. The elver stage is sometimes considered to exclude the glass eel stage, but not by everyone. To avoid confusion, pigmented 0+ cohort age eel are included in the glass eel term.
Bootlace, fingerling	Intermediate sized eels, approx. 10–25 cm in length. These terms are most often used in relation to stocking. The exact size of the eels may vary considerably. Thus, it is a confusing term.
Yellow eel (Brown eel)	Life-stage resident in continental waters. Often defined as a sedentary phase, but migration within and between rivers, and to and from coastal waters occurs. This phase encompasses the elver and bootlace stages.
Silver eel	Migratory phase following the yellow eel phase. Eel characterized by darkened back, silvery belly with a clearly contrasting black lateral line, enlarged eyes. Downstream migration towards the sea, and subsequently westwards. This phase mainly occurs in the second half of calendar years, though some are observed throughout winter and following spring.
Assisted Upstream Migration	the practice of trapping and transporting juvenile eel within the same river catchment to assist their upstream migration at difficult or impassable barriers, without significantly altering the production potential ( $B_{best}$ ) of the catchment
Eel River Basin or Eel Management Unit	“Member States shall identify and define the individual river basins lying within their national territory that constitute natural habitats for the European eel (eel river basins) which may include maritime waters. If appropriate justification is provided, a Member State may designate the whole of its national territory or an existing regional administrative unit as one eel river basin. In defining eel river basins, Member States shall have the maximum possible regard for the administrative arrangements referred to in Article 3 of Directive 2000/60/EC [i.e. River Basin Districts of the Water Framework Directive].” EC No. 1100/2007.
River Basin District	The area of land and sea, made up of one or more neighbouring river basins together with their associated surface and groundwaters, transitional and coastal waters, which is identified under Article 3(1) of the Water Framework Directive as the main unit for management of river basins. The term is used in relation to the EU W F D.
Stocking	Stocking (not restocking) is the practice of adding fish [eels] to a waterbody from another source, to supplement existing populations or to create a population where none exists.
Trap & transport	Traditionally, the term trap and transport referred to trapping recruits at impassable obstacles and transporting them upstream and releasing them. Under the EMPs, trap and transport (or catch and carry) now also refers to fishing for downstream migrating silver eel for transportation around hydropower turbines.
European Maritime Fisheries and Aquaculture Fund (EMFAF)	EMFAF is an EU fund running from 2021 to 2027 to support EU common fisheries policy (CFP), the EU maritime policy and the EU agenda for international ocean governance. It also helps achieve the UN’s sustainable Development Goal 14 and European Green Deal.
<b>EEL REFERENCE POINTS/POPULATION DYNAMIC</b>	
$B_0$	The amount of silver eel biomass that would have existed if no anthropogenic influences had impacted the stock.
$B_{current}$	The amount of silver eel biomass that <u>currently</u> escapes to the sea to spawn.
$B_{best}$	The amount of silver eel biomass that would have existed if no anthropogenic influences had impacted the <u>current</u> stock.
$\Sigma F$	The fishing mortality <u>rate</u> , summed over the age-groups in the stock, and the reduction effected.
$\Sigma H$	The anthropogenic mortality <u>rate</u> outside the fishery, summed over the age-groups in the stock, and the reduction effected.
R	The amount of glass eel used for restocking within the country.
$\Sigma A$	The sum of anthropogenic mortalities, i.e. $\Sigma A = \Sigma F + \Sigma H$

# Contents

<b>Executive Summary</b> .....	7
<b>1 Introduction</b> .....	10
1.1 EU Regulation .....	10
1.2 Technical Expert Group on Eel (TEGE) .....	11
1.3 Meeting Activities.....	12
<b>2 International Advice from ICES</b> .....	12
2.1 Introduction to ICES Advice .....	12
2.2 ICES Advice on Eel for 2025 .....	13
<b>3 National Advice</b> .....	15
<b>4 Management Actions – a scientific assessment</b> .....	15
4.1 Introduction.....	15
4.2 Management Action No. 1 Reduction of fishery to achieve EU target .....	15
4.3 Management Action No. 2. Mitigation of hydropower .....	18
4.4 Management Actions No. 3. Ensure upstream migration at barriers.....	22
4.5 Management Action No. 4 Improve water quality .....	23
<b>5 Silver Eel Assessment</b> .....	25
5.1 Introduction.....	25
5.2 Shannon .....	27
5.3 Burrishoole .....	35
5.4 Erne Transboundary.....	38
5.5 Fane.....	55
5.6 Barrow .....	63
<b>6 Yellow Eel Stock Assessment</b> .....	71
6.1 Eel specific surveys 2024.....	71
6.2 Water Framework Directive.....	91
6.3 Summary.....	93
<b>7 Recruitment</b> .....	93
7.1 Introduction.....	93
7.2 0+ Recruitment .....	94
7.3 Young Yellow Eel Recruitment.....	99
<b>8 References</b> .....	101
<b>Appendix 1: Members of the Technical Expert Group on Eel 2024-2025</b> .....	103
<b>Appendix 2: Conservation of Eel Fishing Bye-law No. C.S. 335, 2024</b> .....	104

**Appendix 3: Reports on Fisheries closures, illegal fishing and other management actions from the IFI RBD's. .... 107**

**Appendix 4: Silver Eel Trap and Transport Tables: Shannon, Erne and Lee ..... 118**

**Appendix 5: Silver eel flow diagram explanation ..... 122**

**Appendix 6: Water Framework Directive..... 124**

## Executive Summary

---

### International Advice; ICES - 2025

#### ICES Advice on fishing opportunities

*ICES advises that when the precautionary approach is applied, there should be zero catches in all habitats in 2025. This applies to both recreational and commercial catches and includes catches of glass eels for restocking and aquaculture.*

#### ICES advice on conservation aspects

*Based on ecosystem-based management, ICES considers that:*

- all non-fisheries related anthropogenic mortalities should be reduced to zero.*
- the quantity and quality of eel habitats should be restored; this includes restoring connectivity and the physical, chemical, and biological properties of the habitats.*

#### Stock development over time

*"The status of European eel remains critical."*

*"In the "Elsewhere Europe" index series it was 7.2% in 2024 (provisional) and 7.4% in 2023 (updated). The yellow eel recruitment index for 2023 was 11.4% (updated) of the 1960–1979 geometric mean. Time-series from 1980 to 2024 show that eel recruitment remains at a very low level."*

### Irish EMP Management Actions 2024 - 2026

Under the EU Regulation (EC No. 1100/2007) four main management actions were included in the Irish Eel Management Plans aimed at reducing eel mortality and increasing silver eel escapement in Irish waters. These were a cessation of the commercial eel fishery and closure of the market, mitigation of the impact of hydropower, including a comprehensive silver eel trap and transport plan, ensure upstream migration of juvenile eel at barriers and improve water quality including fish health and biosecurity issues.

#### 1. Reduction in Fishing

All regions reported on the continued closure of the fishery with no licences issued and the eel fishery, with the exception of L. Neagh, also remained closed in N. Ireland. Some illegal fishing was reported which led to seizures of gear in the Shannon IRBD, Eastern RBD. Reliable trade (import/export) data remains unavailable to the TEGE.

#### 2. Hydropower Impact

Mitigation of hydropower involved a comprehensive trap and transport system for migrating silver eels on the Shannon, Erne and Lee, the targets for 2009-2011 were set out in the Eel Management Plans and these were subsequently modified on the Erne for the 2015-2017 period to allow for the transport of 50% of the annual silver eel production and a rolling target based on a 3-year basis allowing shortfalls in one year to be made up the following year. A long-term shortfall should not be carried forward indefinitely.

The total quantity of silver eel released from the three catchments was 62,491 kg.

In the 2024/25 season, the **River Shannon** trap and transport total of 32,248 kg represented 86.3% of silver eel production and, therefore, exceeded the 30% target. The EMP requirement was met on the basis of the agreed (3-year rolling mean value) protocol.

In the **River Erne**, the trap and transport annual target (50% of silver eel production) was exceeded in the 2024/2025 season. The trap and transport catch of 29,081 kg at the four fishing sites represented 56.8% of the production (exceeding the 50% target by 3,498 kg).

In the 2024/2025 season, fishing took place on the **River Lee** at the Iniscarra reservoir between 3<sup>rd</sup> to the 12<sup>th</sup> September. The total catch was 1,162 kg, which exceeds the annual target for the river of 500 kg.

For the *Shannon*, an estimated 21.15% mortality was applied to the 2024 data. The estimated silver eel mortality at Ardnacrusha hydropower station was 984.2 kg.

For the *Erne*, total mortality was estimated to be 5,626 kg (25.5%) at Cliff HPS and 4,118 kg (25.0%) at Cathleen's Falls.

### **3. Obstacles to migration**

Work continues on managing existing barriers (management action 3) using the IFI developed I-BAST application. To date, 37,121 structures have been assessed, with 28,776 being classified as being 'not a barrier' with 8,345 classified as a 'potential barrier' requiring further work.

### **4. Improve Water Quality, fish health and biosecurity**

In 2023, the EPA produced an update to the water quality for Ireland's rivers, lakes, transitional / coastal water and groundwater using information collected in 2022. This report found that there had been no significant change in biological water quality in Irish rivers or lakes in 2022 however the report does not that any improvements recorded were offset by declines elsewhere. Fish kill numbers can reflect water quality changes. There were 24 in 2024, 17 in 2023 down from the 25 reported fish kills in 2022.

### **Irish EMP Monitoring Actions**

A close link between the management actions and eel-stock targets will be established by implementing a comprehensive monitoring and stock assessment programme. This will allow for direct feedback to management based on response of the stock to management actions.

### **Silver Eel Assessment**

Silver eels are being assessed by annual fishing stations on the Shannon, Erne, Burrishoole, Fane and Barrow catchments in 2024/2025.

#### ***Shannon***

In 2024/2025, conservation eel fishing was conducted at three sites, two at Athlone, and one at Killaloe.

A total of 30,240 kg of eels were caught at Athlone (28,107 kg at the Jolly Mariner site and 2,133 kg at the Yacht Club site), and a further 2,078 kg were caught at Killaloe (70 kg retained), giving an overall Trap and Transport catch of 32,248 kg.

Silver eel production was estimated to have been 37,356 kg and escapement was estimated to be 36,302.2 kg, 97.4% of the production.

#### ***Burrishoole***

Silver eel trapping was continued in Burrishoole in 2024/25 and the total run amounted to 3,067 eels (up to end April 2025). As in other years, the highest proportion of the total catch (86.9%) was made in the Salmon Leap trap. The mean weight of eels was noted to be at an average of about 151 g with an estimated sex ratio of 48.1% male in 2024.

#### ***Erne***

The total catch contributed to the Trap and Transport programme was 29,081 kg. The silver eel production was estimated to be 51,166 kg with escapement estimated at 41,422 kg, 81.0% of the production.

#### ***Fane***

In 2024, silver eel catches at the Fane Fishery were slightly lower than the previous year's numbers with a total catch of 346 kg (995 eels including batch weighs). These catches were made over 28 nights fished. Due to low water levels in September, fishing began on 21<sup>st</sup> October and continued through to mid December.

#### ***R. Barrow***

In 2024, after 18 nights of fishing, a total of 159.16 kg of silver eels were captured at the Ballyteiglea Lock (Barrow Silver Eel Fishery). This equated to 1,050 eels, with the majority being caught in November during moderate flood events.

### **Recruitment**

For 2023, a value of 43 kg of elvers were caught in the index traps at Ardnacrusham with a total of 44 kg across all traps. This was a further drop from that recorded in 2022.

The 2024 season was good for recruitment in the Erne with of 1,517 kg in index traps and a total of 1,792 kg. These are the highest recruitment values since 1995.

ICES (2025) noted a small change in recruitment for the "Europe Elsewhere" series. The estimated figure was 7.2% (provisional) in 2024, rose to 7.4% (final) for 2023.

# 1 Introduction

---

## 1.1 EU Regulation

The EC Regulation (Council Regulation 1100/2007) for the recovery of the eel stock required Ireland to establish eel management plans for implementation in 2009. Under the EC Regulation, Ireland should monitor the eel stock, evaluate current silver eel escapement and post-evaluate implemented management actions aimed at reducing eel mortality and increasing silver eel escapement.

The Irish Eel Management Plan submitted to the EU on the 9<sup>th</sup> January 2009 and accepted by the EU in June 2009 outlined the main management actions aimed at reducing eel mortality and increasing silver eel escapement to the sea. The four main management actions were as follows;

- a cessation of the commercial eel fishery and closure of the market
- mitigation of the impact of hydropower, including a comprehensive trap and transport plan to be funded by the ESB
- to ensure upstream migration of juvenile eel at barriers
- to improve water quality

Under the EC Regulation (EC No. 1100/2007), each Member State shall report to the Commission initially every third year until 2018 and subsequently every six years. At a meeting of the EU Fisheries Council in January 2018 it was agreed to continue to report every 3 years until there is scientific evidence of recovery signs for the eel population across Europe. The most recent report, was submitted on the 30<sup>th</sup> August 2021 using the ICES datacall, addressing the following;

- monitoring time series of recruits, yellow eel abundance and silver eel abundance
- Commercial, recreational and other fishery landings
- Releases of eels to other waters
- Aquaculture production
- Overview of Eel management plan
- the effectiveness and outcome of the Eel Management Plans
- biomass indicators
- anthropogenic mortality rates
- use of eel caught of less than 12 cm in length

The European Commission's Directorate-General for Maritime Affairs and Fisheries (DG MARE) has commissioned an external Study on the evaluation of the Eel Regulation. The purpose of the evaluation is to assess the measures to protect European eel under the Eel Regulation, and in particular the contribution of the national Eel Management Plans established and implemented under this Regulation to the recovery of the stock of European eel. The report on the evaluation is [available](#) on line. The overall conclusion is presented here:

*The adoption of the Eel Regulation has been an important milestone in the long process towards the recovery of the European eel. It remains as relevant now as it was in 2009. Nevertheless, despite notable progress in reducing fishing effort and a concerted attempt to develop a pan-EU management framework, the status of eel remains critical. The Regulation's success in ensuring the recovery of the European eel is still far from certain, as it is widely recognised that the recovery of the European eel will take many decades. In this respect, further ambition is needed to implement the Regulation with a greater focus on non-fisheries related measures.*

European Commission, Directorate-General for Maritime Affairs and Fisheries, MacNab, S., Luchetta, G., Nimmo, F., et al., Evaluation of the Eel Regulation : final report, Publications Office, 2020, <https://data.europa.eu/doi/10.2771/679816>

## **1.2 Technical Expert Group on Eel (TEGE)**

An expert group on eel has been in existence since 2010 formerly known as the Standing Scientific Committee on Eel and since 2017 as the Technical Expert Group on Eels.

### **1.2.1 Background**

The North-South Standing Scientific Committee for Inland Fisheries (NSSSCIF) was formed in 2017 to support the provision of scientific advice relating to the conservation and sustainable exploitation of the inland fisheries resource with advice provided in response to requests from Department of Climate, Energy and the Environment (DCEE) and its agency Inland Fisheries Ireland (IFI) from Ireland (IRL), the Department of Agriculture, Environment and Rural Affairs (DAERA) from Northern Ireland (NI) and the Loughs Agency (LA) a North-South Implementation Body. This group was also tasked to give consideration to the coordination and effective use of scientific resources for data collection and research projects linked to the above. The NSSSCIF Term of Reference (TOR) facilitates the formation of Expert Groups drawn from within the membership of the Committee, or additional invitees as required, to advise and contribute on any particular species, aquatic habitat or biosecurity issues. To this end the NSSSCIF has established an eel expert group to provide scientific advice to guide the NSSSCIF and IFI management in the decisions and policy development aimed at ensuring the recovery of Ireland's eel stocks as outlined in Ireland's National Eel Management plan.

#### **1.2.1.1 Purpose**

The NSSSCIF requests the Expert Group on Eel to provide a report, details outlined in Appendix A, on the status of eel stocks for the purpose of reporting to the EU in line with the Eel Regulation (EC1100/2007). The NSSSCIF may also request the Expert Group on Eel to provide scientific advice on the implications of proposed management decisions or policies on eel or seek advice on scientific matters in relation to eel. All scientific advice provided by the Expert Group on Eel will be considered by the NSSSCIF and presented as independent advice.

#### **1.2.2 Term of Reference**

1. The technical group shall carry out an appropriate assessment of eel stocks (juvenile, yellow and silver eel) in accordance with the EU Regulation for each Eel Management Unit and transboundary plan.
  - a. Update the national stock assessment framework in line with EU reporting requirements and assess the level of contemporary silver eel escapement with respect to the EU 40% target.
  - b. The appropriate assessments for all fishery districts, River Basin Districts and transboundary plans shall take account of the different habitat types, lakes, rivers and transitional waters.
2. The technical group shall complete a scientific assessment of the implementation of the relevant monitoring and management objectives identified in the National EMP, in line with the reporting requirements for the regulation (see Appendix I for National Management plan objectives)

3. Compile a stock assessment report and scientific advice as required in support of the report to the EU in line with the timeframes outlined in the eel regulation.
4. Oversee the updating of the national eel database and quality control of the data.
  - a. This should include the long-term data series
    - i. National recruitment time series
    - ii. Silver eel index sites
5. Address any requests for scientific advice received from NSSSCIF.

### 1.3 Meeting Activities

The TEGE met 6 times during the 2024/2025 to monitor and report on the 2024 survey year in addition to email correspondence.

22/08/2024	ICES Datacall online meeting
27/08/2024	ICES Datacall online meeting
29/08/2024	ICES Datacall online meeting
10/09/2024	ICES Datacall online meeting
18/02/2025	online meeting
25/02/2025	Athlone

## 2 International Advice from ICES

---

### 2.1 Introduction to ICES Advice

The International Council for Exploration of the Seas (ICES) is the prime source of scientific advice on the marine ecosystem to governments and international regulatory bodies that manage the North Atlantic Ocean and adjacent seas. The ICES Council has delegated its advisory authority to the Advisory Committee or ACOM. ACOM has established the mechanisms necessary to prepare and disseminate advice subject to a protocol satisfying the following criteria:

- Objectivity and integrity;
- Openness and transparency;
- Quality assurance and peer review;
- Integrated advice – based on an ecosystem approach;
- Efficiency and flexibility;
- National consensus;

Therefore, ACOM is the sole competent body in ICES for scientific advice in support of the management of coastal and ocean resources and ecosystems. It designs strategies and processes for preparation of advice, manages advisory processes, and creates and delivers advice, subject to direction from the Council. The content of scientific advice is solely ACOM's responsibility not subject to modification by any other ICES entity. ACOM has one member from each member country under the direction of an independent chair appointed by the Council. ACOM works on the basis of scientific analysis prepared in the ICES expert groups and the advisory process include peer review of the analysis before it can be used as basis for the advice. In the case of eel, the relevant expert group is the Joint EIFAAC/ICES/GFCM Working Group on Eel (WGEEL).

## 2.2 ICES Advice on Eel for 2025

### European Eel throughout its natural range (reproduced from the ICES Advice published on 01 November 2024)

*ICES Advice 2024 – ele.2737.nea – <https://doi.org/10.17895/ices.advice.27100516>. The format of the ICES advice has changed for 2023. ICES now provides advice on fishing opportunities and on conservation aspects.*

#### **ICES Advice on fishing opportunities**

ICES advises that when the precautionary approach is applied, there should be zero catches in all habitats in 2025. This applies to both recreational and commercial catches and includes catches of glass eels for restocking and aquaculture.

#### **ICES advice on conservation aspects**

ICES advises based on ecosystem-based management consideration that:

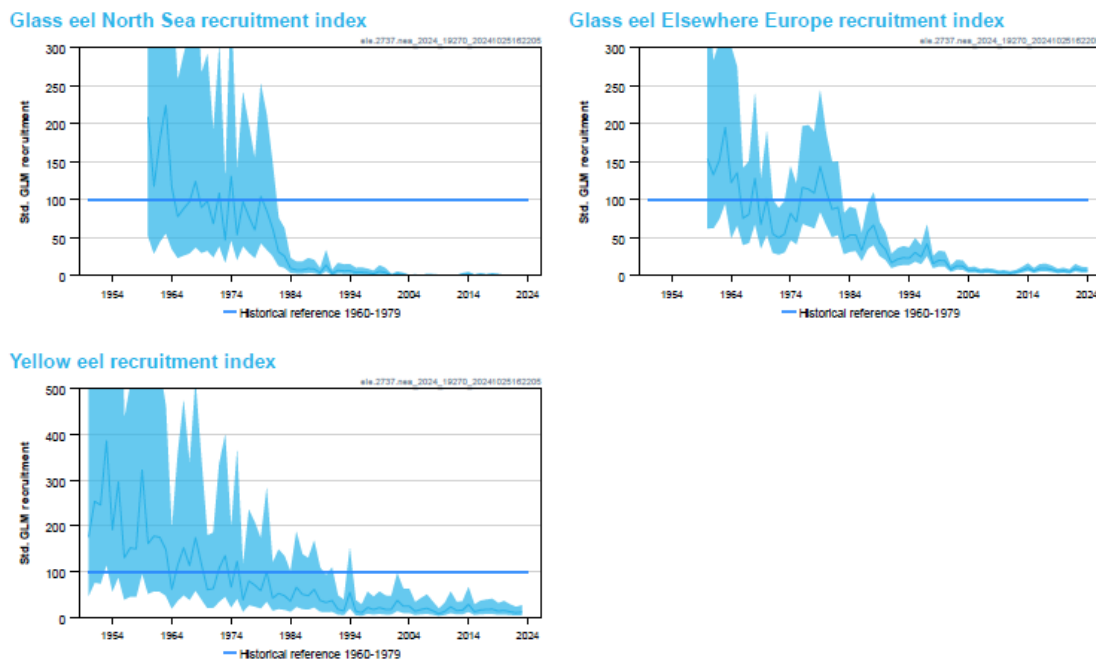
- All non-fisheries related anthropogenic mortalities should be zero.
- The quantity and quality of eel habitats should be restored; this includes connectivity and the physical, chemical and biological properties of the habitats.

#### **Stock development over time**

The status of European eel remains critical. Indices of both glass and yellow eel recruitment strongly declined from 1980 to 2011. Index values correspond to the recruitment as a percentage of the 1960–1979 geometric mean. Glass eel recruitment in the “North Sea” index area was 1.1% in 2024 (provisional) and 0.5% in 2023 (updated). In the “Elsewhere Europe” index series, recruitment was 7.2% in 2024 (provisional) and 7.4% in 2023 (updated). The yellow eel recruitment index for 2023 was 11.4% (updated) of the 1960–1979 geometric mean. Time-series from 1980 to 2024 show that eel recruitment remains at a very low level.

ICES cannot assess the exploitation status relative to maximum sustainable yield (MSY) or precautionary approach (PA) reference points because the reference points are undefined. The 1960–1979 geometric mean recruitment is considered a likely limit reference point (Rlim). Given that the current recruitment estimate has been below Rlim for many years, it is assumed that current biomass is below a potential Blim. Therefore, while stock-size reference points are also undefined, it is considered that the stock size is well below potential biological limit reference points. eference points because the reference points are undefined. The 1960–1979 geometric mean recruitment is considered a likely limit reference point (Rlim). Given that the current recruitment estimate has been below Rlim for many years, it is assumed that current biomass is

below a potential Blim. Therefore, while stock-size reference points are also undefined, it is considered that the stock size is well below potential biological limit reference points.



**Figure 2-1 (ICES Advice): European eel. Indices, geometric mean of estimated glass eel recruitment for the continental “North Sea” (top-left panel) and “Elsewhere Europe” (top-right panel) series. A statistical model was fitted to 60 time-series comprising either pure glass eel or a mixture of glass and yellow eels (34 “North Sea” and 26 “Elsewhere Europe”). The results were scaled in percentage to the 1960–1979 geometric mean. The “North Sea” series are from Norway, Sweden, Germany, Denmark, the Netherlands, UK, and Belgium; the “Elsewhere” series are from UK, Ireland, France, Spain, Portugal, and Italy. In the Baltic area, recruitment occurs at the yellow eel stage only, and series are thus not included in the glass eel recruitment index. Bottom panel: estimated yellow eel recruitment trends for Europe. A statistical model was fitted to 21 yellow eel time-series and scaled in percentage to the 1960–1979 geometric mean. The series are from Denmark, Germany, Ireland, Sweden, France, and UK. The horizontal line on each panel represents the likely Rlim (calculated from the 1960–1979 geometric mean). Ribbons show the 95% prediction interval of the GLM ( $1.96 \times$  standard error).**

#### Link to Eel Advice for 2025

ICES. 2024. European eel (*Anguilla anguilla*) throughout its natural range. In Report of the ICES Advisory Committee, 2024. ICES Advice 2024 – ele.2737.nea  
<https://doi.org/10.17895/ices.advice.27100516>

### **3 National Advice**

---

No advice requested in 2024

### **4 Management Actions – a scientific assessment**

---

#### **4.1 Introduction**

There are four main management actions included in the Irish Eel Management Plans aimed at reducing eel mortality and increasing silver eel escapement in Irish waters. These are a cessation of the commercial eel fishery and closure of the market, mitigation of the impact of hydropower, including a comprehensive silver eel trap and transport plan, ensure upstream migration of juvenile eel at barriers and improve water quality including fish health and biosecurity issues.

Every three years, each Member State must submit details of;

- monitoring,
- effectiveness and outcome of Eel Management Plans
- contemporary silver eel escapement
- non-fishery mortality
- Policy regarding enhancement/stocking

#### **4.2 Management Action No. 1 Reduction of fishery to achieve EU target**

##### **4.2.1 Introduction**

The target set for the Irish Eel Management Plan was to have zero fishing mortality and reduce illegal capture and trade to as near zero as possible.

In May of 2009 Eamon Ryan, Minister for Communications, Energy and Natural Resources passed two Bye laws closing the commercial and recreational eel fishery in Ireland. There have been subsequent bylaws prohibiting being in possession of an eel within the state. The most recent was issued in 2024.

- Bye-Law No 858, 2009 prohibits the issue of eel fishing licences by the regional fisheries boards in any Fishery District.
- Bye-law No C.S. 303, 2009 prohibits fishing for eel, or possessing or selling eel caught in a Fishery District in the State until June 2012. (revoked).
- Bye-law No C.S. 312, 2012 prohibits fishing for eel, or possessing or selling eel caught in a Fishery District in the State until June 2015. (revoked).
- Bye-law No C.S. 312, 2015 prohibits fishing for eel, or possessing or selling eel caught in a Fishery District in the State until June 2018.
- Bye-Law No C.S. 335, 2024 prohibits fishing for eel, or possessing or selling eel caught in a Fishery District in the State (Appendix 2)

It should be noted that since EU Commission ratification of the Ireland/UK NWIRBD transboundary plan in March 2010, the fishery in the NI portion of the Erne was closed from April 2010.

In late 2018 the Department of Communications, Climate Change and Energy announced the creation of a Support Scheme for Former Eel Fisherpersons to address the hardship experienced by commercial eel fisherpersons.

#### **4.2.2 Action 1a: Report closure of fishery**

All management regions confirmed a closure of the eel fishery for the 2024 season with no commercial or recreational licences issued (Appendix 3). The eel fishery, with the exception of the strictly managed L. Neagh, also remained closed in N. Ireland in 2024.

#### **4.2.3 Reports of illegal fishing activity**

##### **Ireland:**

For the complete modelling of silver eel escapement, information is required on the levels of illegal fishing and illegal catch. Therefore, this information is required on an annual basis. A questionnaire was circulated to the IFI Regions and the Department of Agriculture, Environment and Rural Affairs (DAERA) in Northern Ireland and the Loughs Agency (Appendix 3), summarised into Table 4-1.

The ShIRBD had three separate seizures of illegal fyke nets amounting to 10-metres in length during 2024. These occurred on Lough Ree and Lough Derravaagh.

The ERBD had two instances of illegal fishing in 2024. Both occurred on Lough Ramor (Kells Blackwater), Virginia, Co. Cavan. One event reported 80 eels being seized (all released alive) from a net (15 metres) in length on February 1<sup>st</sup> 2024. The net was unattended, with no prosecution or fixed-charge penalty notice following the event. A second event on the same lake noted a net (angling equipment unspecified) being seized along with a keepnet. On this occasion, an individual was cautioned and issued with a fixed-charge penalty notice. The equipment was returned upon payment of the €150 fine.

There were no instances of seizures of illegal or undocumented eel shipments (Table 4-1).

There was no response to the questionnaire from Western RBD (Galway).

##### **Transboundary:**

No response from DEARA to the the illegal fishing questionnaire.

#### **4.2.4 Action 1b: Recreational Fishery**

The Bye Law No CS 319 2015 prohibiting the possession of eel caught in Ireland expired in June 2018 and was renewed in March 2024. The Bye Law CS 335 2024 states that it is prohibited to take or attempt to take or to fish or aid or assist in the taking or fishing for eel. It is also prohibited to be in possession of or sell or offer for sale or rewarded or to purchase eel caught or taken by any means. This Bye Law was issued without a review date.

#### **4.2.5 Action 1c: Diversification of the Fishery**

No update for 2024

Table 4-1 Details of illegal activity within the regions and transboundary Northern Ireland, 2024. (LA = Loughs Agency).

	ERBD	LA	DAERA	NWRBD	SHRBD	SERBD	SWRBD	WRBD Galway	WRBD Ballina
Silver T&T programme	No	No		Yes	Yes	No	Yes		No
Illegal trading related to T&T	n.a.	No		No	No	No	No		No
Estimated level of illegal fishing	Low	n.a.		None	Low	None	None		None
Number of gear seizures	2	n.a.		0	3	0	0		0
Gear types seized	Nets & keepnet	n.a.		n.a.	Fyke nets	n.a.	n.a.		n.a.
Number of eel dealer interceptions	0	n.a.		n.a.	0	0	0		0
Estimated tonnage on board	n.a.	n.a.		n.a.	n.a.	n.a.	n.a.		n.a.
Declared origin of cargos	n.a.	n.a.		n.a.	n.a.	n.a.	n.a.		n.a.

n.a.= not applicable

## 4.3 Management Action No. 2. Mitigation of hydropower

### 4.3.1 Action 2a: Trap and Transport

The targets were set for the trap and transport system in the Irish Eel Management Plan 2009-2011. These were subsequently modified, following the experience of the first three-year programme, for the 2012-2014, 2015-2017, 2018 – 2021, 2022-2024 and 2025-2027 periods the targets are as follows:

**Shannon:** Trap and transport 30% of the annual production (unchanged)

**Erne:** Trap and transport 50% of the annual silver eel production. A rolling target on a 3-year basis allowing shortfalls in one year to be made up the following year. A consistent long-term shortfall could not be carried forward indefinitely.

**Lee:** Trap and transport 500 kg of the annual escapement (unchanged)

#### 4.3.1.1 2024 Trap and Transport Results

The total amounts of silver eel trapped and transported in each of the three rivers in 2024 are presented in Table 4-2 to 4-4. The separate detail sheets of the amounts transported from each site on each date are presented as an Appendix to this report (Appendix 4).

In the **River Shannon** the trap and transport total of 32,248 kg represented 86.3% of silver eel production (using the escapement estimate adjusted to account for nights not fished) and, therefore, exceeded the 30% target, the EMP requirement was met on the basis of the agreed (3 year rolling mean value) protocol (Table 4-2).

In the **River Erne**, the trap and transport annual target (50% of silver eel production) for the River Erne was exceeded in the 2024/2025 season. The quantity (29,081 kg) transported for safe release at Ballyshannon represented 56.8% of the estimated silver eel production (51,166 kg) for the river system for the season (Table 4-3).

In the 2024/25 season, fishing took place on Iniscarra reservoir from September 3<sup>rd</sup> to 12<sup>th</sup>. Eels were caught using fyke nets (n=70). The total catch was 1,162 kg over 10 nights (Table 4-4), which exceeds the annual target for the river of 500 kg.

**Table 4-2: Total amounts (t) of silver eel trapped and transported in the Shannon, 2009-2024, and the success relative to the targets set in the EMPs.**

Year	Bbest	Bcurrent	HPS Mort kg	T&T Target	Amount Transported (kg)	Relation to target	3 yr Running Average
2009	74,382	66,788	4,095	30% of run	23,730	31%	31%
2010	68,920	60,170	8,210	30% of run	27,768	40%	36%
2011	65,558	57,885	7,673	30% of run	25,680	39%	37%
2012	67,931	58,836	9,095	30% of run	24,228	36%	38%
2013	79,970	70,775	9,195	30% of run	22,561	28%	34%
2014	70,725	62,980	6,950	30% of run	26,438	37%	34%
2015	70725*	65798*	4,656	30% of run	19,957	28.2%*	31%
2016	38,608	32,920	3,062	30% of run	16,711	43%	36%
2017	34,139	31,191	2,948	30% of run	16,737	49%	40%
2018	32,580	29,613	2,967	30% of run	16,411	50%	47%
2019	38,028	33,011	5,017	30% of run	11,853	31%	44%
2020	41,548	37,810	3,738	30% of run	21,229	51%	44%
2021	23,903	22,902	1,001	30% of run	18,751	78%	53%
2022	36,943	33,629	3,314	30% of run	19,929	54%	61%
2023	34,660	32,729	1,931	30% of run	23,882	69%	67%
2024	37,356	36,302	984	30% of run	32,248	86%	70%

**Table 4-3 Total amounts (t) of silver eel trapped and transported in the Erne 2009-2024, and the success relative to the targets set in the EMPs. Note change of target on the Erne in 2012.**

Year	Bbest	Bcurrent	HPS Mort kg	T&T Target	Amount Transported (kg)	Relation to target	3 yr Running Average
2009			20,960	22t	9,383	42.6%	
2010	41,232	37,942	3,047	34t	19,334	56.9%	46.9
2011	42,855	40,011	2,394	39t	25,405	65.1%	59.3
2012	67,666	57,366	10,215	50% of run	34,660	51%	51%
2013	73,330	64,285	8,809	50% of run	39,319	54%	52%
2014	72,493	66,525	5,859	50% of run	48,126	66%	57%
2015	78,034	71,650	6,333	50% of run	54,706	56%	59%
2016	62,871	51,377	11,494	50% of run	38,264	61%	61%
2017	68,810	58,539	10,271	50% of run	43,470	63%	60%
2018	83,033	68,244	14,896	50% of run	47,004	57%	60%
2019	66,175	54,209	11,966	50% of run	39,651	60%	60%
2020	65,263	56,885	8,378	50% of run	46,957	72%	63%
2021	78,876	62,286	15,590	50% of run	45,000	57%	63%
2022	61,941	52,615	9,326	50% of run	40,531	65%	65%
2023	98,702	75,859	22,843	50% of run	48,027	49%	57%
2024	51,166	41,422	10,404	50% of run	29,081	57%	57%

**Table 4-4 Total amounts (t) of silver eel trapped and transported in the Lee 2009-2024, and the success relative to the targets set in the EMPs.**

Year	Bbest	Bcurrent	HPS Mort kg	T&T Target	Amount Transported (kg)	Relation to target	3 yr Running Average
2009				0.5t	79	16%	16%
2010				0.5t	278	56%	36%
2011				0.5t	731	146%	73%
2012				0.5t	230	46%	83%
2013				0.5t	824	165%	119%
2014				0.5t	670	134%	115%
2015				0.5t	527	105%	135%
2016				0.5t	44	9%	83%
2017				0.5t	542	108%	74%
2018				0.5t	35	7%	41%
2019				0.5t	1,098	220%	112%
2020				0.5t	1,082	216%	148%
2021				0.5t	1,033	207%	214%
2022				0.5t	1,087	217%	213%
2023				0.5t	1,173	235%	220%
2024				0.5t	1,162	232%	228%

**4.3.2 Action 2b: Quantify Turbine Mortality**

**4.3.2.1 Shannon**

No update for 2024

**4.3.2.2 Erne**

No update for 2024

**4.3.3 Action 2c: Engineered Solution**

On the Erne system, the ESB have an ongoing project in place for the repurposing of the Erne hydro stations smolt gates. These are located at both Cathaleen’s Fall and Cliff stations. These will be developed into surface deflection facilities which will allow for the future bypass route option for migratory fish. Following 2024/2025 planning and design it is expected construction will take place in late 2026 and into 2027.

In the Lower Shannon an investigation by CDM Smith on mitigating fish passage is complete. The report is with the Department of Housing, Local Government and Heritage.

**4.3.4 Action 2c: Other solutions**

A pilot study on the potential of light deflection techniques to divert eel migration away from the lights was tested in Lough Erne by AFBI and Queens University. See Section 5.4.6.

#### 4.4 Management Actions No. 3. Ensure upstream migration at barriers

Under the National Eel Management Plan, objective 7 requires the evaluation of upstream colonisation: migration and water quality effects. Lasne and Laffaille (2008) found that while eels are capable of overcoming a wide array of obstacles the resulting delay in migration can have an impact on the eel distribution in the catchment. Knowledge of what constitutes a barrier for eels (at different life stages) will assist in the estimation of eel population densities and escapement for future management plan reviews. The EU Habitats Directive (Directive 92/43/EEC) and Water Framework Directive (2000/60/EC) both require the assessment of barriers to fish migration.

##### 4.4.1 Action 3a: Existing barriers (inc. small weirs etc.)

To fulfil its remit to produce a georeferenced database of barriers to fish passage on the Irish river network, the National Barriers Programme (NBP) team has performed a desk-based survey to identify potential barriers at a national scale, collating significant volumes of geospatial data from state agencies, such as the OPW, OSi, TII, Waterways Ireland, and Irish Rail, as well as historic IFI barrier surveys. This has produced a geodatabase of 73,338 potential barriers, which are being assessed using field surveys and desk-based analysis photographs or video of barrier sites. Using the IFI developed I-BAST application to date 37,121 structures have been assessed, 28,776 were classified as being 'not a barrier' with 8,345 classified as a 'potential barrier' requiring further work. Detailed assessments using the SNIFFER survey have been carried out on 311 structures in advance of mitigation works (Figure 4-1).

In the ESB operated Clady River, a fish lift is being replaced with a vertical slot fish pass, this work is scheduled for 2024.

The Borland McDonald fish lift, located at Gweedore Weir on the Clady River, is currently being worked upon by ESB Engineering and major projects staff and external ESB appointed consultants. In 2025, the site was cleared of undergrowth, and some selective core drilling of the bedrock occurred. Now that the full Appropriate Assessment for the task has nearly been completed, it is planned to seek full planning permission in early 2025 with construction beginning in late 2026.

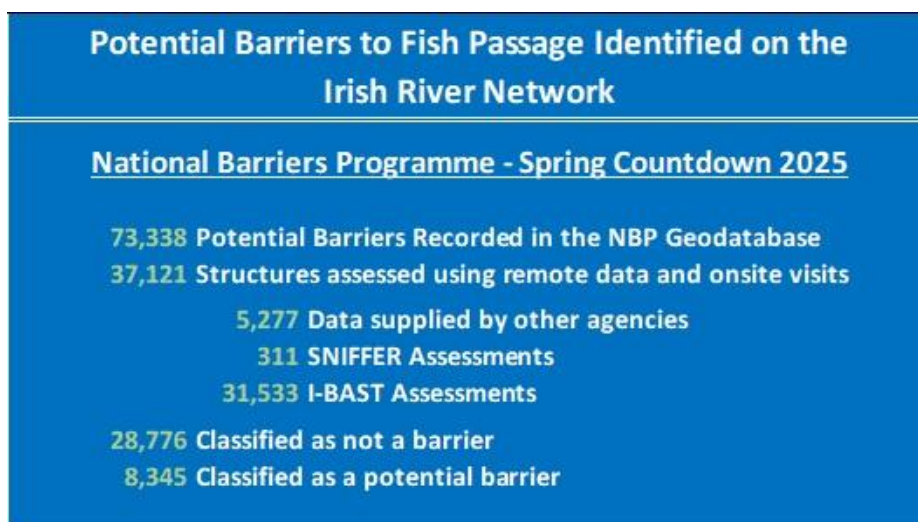


Figure 4-1 Summary description of barrier identification & mitigation.

#### **4.4.2 Action 3b: New potential barriers**

IFI have created an internal group to review the 2012 'Guidelines for Small Scale Hydro Schemes'. This work is still in progress

#### **4.4.3 Action 3c: Assisted migration and stocking**

Assisted upstream migration takes place at the ESB Hydropower Stations on the Shannon (Ardnacrusha, Parteen), Erne (Cathaleen's Fall), Liffey and Lee. This has been a long-term objective to mitigate against the blockage of the HPSs under ESB Legislation (Sec 8, 1935). On the Erne and Shannon, elvers and bootlace eel are transported upstream from the fixed elver traps. These programmes outlined in the EMP were continued in 2025. The catches shown in were transported upstream. On the Erne, the distribution of elvers throughout the catchment is by cross-border agreement between IFI and DAERA.

### **4.5 Management Action No. 4 Improve water quality**

#### **4.5.1 General water quality – Compliance with the Water Framework Directive**

The most recent EPA Water Quality Indicators report (EPA, 2024) highlighted that there was no significant change in the nutrient concentrations or in the biological quality of our rivers and lakes in 2023, and that water quality was not improving. The data in these EPA reports showed that nitrate concentrations remained too high in rivers, groundwater, and estuaries in the south-east, south-west and midlands & eastern regions.

Subsequently, the EPA early insights indicator report on nitrogen concentrations in the 20 major Irish rivers (EPA, 2025) noted a reduction in nitrate concentration during 2024, but, despite this reduction, nitrogen concentrations remained too high in the southeastern half of the country.

#### **4.5.2 WFD monitoring – fish**

Inland Fisheries Ireland is responsible for delivering the fish monitoring element of the WFD in Ireland. Eel are included in the WFD (fish) monitoring of rivers, lakes and transitional waters. Summary reports are available for all sites surveyed ([www.wfdfish.ie](http://www.wfdfish.ie)). All reports are uploaded to the website <http://wfdfish.ie/>.

Results from 2023 are reported in section 6.2 of this report.

#### **4.5.3 Fish Kills**

National fish kills are reported in the IFI annual reports and published online. A review of the data was carried out recently and the numbers in the table will have changed from previous TEGE reports.

<http://www.fisheriesireland.ie/Corporate/corporate-publications.html>

There were 25 reported fish kills in 2022, a further 17 in 2023, and 24 confirmed recorded fish kills by the end of 2024 (Table 4-5 Fish kill data 2007 – 202).

**Table 4-5 Fish kill data 2007 – 2024**

<b>Year</b>	<b>No of Fish Kills</b>
2007	18
2008	27
2009	13
2010	34
2011	26
2012	10
2013	36
2014	22
2015	23
2016	30
2017	14
2018	39
2019	20
2020	5
2021	41
2022	25
2023	17
2024	24

## 5 Silver Eel Assessment

(refers to Ch. 7.2.1 of the National EMP Report, 2008)

### 5.1 Introduction

The Council Regulation (EC) No 1100/2007 sets a target for silver eel escapement to be achieved in the long-term - 40% escapement of silver eels compared to the pristine level of escapement (pre 1980's). Ireland is therefore required to provide an estimate of contemporary silver eel escapement. The Regulation also requires post-evaluation of management actions by their impact directly on silver eel escapement. Quantitative estimates of silver eel escapement are required both to establish current escapement and to monitor changes in escapement relative to this benchmark. Furthermore, the sex, age, length and weight profile of migrating silver eels are important for relating recruitment or yellow eel stocks to silver eel escapement. Quantifying migrating silver eel between September and December, or even January/February the following year, annually is a difficult and expensive process but it is the only way of ultimately calibrating the outputs of the assessments.

Silver eels are being assessed by annual fishing of index stations on the Erne, Shannon, Burrishoole, Barrow and Fane catchments (Table 5-1). Figure 5-1 shows the sampling locations in 2023.

There are three monitoring objectives in relation to silver eels:

1. Synthesise available information into a model-based management advice tool.
2. Estimate silver eel escapement (in collaboration with ESB, NUIG, Marine Institute)
3. Estimate silver eel escapement indirectly using yellow eels.

In Ireland escapement and mortality is calculated for two ESB catchments by the National University of Ireland Galway (Shannon, Erne), for the Burrishoole system by the Marine Institute and for the Fane and Barrow system by Inland Fisheries Ireland.

**Table 5-1: The locations where silver eel escapement will be assessed.**

Catchment	Priority	2024	2025	2026	Method
Erne	High	√	√	√	Coghill net / Mark-recapture
Shannon	High	√	√	√	Coghill net / Mark-recapture
Burrishoole	High	√	√	√	Trap
Fane	High	√	√	√	Coghill net / Mark-recapture
Barrow	High	√	√	√	Coghill net / Mark-recapture

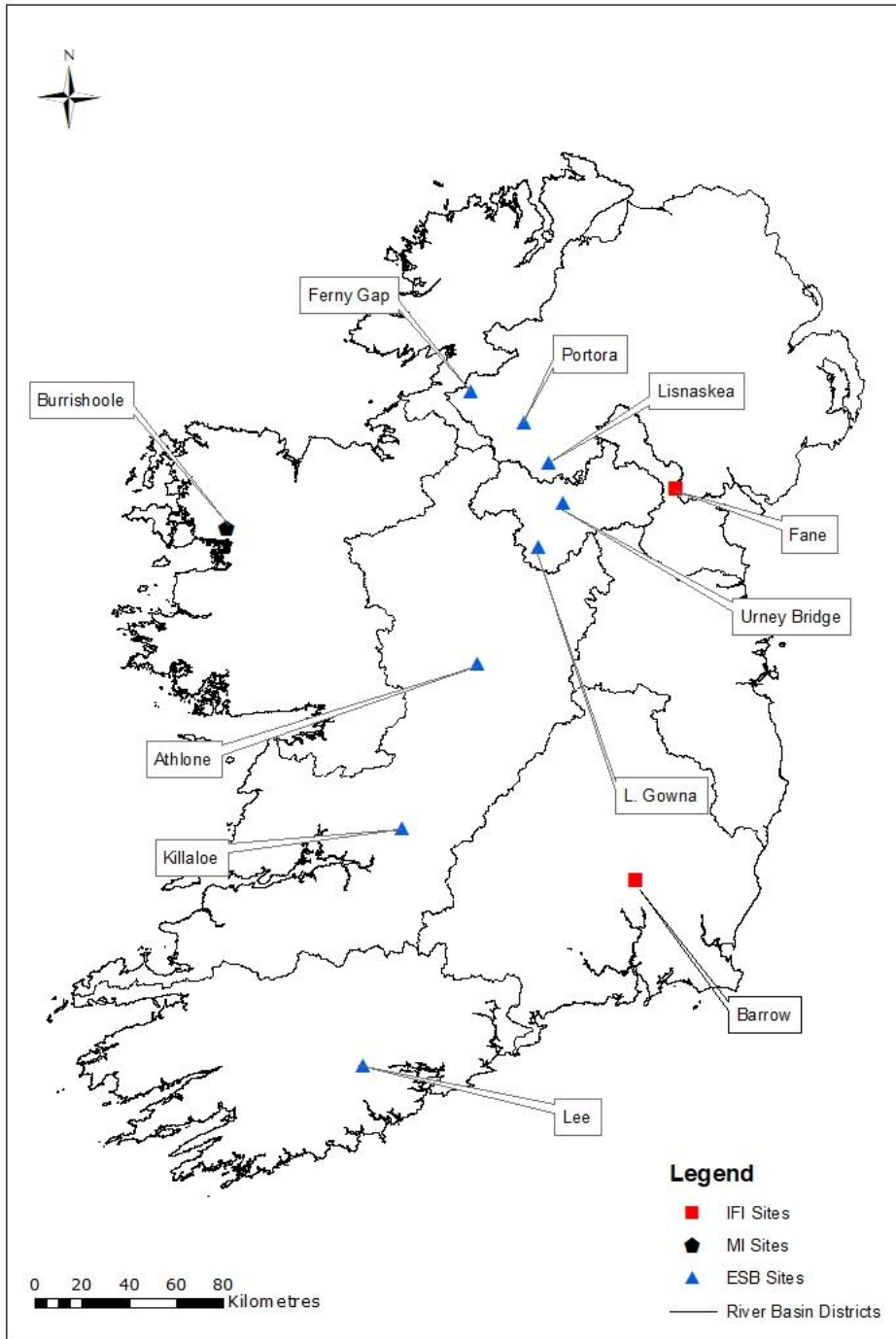
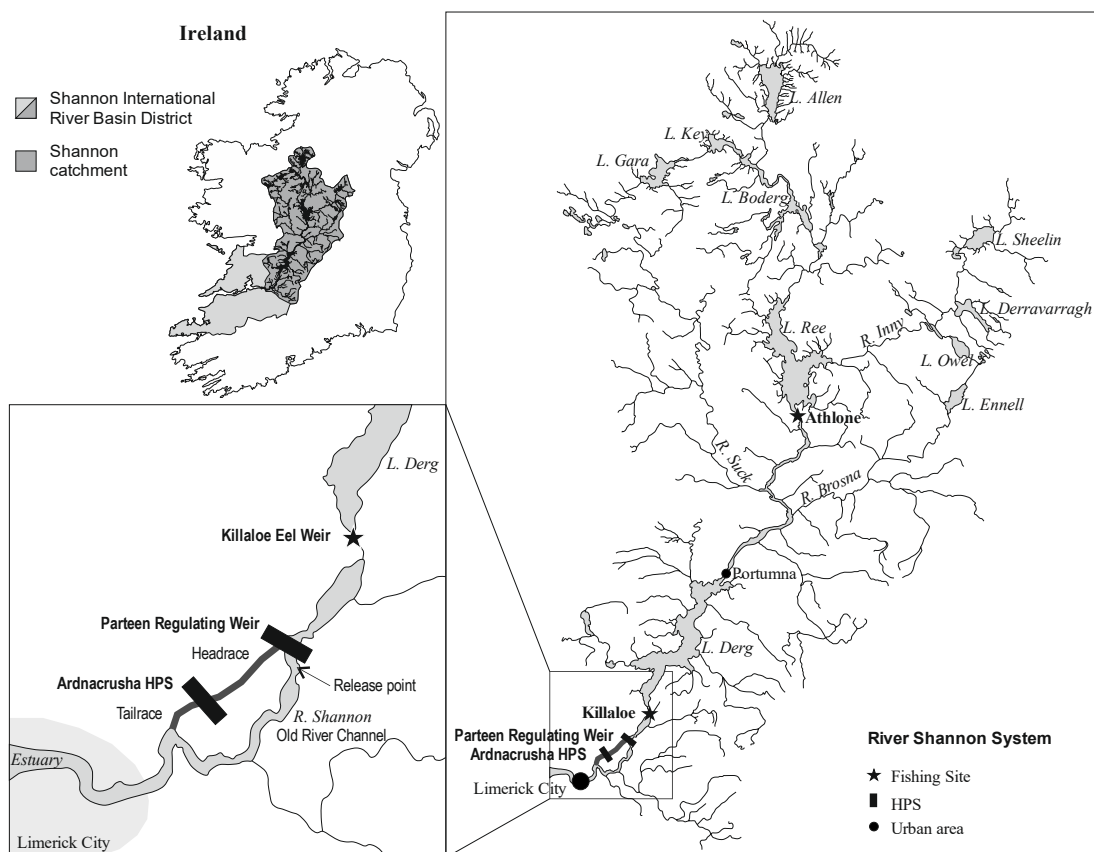


Figure 5-1 Silver eel monitoring locations, 2024.

## 5.2 Shannon

The Shannon River Basin District (Figure 5-2), as defined by the objectives of the Water Framework Directive, spans approximately 18,000 km<sup>2</sup>, with the majority located in the lowland central region of the Republic of Ireland. A small section (6 km<sup>2</sup>) of the upper River Shannon basin extends into Northern Ireland. It is estimated that there are over 1,600 lakes within the basin, covering a total surface area of 440 km<sup>2</sup>, although most of these lakes are smaller than 0.5 km<sup>2</sup>. The river basin district contains around 16,000 km of river channels.

The River Shannon, which flows into the Shannon Estuary, drains an area of approximately 11,700 km<sup>2</sup> upstream of Limerick. Its total water surface area is around 4,100 km<sup>2</sup>, with the ten largest lakes accounting for 90% of the total lake area. Most of these lakes are shallow and range from mesotrophic to eutrophic. The three largest lakes: Lough Allen (35 km<sup>2</sup>), Lough Ree (105 km<sup>2</sup>), and Lough Derg (117 km<sup>2</sup>), form a series through which the main river channel flows. The river has a remarkably low gradient, rising about 152 meters above sea level before flowing southward, with only a 12-meter drop in altitude over 185 km, before descending more steeply to sea level. The principal rivers that feed into the Shannon Estuary are the River Feale (1,153 km<sup>2</sup>, 34.6 m<sup>3</sup>/s), the River Maigue (1,075 km<sup>2</sup>, 15.6 m<sup>3</sup>/s), and the River Fergus (881 km<sup>2</sup>, 25.7 m<sup>3</sup>/s).



**Figure 5-2 Map of River Shannon catchment with conservation fishing sites, release point and Ardnacrusha HPS indicated.**

The Ardnacrusha generating station (86 MW) is situated 3 km upstream from the tidal limit of the River Shannon at Limerick City, and it taps into a catchment area of 10,400 km<sup>2</sup> upstream. The station (Plate 5-1) is equipped with three vertical shaft Francis turbo generators and one vertical shaft Kaplan turbo generator, all operating under an average head of 28.5 meters. A 12.6 km headrace canal supplies the station with up to 400 m<sup>3</sup>/s of water required for maximum generation. A 2.4 km long tailrace canal carries the station's discharge back into the River Shannon.

The Parteen Regulating Weir (Plate 5-2), located at the head of the headrace canal, diverts the main flow of the River Shannon to the power station. A storage reservoir just upstream of the weir provides additional impounded water. A statutory 10 m<sup>3</sup>/s compensatory flow is required to be released back into the river channel. Since the 1980s, most of this water has passed through a 600 kW turbine at the Parteen Regulating Weir, with the remainder directed to a fish pass. During periods of high water, when Ardnacrusha is generating at full capacity and the level of Lough Derg rises above 33.56 m, excess water is released into the river channel through one or more of the three 18-meter undershot gates at the Parteen Regulating Weir. This process is called “spillage.” The average annual flow of the River Shannon at Killaloe, located 3 km upstream of the regulating weir, is 186 m<sup>3</sup>/s, but flows can drop to 10-15 m<sup>3</sup>/s in dry summers or rise above 700 m<sup>3</sup>/s during major floods. River flow patterns are also managed at other weirs in the middle and upper catchment, primarily for navigation and flood management purposes. Notable weirs are located at the outlets of Loughs Allen and Ree and along the river channels at Rooskey, Termonbarry, and Meelick.



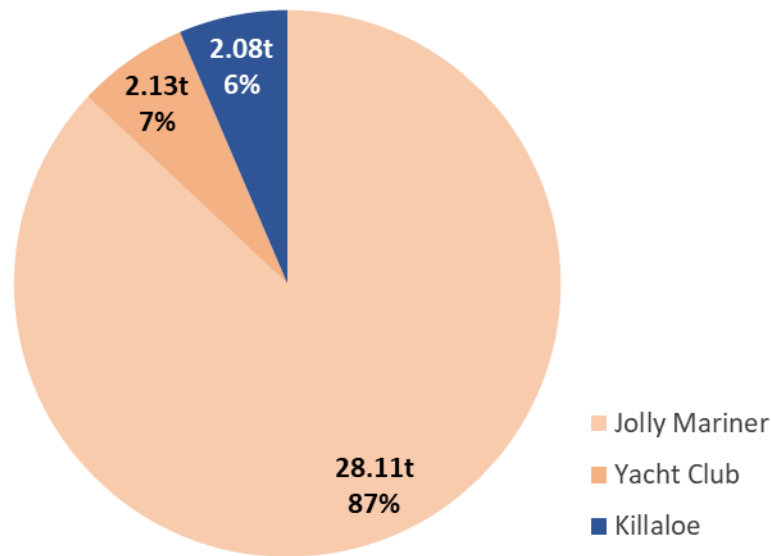
**Plate 5-1 Aerial photo of Ardnacrusha Hydropower Station.**



**Plate 5-2 Aerial photo of Parteen regulating weir with the Headrace canal on the right and old river channel on the left.**

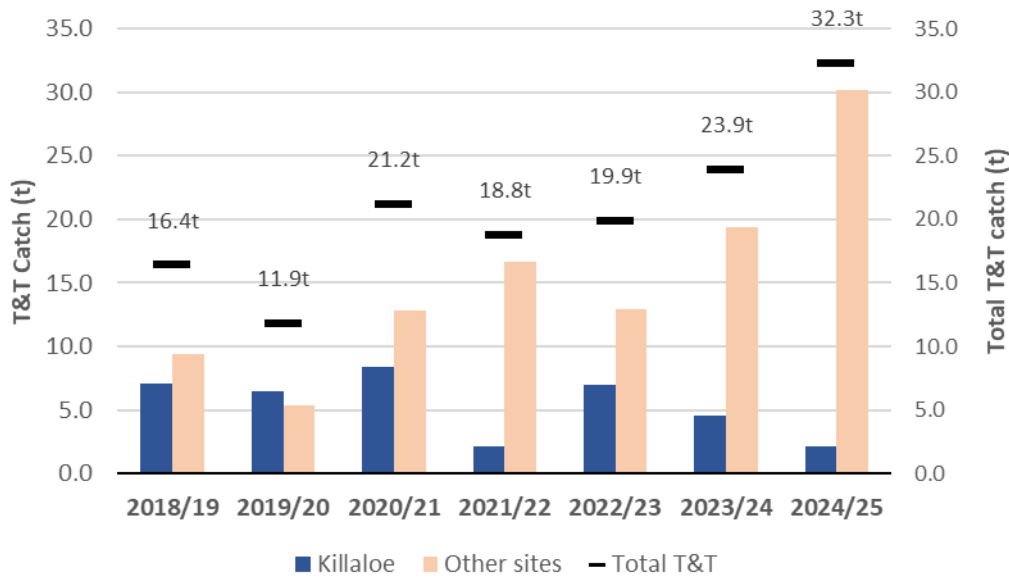
### 5.2.1 Catch

During the 2024/25 season eel fishing for the Trap and Transport scheme took place at three sites: two in Athlone and one in Killaloe (Figure 5-2). Fishing started in the last week of August 2024 at Athlone and in the first week of October 2024 at Killaloe. While fishing ended in January 2025, it continued at Killaloe until the beginning of March 2025. A total of 30,240 kg of eels were captured at Athlone (28,107 kg at the Jolly Mariner site and 2,133 kg at the Yacht Club site), with an additional 2,078 kg caught at Killaloe (70 kg of which was retained as a research sample leaving 2,008 kg). Of the Killaloe catch, 70 kg was used for scientific sampling. The total Trap and Transport catch for the season amounted to 32,248 kg (Figure 5-3, Appendix 4-1).

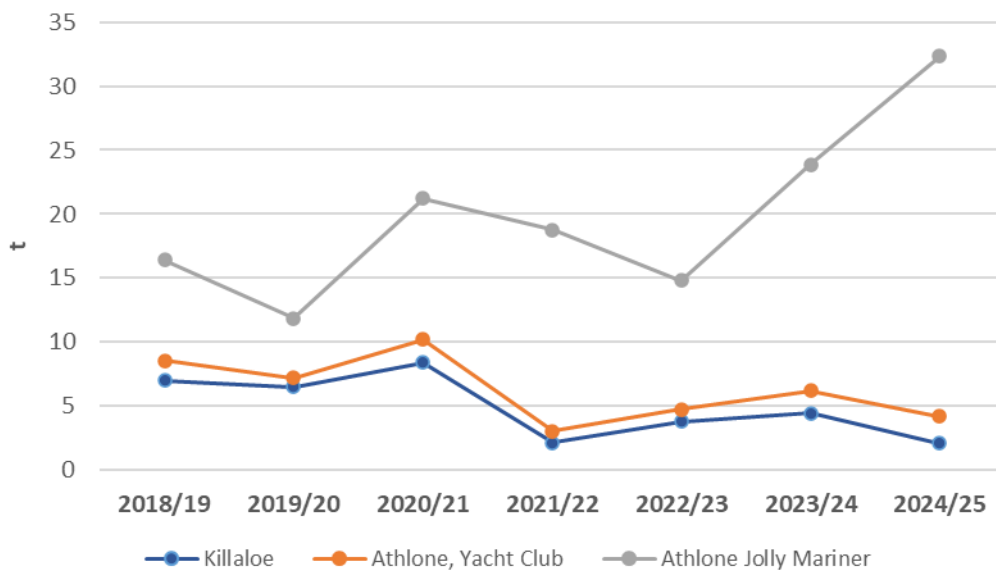


**Figure 5-3 The relative quantities of silver eels contributed by fishing crews to the River Shannon T&T during the 2025/2025 season.**

The total Trap and Transport catch in 2024/25 was 8.4 tons higher than the previous season and represents the highest T&T capture in the Shannon system since the 2018/19 season (Figure 5-4). The Jolly Mariner fishing site accounted for most of the catch, with 28.1 tons, making up 87% of the total eel capture for the season. Notably, there was a 59.1% increase in the catch at this site compared to the 2023/24 silver eel fishing season (Figure 5-5).

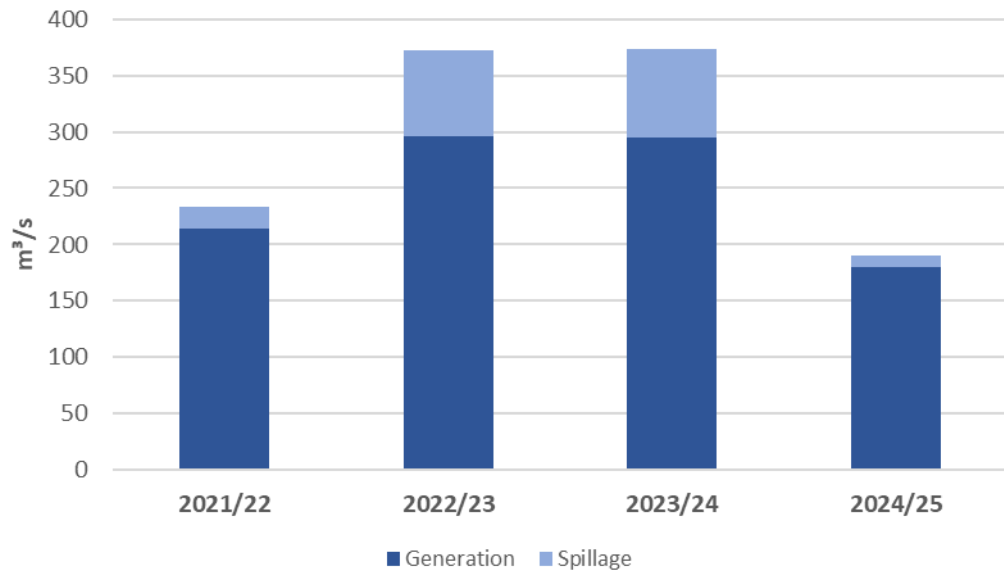


**Figure 5-4 Total Shannon Trap and Transport Program silver eel catches, released in seven subsequent years, along with proportion of Killaloe and other sites catch contributions.**

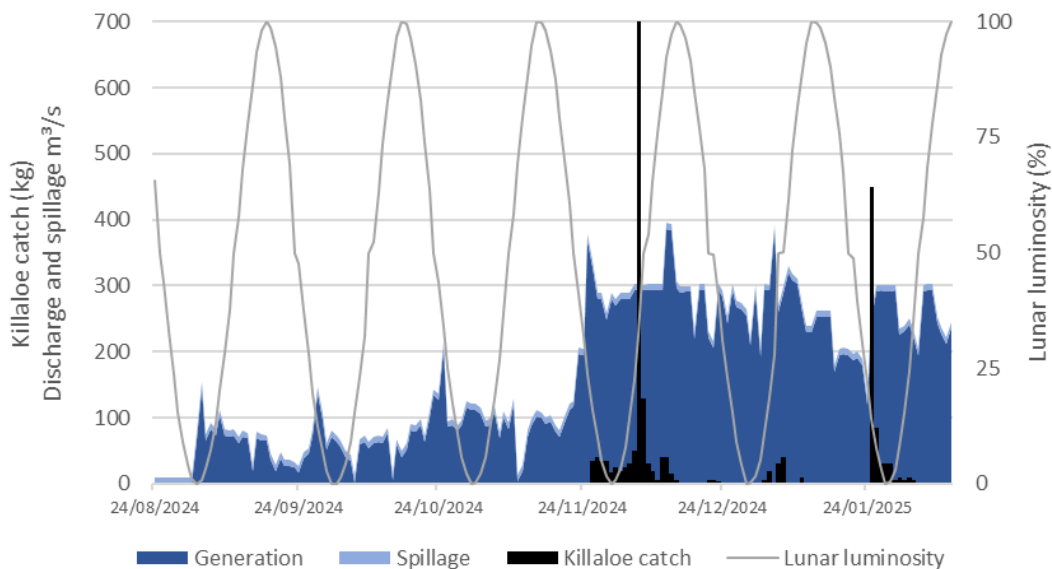


**Figure 5-5 River Shannon seasonal silver eel catches.**

The average discharge during the 2024/25 season was 189.9 m<sup>3</sup>/s, which is 49% lower than the previous season's average of 373.7 m<sup>3</sup>/s. Water spillage accounted for 5.5% of the total seasonal River Shannon discharge (Figure 5-6). The spillage consisted only of the statutory 10.5 m<sup>3</sup>/s released through the old river channel and the Ardnacusha HPS fish pass. Daily catch rates at the Killaloe eel weir are displayed in Figure 5-7, along with variations in discharge and spillage. The highest catches were recorded during the first moon quarter phase in November and the last moon quarter phase in January.



**Figure 5-6 River Shannon average seasonal discharge.**



**Figure 5-7 Variation in daily catches at the Killaloe fishing site, in relation to the lunar cycle, discharge and spillage during the 2024/25 season.**

**5.2.2 Mark Recapture**

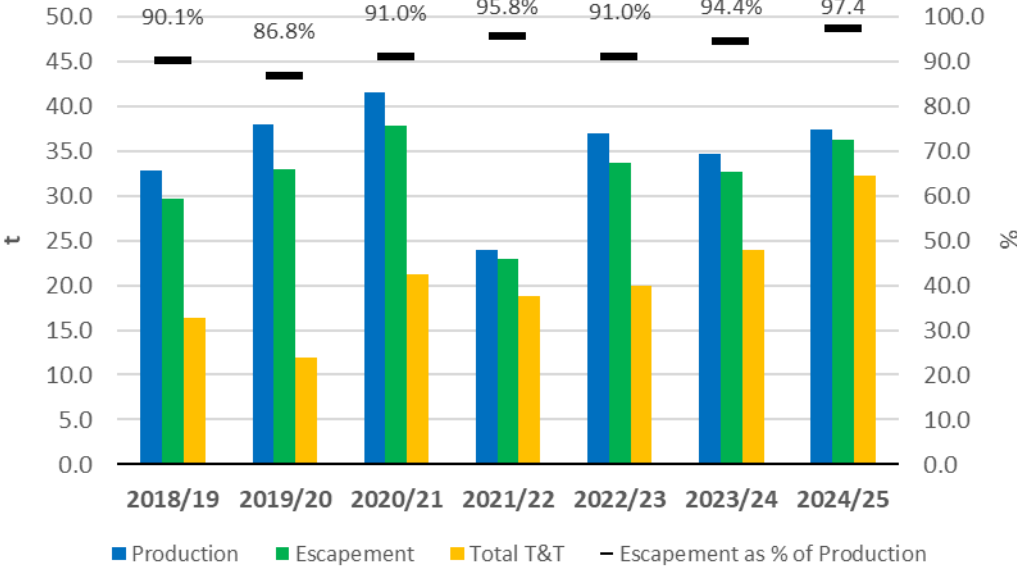
No update for 2024

**5.2.3 Production and Escapement**

Production and escapement data for the River Shannon are summarized in the flow diagram (Figure 5-9). The estimated production of 37,356 kg is derived from the trap and transport catch at Killaloe, using a fishing efficiency rate of 29.2%, along with the catch from the two Athlone sites. This efficiency rate for Killaloe is based on fourteen Mark-Recapture

experiments conducted by the University of Galway between 2016/17 and 2019/20 (MacNamara *et al.*, 2014; Lenihan *et al.*, 2021). In total, 32,248 kg (86.3% of the production) was transported beyond the hydropower station via trap and transport. Of the 5,038.4 kg that passed beyond the Killaloe weir, it is estimated that 384.8 kg (7.6%) migrated through the Old River Channel. This estimate is based on the amount of spillage to the Old River Channel, determined using a regression model derived from historical telemetry studies of migration route selection (MacNamara *et al.*, 2014). An estimated mortality rate of 21.15% (984.2 kg) occurred at the Ardnacrusha hydropower station from the 4,653.6 kg that entered the headrace, leaving 4,054.2 kg to continue downstream. This results in an escapement of 36,302.2 kg, or 97.4% of the total production.

The estimates for production, escapement, and trap and transport quantities over the last six years are generally consistent, except for the 2021/22 season, where production was 13 tons lower (Figure 5-8). The percentage of escapement relative to production has remained high throughout, ranging from 86.8% to 97.4%. Current and annual figures for production and escapement for the Shannon are shown in Table 5-2. An explanation of how calculations are carried out is available in Appendix 5, Figure A5-1.



**Figure 5-8** Estimates of production, escapement, and trap and transport quantities and escapement as a percentage of production values in last seven subsequent years.

**Table 5-2 Production and escapement estimations on the River Shannon from 2016**

<b>Year</b>	<b>Production (kg)</b>	<b>Escapement (kg)</b>	<b>% of Production</b>
2024/25	37,356	36,302	97.4
2023/24	34,660	32,729	94.4
2022/23	36,943	33,629	91.0
2021/22	23,903	22,902	95.8
2020/21	41,548	37,810	91.0
2019/20	38,028	33,011	86.8
2018/19	32,850	29,613	90.1
2017/18	34,139	31,191	91.4
2016/17 *	38,608	32,920	85.3

\* Figure raised to account for gaps in fishing due to flood event

#### **5.2.4 Length**

No length frequencies for 2024

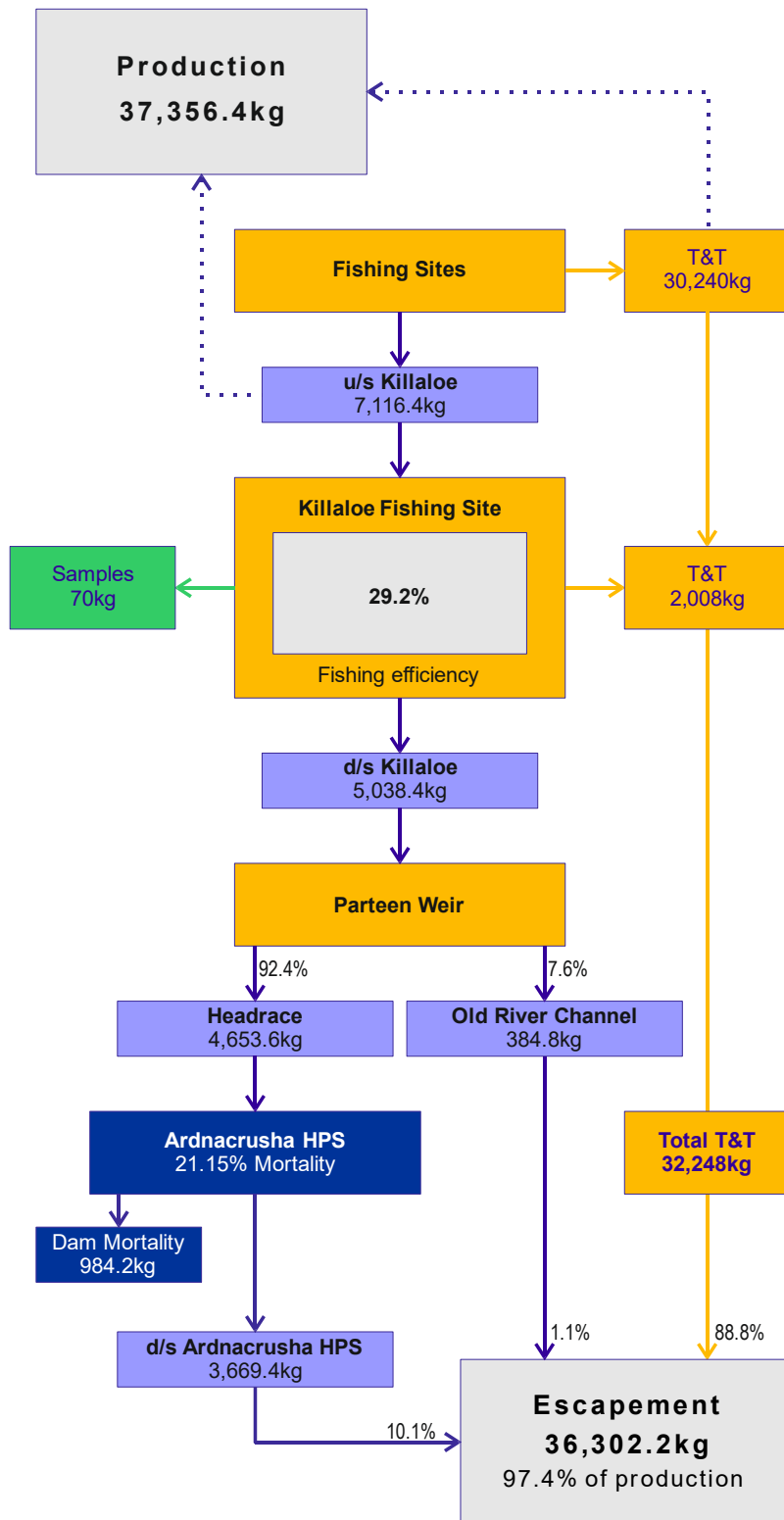
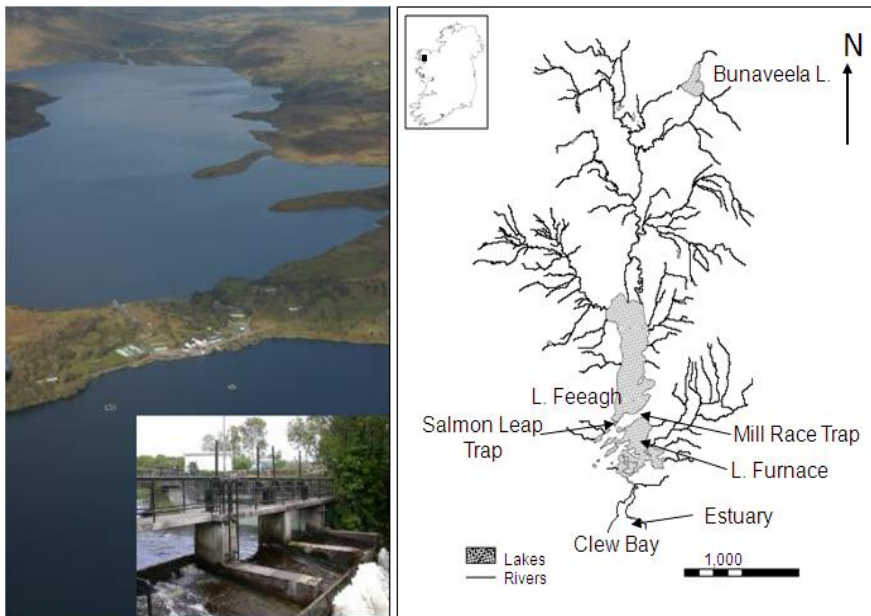


Figure 5-9 A summary of the analysis of silver eel production and escapement in the River Shannon during the 2024/25 eel migration season. See Appendix 5 for further explanation.

### 5.3 Burrishoole

The only total silver eel production and escapement data available in Ireland is for the Burrishoole catchment in the Western RBD, a relatively small catchment (0.3% of the national wetted area), in the west of Ireland. The Burrishoole consists of rivers and lakes with relatively acid, oligotrophic, waters (Figure 5-10). The catchment has not been commercially fished for yellow eels, has not been stocked and there are no hydropower turbines.

The eels have been intensively studied since the mid-1950s; total silver eel escapement from freshwater was counted since 1970 (Poole *et al.*, 1990; Sandlund *et al.*, 2017; Poole, data unpublished); and an intensive baseline survey was undertaken in 1987-88 (Poole, 1994). The detailed nature of the Burrishoole data makes it suitable for model calibration and validation (e.g. Dekker *et al.*, 2006; Walker *et al.* 2011).



**Figure 5-10** An aerial view of the Burrishoole catchment, looking north over the tidal Lough Furnace, in the foreground, and the freshwater Lough Feeagh: inset shows the silver eel downstream trap at the "Salmon Leap". A map of the Burrishoole catchment showing the locations of the traps.

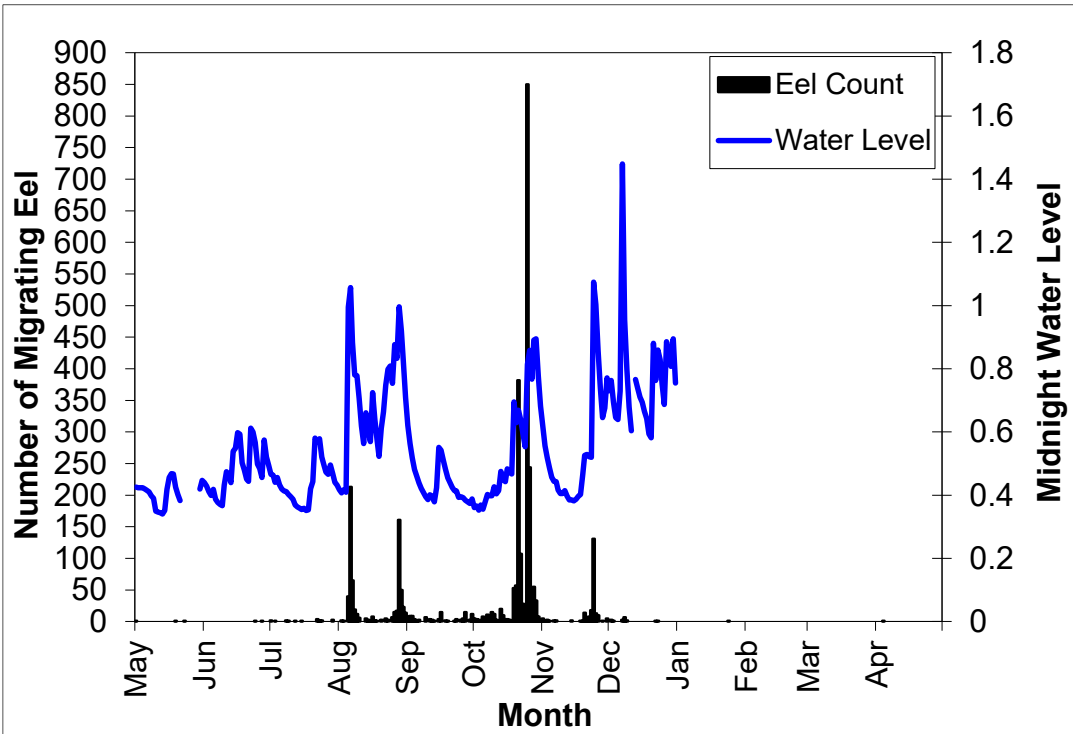
#### Catch

The total run amounted to 3,067 eels. As in other years, the highest proportion of the total catch (86.9%) was made in the Salmon Leap trap. The silver eel season in 2024 opened early with some silvers being recorded in May, June and July. High water in early and late August gave two peaks in run (Figure 5-11). A long spell of low water led to low numbers of eels through until a flood at the end of October led to a peak in the run when over 60% of the eels migrated in a couple of days. Few eels migrating in November and December (<8%) (Figure 5-11).

In 2024, the timing of the run was 23% migrating up to the end of August, and 66% in September leading to an earlier run than that recorded in 2022 or 2023 (Table 5-3). Figure 5-11 shows the daily counts of eels.

**Table 5-3 Timing and numbers of the 2024/2025 silver eel run.**

	Salmon Leap	Mill Race	Total	%
May	2	1	3	0.1
June	0	2	2	0.1
July	11	8	19	0.6
August	607	70	677	22.1
September	81	29	110	3.6
October	1739	273	2012	65.6
November	208	15	223	7.3
December	16	2	18	0.6
Jan. 2025	1	0	1	0.0
February	1	0	1	0.0
March	0	0	0	0.0
April	1	0	0	0.0
<b>Total</b>	<b>2,667</b>	<b>400</b>	<b>3,067</b>	



**Figure 5-11 Daily counts of downstream migrating silver eel and mid-night water level (m).**

**Length, weight & sex**

Sampling of individual eels (n = 968) gave an average length of 41.3 cm (range: 28.3 – 104.1cm), an average weight of 151 g and the proportion of male eels was estimated at 48.1% splitting it 50:50 at the 40.0-40.9 cm interval. The Battacharya method used in previous years gave a % male of 34.4% male. The dropping size of females has made it difficult to determine the sex

ratio as the gap between the sexes is closing. It is proposed to do some internal sex sampling in 2025 to examine this in more detail.

The length frequency is presented in Figure 5-12 along with those from 2022 and 2023 for comparison. The lack of eels above 46/47 cm was once again notable and the declining modal size of females is also continuing.

Counts of silver eel between the years 1971 (when records began) and 1982 averaged 4,400, fell to 2,200 between 1983 and 1989 and increased again to above 3,000 in the '90s (Figure 5-12). There was an above average count in 1995, possibly contributed to by the exceptionally warm summer. The count in 2001 of 3,875 eels was the second highest recorded since 1982. The average weight of the eels in the samples increased from 95 g in the early 1970s to 216 g in both the 1990s and the 2000s (Figure 5-13). This has dropped again to an average of about 150 g in the last three years.

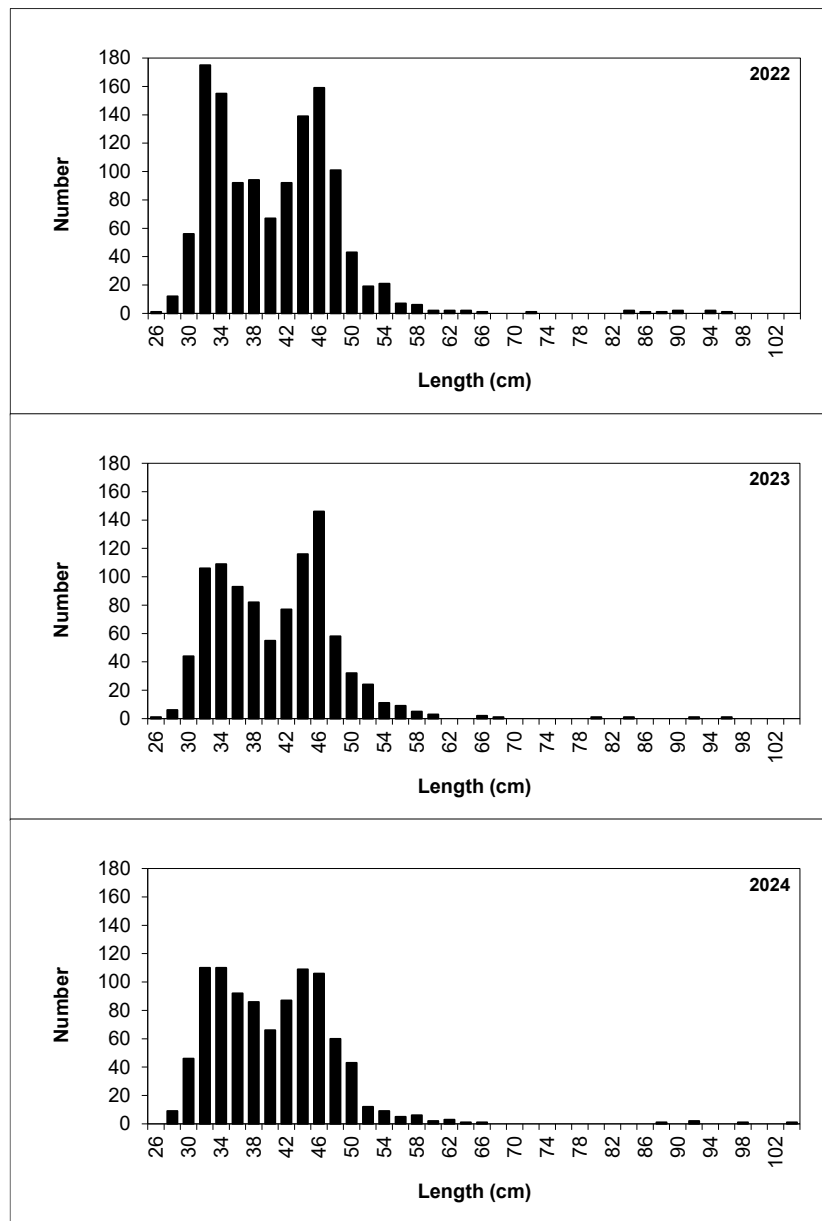


Figure 5-12 Length frequency of samples of silver eels trapped in the Burrishoole downstream traps, 2022 (1255), 2023 (985) and 2024 (n=968). Note one eel in 2022 at 25.8 cm was plotted as 26 cm. Note also the x-axis has been extended to 104 cm.

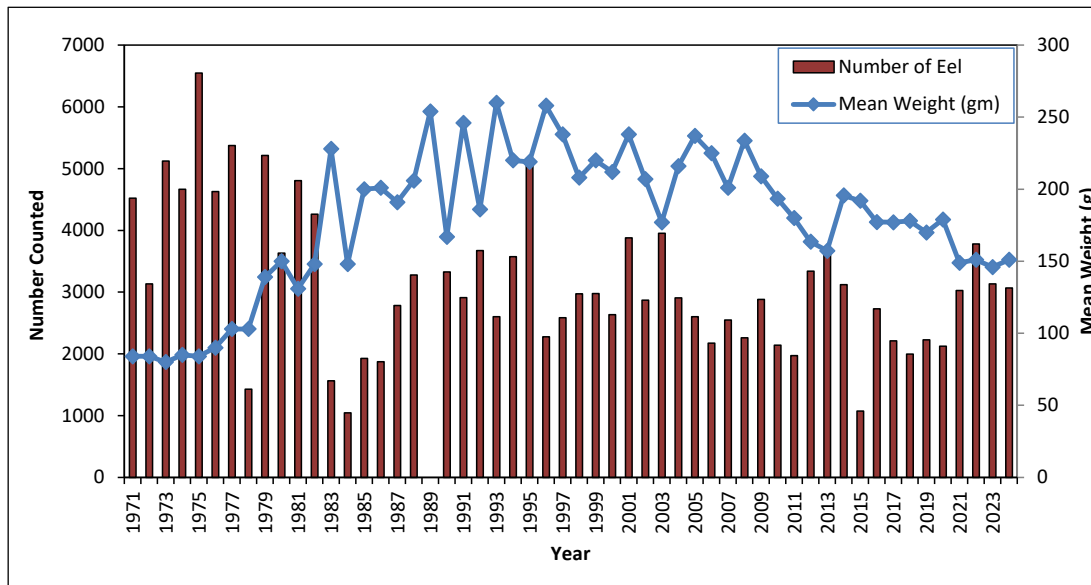
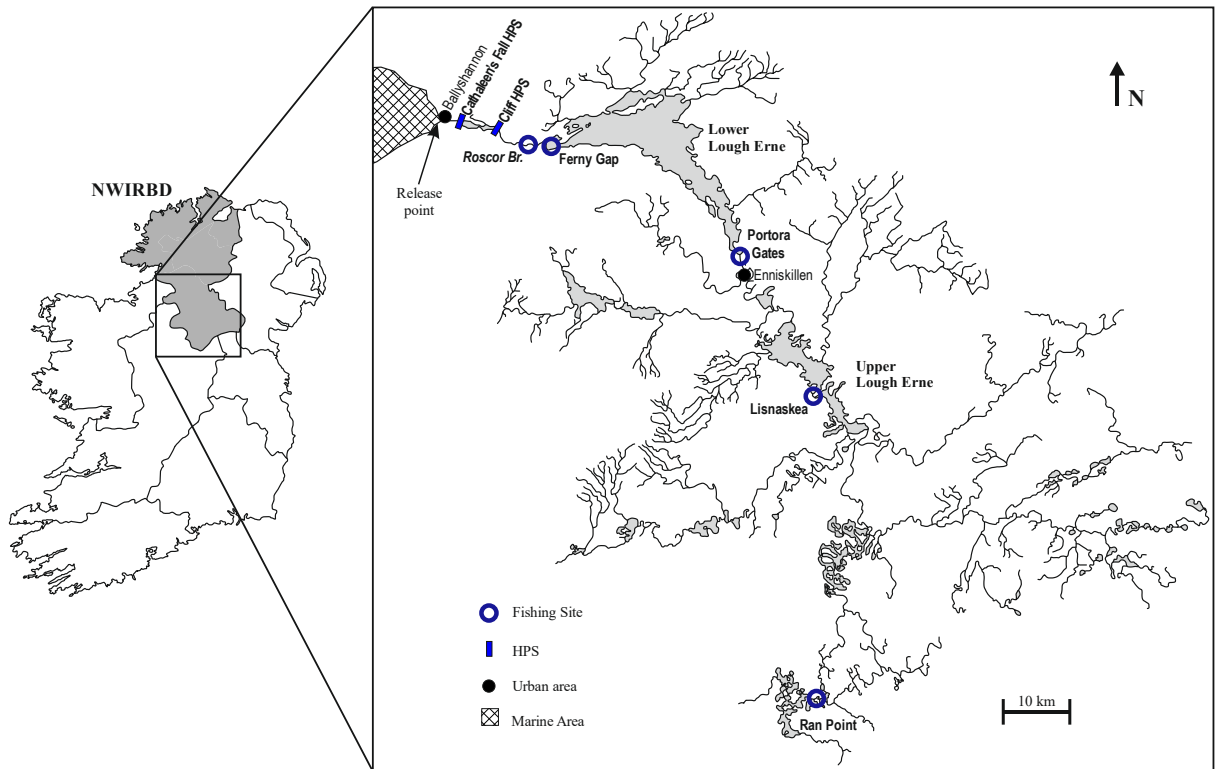


Figure 5-13 Annual number and mean weight of silver eels trapped in the Burrishoole downstream traps.

#### 5.4 Erne Transboundary

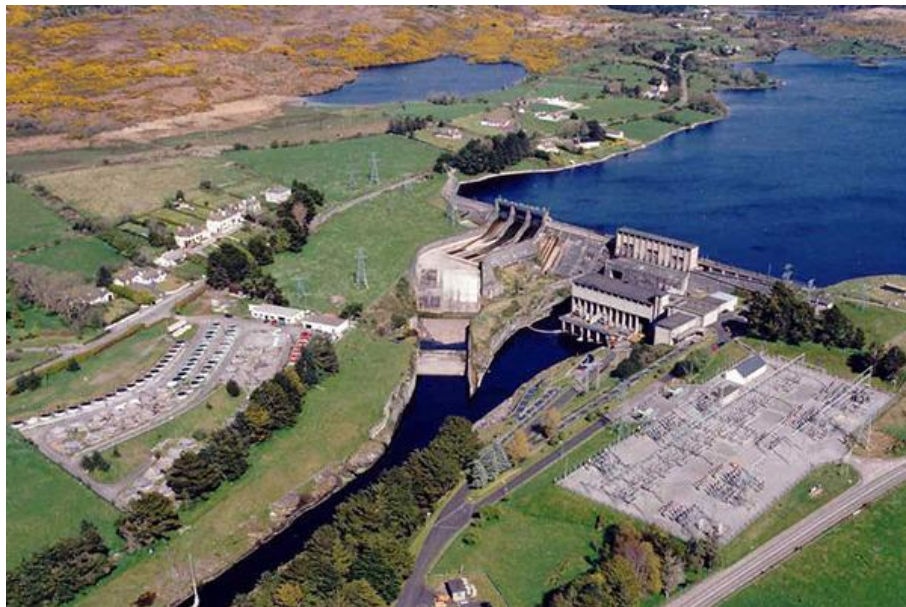
The River Erne, a transboundary system, is Ireland’s second largest river system and features a vast lake habitat. During the 2024/25 silver eel season, estimates of eel production and escapement, along with an analysis of downstream population dynamics, were carried out in line with protocols established in previous years.

The River Erne, which includes an extensive lake system, drains a catchment area of 4,375 km<sup>2</sup>. Upstream of the two lowermost hydropower dams, the system encompasses a total wetted area of 26,197 hectares (Figure 5-14). Discharge from the river, regulated for both flood control and hydroelectric power, is measured at Cathleen’s Fall, the downstream dam (Fig. 2). During the 2024/25 silver eel fishing season, the mean seasonal discharge was 91 m<sup>3</sup>/s, and the maximum of 210 m<sup>3</sup>/s. Flow regulation at the hydropower dams and the Portora Gates weir influences the timing of silver eel migration in the lower river reaches. The two dams are separated by Assaroe Lake, a man-made balancing reservoir covering 235 hectares. From the lower dam, the river flows through a 1.5 km tailrace canal into marine waters at Ballyshannon, eventually reaching the Atlantic Ocean in Donegal Bay.



**Figure 5-14 Map of River Erne catchment with conservation fishing sites for 2024/25, release point and hydropower dams indicated.**

The lower hydropower facility at Cathaleen’s Fall (Plate 5-3) features a 29-metre head and is equipped with two Kaplan turbines, providing a total generating capacity of 45 MW. It also includes three single spillway gates. Located 5.2 km upstream, the Cliff hydropower dam (Plate 5-4) has a 12-metre head and is also fitted with two Kaplan turbines with a combined output of 20 MW, along with three double spill gates installed on a weir structure.



**Plate 5-3 Cathaleen’s Fall hydropower dam (www.esbinternational.ie).**

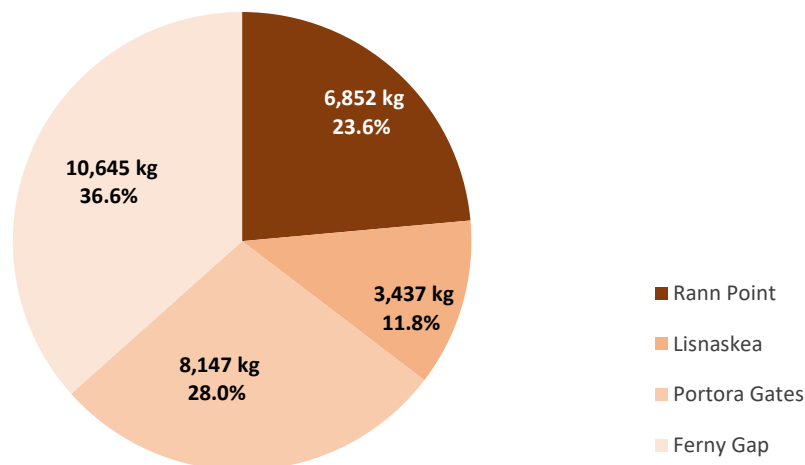


**Plate 5-4 Cliff hydropower dam (photo: Michael Cooper).**

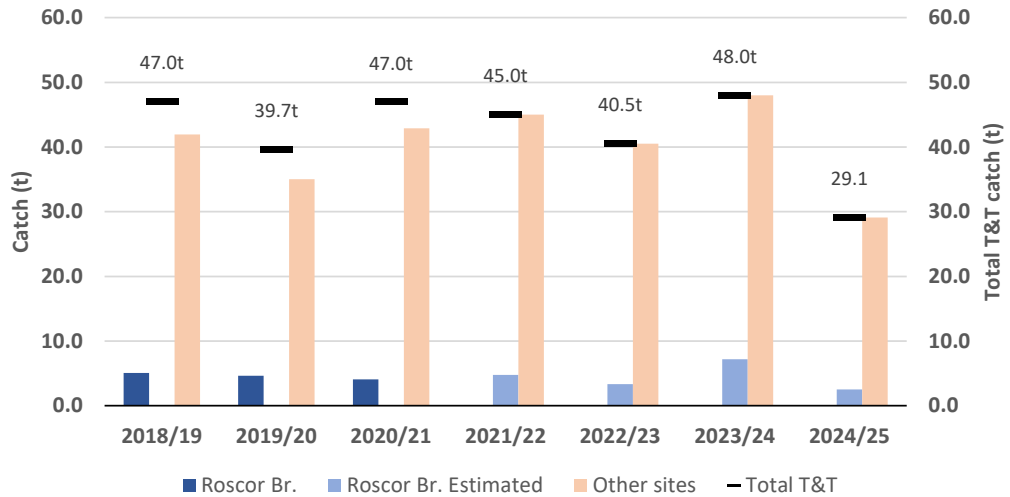
#### **5.4.1 Catch**

During the 2024/25 season, the River Erne system was fished at four sites, with their locations shown on the map (Figure 5-14). Roscor Bridge, the lowermost site, was not fished this season. Fishing began in the last week of August 2024 at the Ferny Gap site and concluded in February 2025. The proportions of the total catch from each site are illustrated in Figure 5-15. The total catch contributing to the Trap and Transport programme amounted to 29,081 kg, which is 18.95 tonnes or 39.4%, less than the previous season, and the lowest recorded in the past six seasons (Figure 5-16).

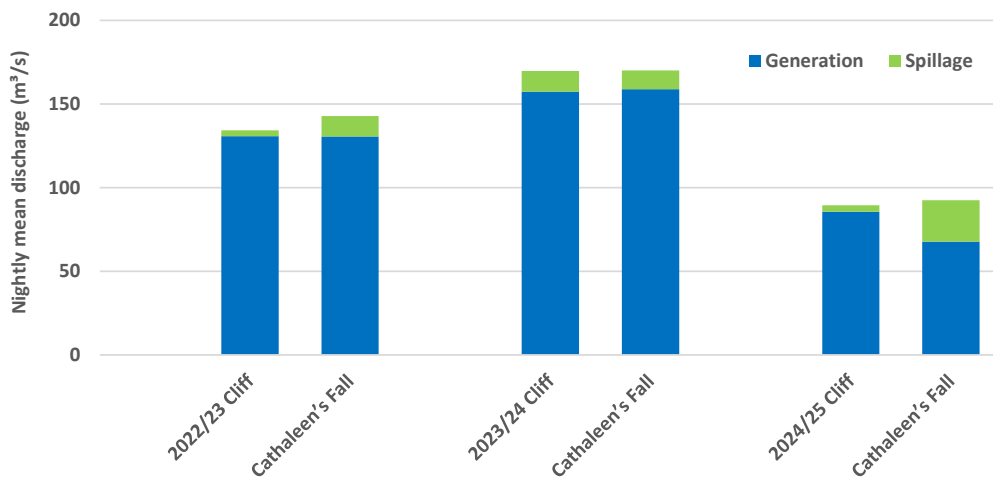
This decline was primarily attributed to very low water discharge, with a mean seasonal flow of 91 m<sup>3</sup>/s, which is 46.5% lower from 170 m<sup>3</sup>/s in the 2023/24 season, and 36.4% lower from 143 m<sup>3</sup>/s in the 2022/23 season (Figure 5-17).



**Figure 5-15 Proportions of the River Erne trap and transport catch obtained in each fishing location in the 2024/2025 season.**



**Figure 5-16 Total Erne Trap and Transport Program, Erne silver eel catches, released in seven subsequent years, along with proportion of Roscor Bridge fishing site catch contributions. Estimated Roscor Bridge catch in 2021/22 - 2024/25 was only used for calculations**



**Figure 5-17 The mean nightly values of discharge at Cliff and Cathaleen's Fall hydropower stations during last three silver eel fishing seasons.**

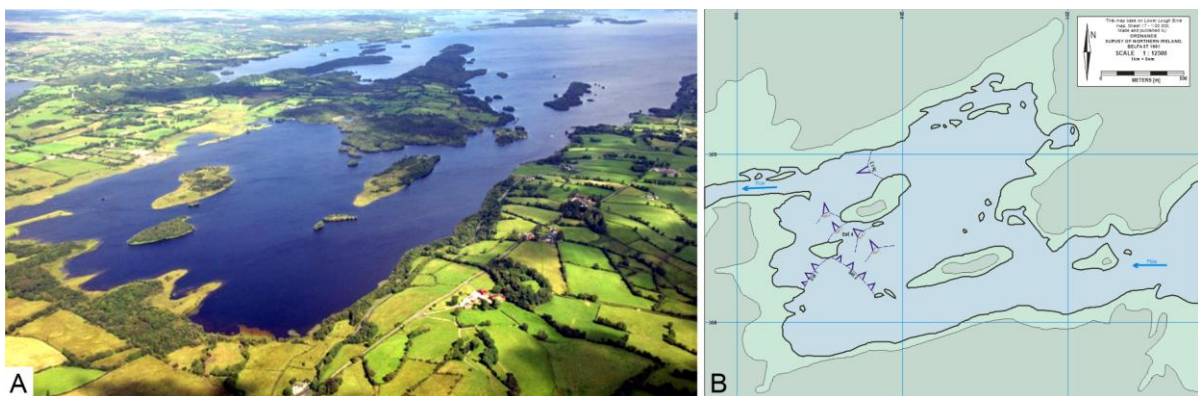
#### 5.4.2 Production and Escapement

Because there was no fishing activity at Roscor Bridge during the season (Plate 5-5), previously the lowermost and most scientifically significant site, production estimates had to rely on the established correlation between catches at Roscor Bridge and Ferny Gap. This relationship has been monitored, recorded, and analysed since the 2010/11 season, and is statistically highly significant (Lenihan *et al.*, 2021).

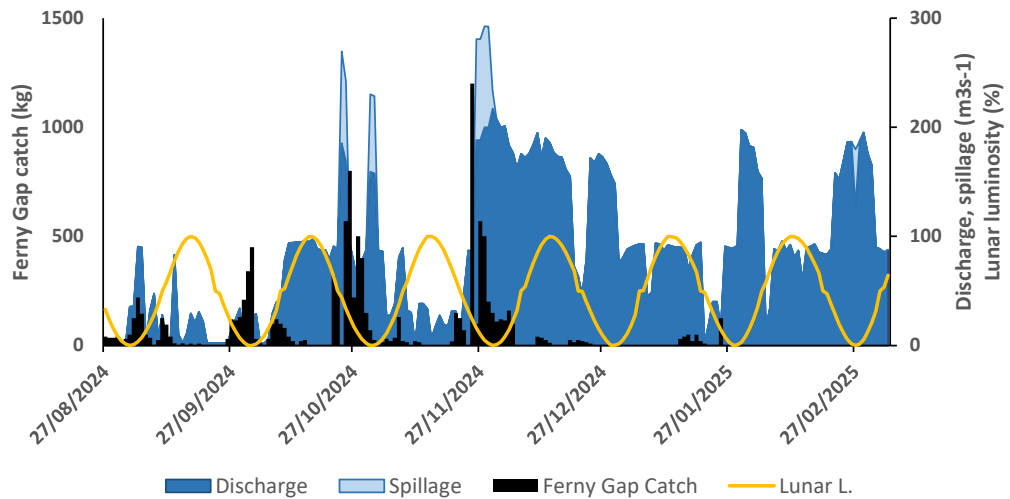


**Plate 5-5 Archival photograph of Roscor Bridge fishing site, with the crew lifting nets (photo: D. Nowak, 2010).**

The Ferny Gap fishing site is located in the lower section of Lower Lough Erne, an area marked by complex bathymetry and fluctuating hydrological conditions. Eels are captured using two leader nets, one equipped with three Coghill nets and the other with four, as well as five-winged river nets. Leader nets are deployed across shallow, wide channels between the mainland and islands, while river nets are positioned in the main navigational channel (4 nets) and a side channel (1 net). Due to the site's structural complexity, it is not considered suitable for use as a scientific model site (Figure 5-18). Daily catch variations at Ferny Gap are presented in Figure 5-19, along with water discharge and the lunar cycle.

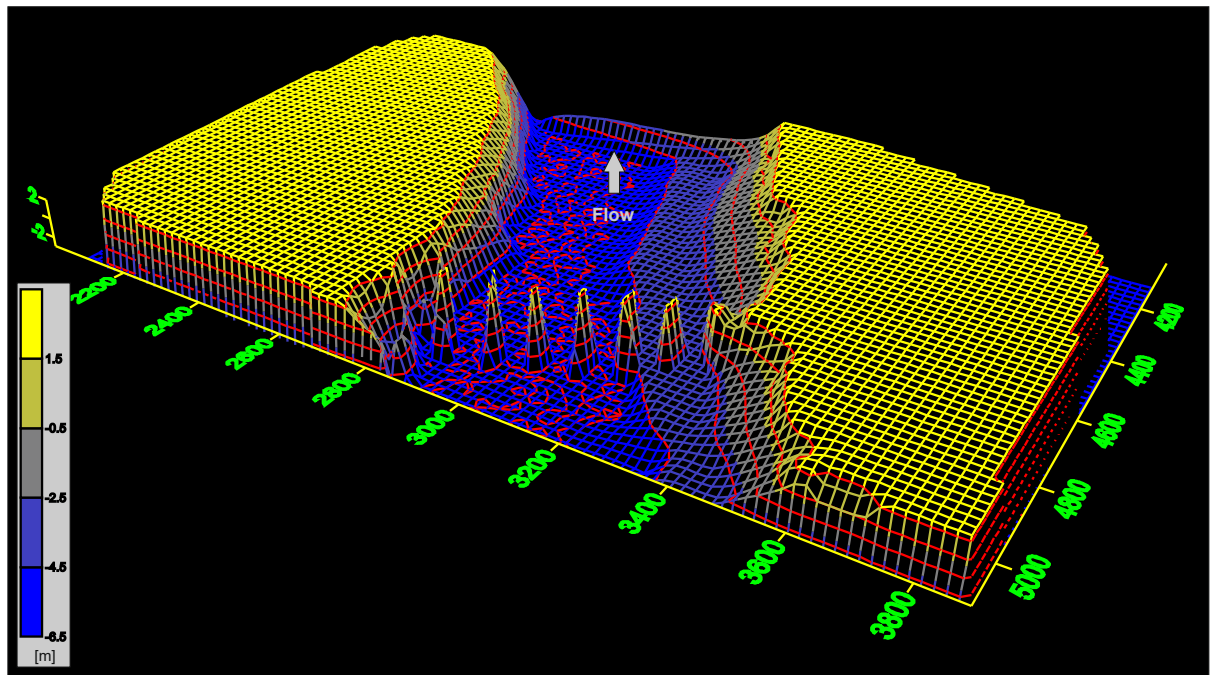


**Figure 5-18 A - Aerial photo of lowermost section of lower Lough Erne; B - Map of Ferny Gap fishing site nets arrangement.**



**Figure 5-19** Variation in daily catches at the Ferny Gap fishing site, in relation to lunar cycle and discharge during the 2024/25 season.

Although the Roscor Bridge site has not been fished in the past four seasons, it remains crucial for analysing silver eel migration and for calculating eel production and escapement in the River Erne system (Figure 5-14 and Figure 5-22). Situated 750 metres downstream from the outflow of Lower Lough Erne, the site offers a well-defined river section (Figure 5-20) that allows for accurate assessment of the biomass of eels that escape capture.



**Figure 5-20** The bathymetry map of Roscor Bridge fishing site, upstream view.

In previous years, eel biomass at Roscor Bridge was estimated using daily catch data alongside results from extensive mark–recapture studies (McCarthy *et al.*, 2019). However, past seasons revealed limitations with Roscor Bridge as a monitoring site, particularly during periods of low discharge and catch levels, which often led to extended inactivity among fishing crews. During such times, the necessary catch records for production estimates were unavailable.

This highlighted the need for and led to the development of alternative monitoring protocols to support the quantification of eel migrations at the site when Trap and Transport (T&T) catch data are lacking.

Drawing on over a decade of scientific monitoring, catch levels at the Roscor Bridge fishing site can be reliably predicted (McCarthy *et al.*, 2014; MacNamara *et al.*, 2014; Lenihan *et al.*, 2021). For the 2024/25 silver eel migration season, the estimated total catch at Roscor Bridge was 2,476 kg. In the same period, 29,081 kg of eels were transported via the Trap and Transport programme from the four upstream fishing sites. Production and escapement estimates were based on fishing efficiency rates derived from multiple mark–recapture studies conducted by the University of Galway at the experimental Roscor Bridge site between 2010/11 and 2015/16. These studies reported efficiency rates of 9.78% at low discharge levels (<130 m<sup>3</sup>/s) and 18.43% at high discharge levels (>130 m<sup>3</sup>/s) (McCarthy *et al.*, 2016; McCarthy *et al.*, 2019). These efficiency values, applied to the estimated catch at Roscor Bridge and adjusted for flow conditions during the season, yielded a total estimated biomass of 22,085 kg of eels arriving at the site.

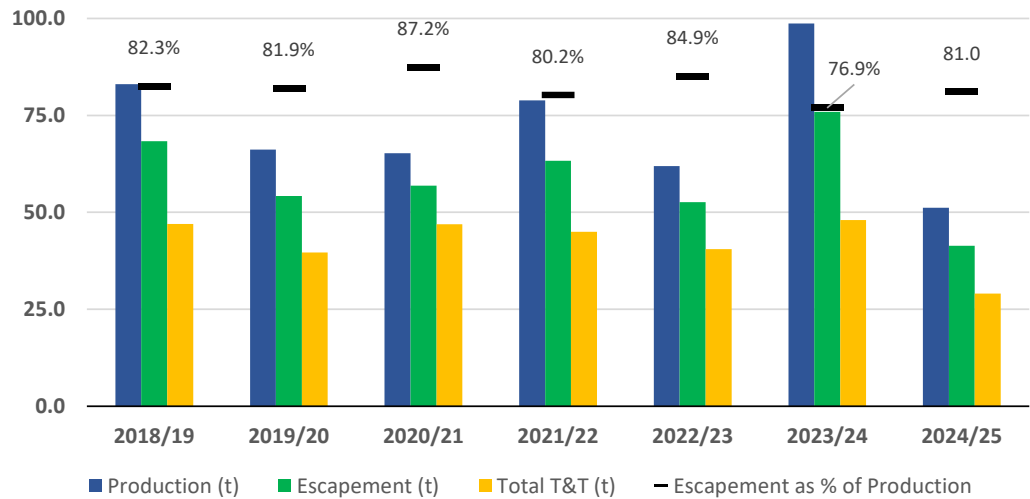
Silver eel production for the 2024/25 season was estimated at 51,166 kg (Figure 5-22), with an escapement estimate of 41,422 kg, representing 81.0% of total production. The Trap and Transport programme accounted for 29,081 kg (Figure 5-22, Appendix 4-2), or 56.8% of total production, surpassing the 50% target by 3,498 kg. An estimated 22,085 kg of eels bypassed the fishing sites and continued downstream through the hydropower stations at Cliff and Cathaleen’s Fall. Mortality rates at these stations were based on historic telemetry studies by the University of Galway (McCarthy *et al.*, 2014), which take into account dam operation patterns throughout the season. Estimated eel mortality was 5,626 kg (25.5%) at Cliff HPS and 4,118 kg (25.0%) at Cathaleen’s Fall HPS (Table 5-4).

**Table 5-4 Mortality rates (based on unpublished NUIG telemetry results) at two hydropower stations, depending on station operation**

Operation	Cliff	Cathaleen’s Fall
No flow	0%	0%
Generation & Spillage	7.9%	7.7% (half load) 15.4% (full load)
Generation only (no spillage)	26.7%	27.3%
Overall mortality 2018/19	19.6%	26.8%
Overall mortality 2019/20	23.9%	25.5%
Overall mortality 2020/21	25.4%	27.3%
Overall mortality 2021/22	26.7%	27.3%
Overall mortality 2022/23	25.3%	24.5%
Overall mortality 2023/24	26.4%	25.4%
Overall mortality 2024/25	25.5%	25.0%

A total of 12,341 kg of eels were estimated to have successfully passed the hydropower stations, and when combined with the 29,081 kg transported via the Trap and Transport programme, the total escapement for the 2024/25 season was estimated at 41,422 kg.

Over the past six seasons, the average escapement as a percentage of production was 82.2%, compared to 81.0% in 2024/25. Estimates of production, escapement, and Trap and Transport quantities over the last seven years have remained relatively consistent, showing no significant trends (Figure 5-21).



**Figure 5-21 Estimates of production and escapement, along with Trap and Transport quantities and escapement as a percentage of production, over the past seven consecutive years.**

From the 2018/19 season to 2024/25, total estimated silver eel production in the River Erne system amounted to 506.5 tonnes. Of this, 413.2 tonnes (81.6%) were estimated to have escaped.

The Trap and Transport programme relocated a total of 296.3 tonnes of eels over this period, representing a substantial proportion of both escapement (71.7%) and production (58.5%). This exceeds the 50% Trap and Transport target by 8.5%, equivalent to an additional 42.99 tonnes of eels. Total mortality over the seven seasons was estimated at 93.4 tonnes, accounting for 18.4% of the total production.

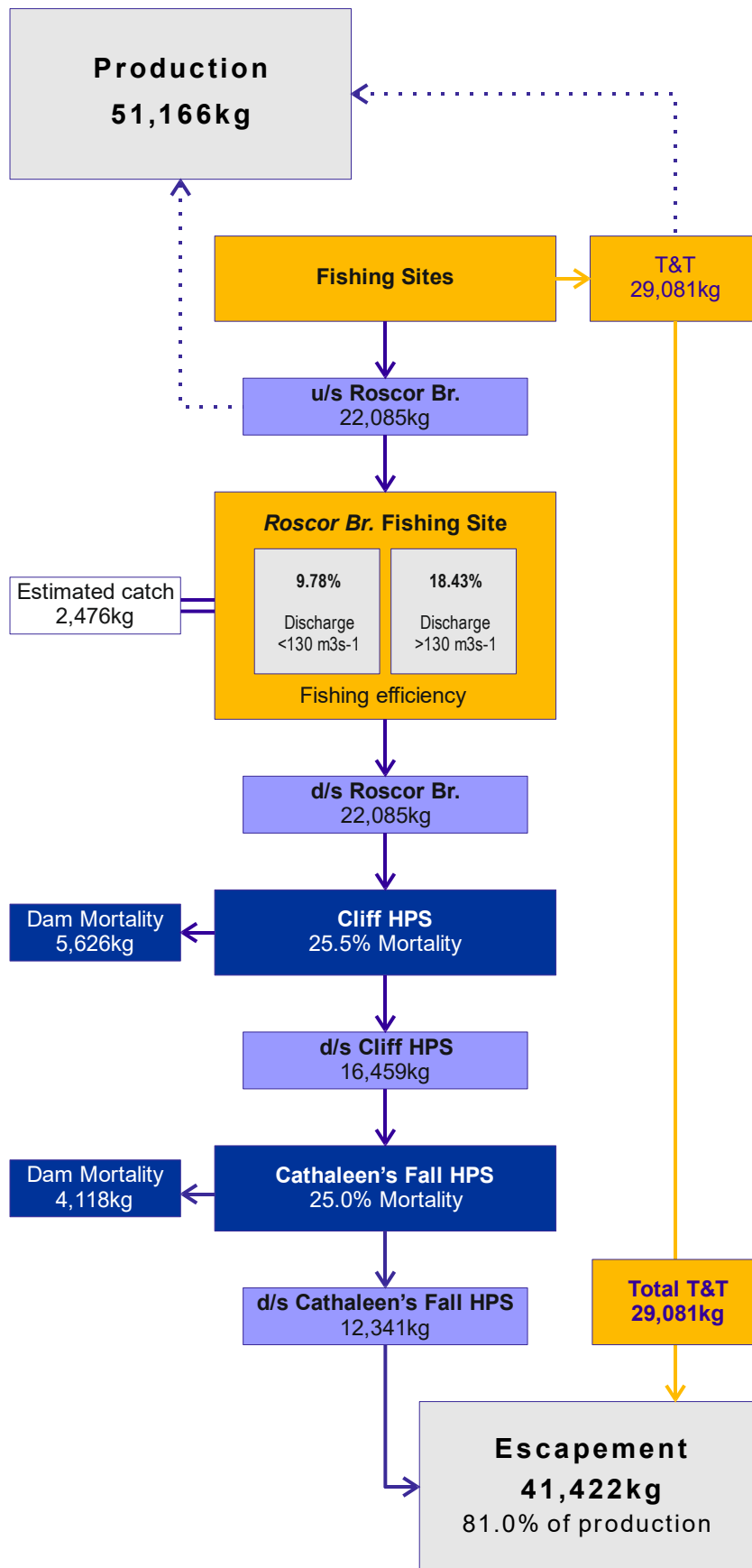


Figure 5-22 Summary of silver eel production and escapement analysis in the River Erne during the 2024/25 season.

### 5.4.3 Length Frequency

No length frequencies for 2024; see next section for River Erne length frequencies collected by AFBI.

### 5.4.4 AFBI Length Frequency

By way of the request from EU COMM and TEGE for additional data to enhance the calculations of silver eel production from those EMU's impacted by hydro and operated under T&T fisheries. This data has been a requirement under the EMP but is now also required to fill out the data calls for eels being released – i.e. to convert from biomass to numbers and provide an indication of gender. The Erne locations were fished for silver eels during the following months of the 2024-25 season.

- Ferny Gap (August '24 – January '25)
- Portora (August '24 – January '25)
- Lady Craigavon Bridge (ULE) (September '24 – January '25)

These analyses were focused on the key lunar darks throughout Autumn and Winter of 2024-25 up until the point that fishing ceased mid-February. Every eel captured or held in tanks for that respective fishing period was measured.

A total of 3,685 eels were measured for length with summary statistics presented in Table 5-5. Individual length frequencies for this data set have been provided to the TEGE for necessary production calculations and for storage on the new all Ireland database.

**Table 5-5 Erne silver eel length measurements and summary stats for 2024-25 (NI sites only)**

Location	Date	n	Mean Length (mm)	Min (mm)	Max (mm)
Ferny Gap	15-Aug	244	587	350	960
Ferny Gap	01-Oct	320	571	350	950
Ferny Gap	04-Nov	241	579	330	1040
Ferny Gap	02-Dec	294	591	340	910
Ferny Gap	28-Jan	146	581	340	900
Portora	14-Aug	273	666	340	880
Portora	01-Oct	321	666	340	900
Portora	04-Nov	303	642	320	990
Portora	02-Dec	309	652	340	950
Portora	30-Dec	68	628	360	880
Portora	27-Jan	213	618	330	101
ULE Lisnaskea	01-Sep	289	679	400	920
ULE Lisnaskea	01-Oct	159	676	430	860
ULE Lisnaskea	03-Nov	250	699	390	950
ULE Lisnaskea	01-Dec	229	688	380	900
ULE Lisnaskea	29-Dec	26	671	520	780
ULE Lisnaskea	28-Jan	0	-	-	-

## 5.4.5 Lough Erne Silver eel health and spawner quality survey overview

(New Research on Erne system: J McDowell AFBI/QUB PhD).

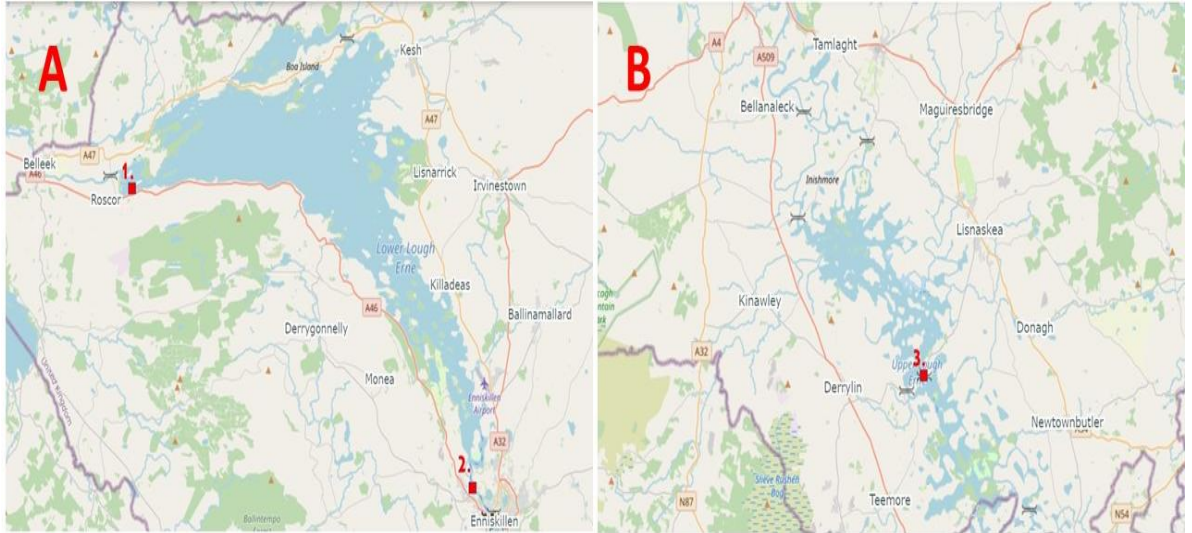
### 5.4.5.1 Introduction

Over the last 3 years an annual Lough Erne silver eel survey was completed alongside the annual Trap and Transport length frequency analysis conducted by AFBI. The results from this survey are being applied to a Queens University Belfast (QUB) PhD assessing reproductive fitness and spawner quality of migrating silver eels from the heavily constrained waterbody community of Lough Erne. Due to constraints at the outflow of this system, namely, two hydro-electric dams leading from Erne, migrants from this system encounter difficulties accessing the sea. The overarching aim of this PhD is to examine how constrained access of eels to the sea impacts individual migrating spawners, the ensuing reproducing eel communities in the Atlantic Ocean, and consequences impacting juvenile eel communities across the range of the European eel. The data produced from this PhD complements recommendations within WGEEL reports (ICES, 2021) to examine the effect of sublethal impacts, with a focus on contaminant exposure and parasites/diseases, on spawner quality subsequently the ability of silver eels to successfully migrate.

To quantify silver eel reproductive fitness and the quality of spawners leaving these systems, several health parameters will be assessed.

- female fecundity by egg count
- macroscopic examinations will be employed to assess the prevalence and mean intensity of endohelminth parasites within the gut and swim bladders
- examining the viral load of haematological viral pathogens.
- contaminant presence, type and concentrations within the body fat will be assessed using mass-spectrometry techniques with focus on heavy metal pollutants.
- percentage body fat will be assessed with non-invasive Distell fat meter techniques followed by comparative laboratory calorimetric lipid analysis.

These new assessments into the spawner quality of European eels on Lough Erne builds upon an existing knowledge base of biological quality parameters, addressing conservation efforts and potentially advising on the modification of existing eel management policies locally and across Europe. Within Lough Erne, a total sample size of 224 eels were collected over 3 fishing seasons. Samples collected in 2022 and 2023 were spread evenly across males (n=50) and females (n=50) whilst a reduced sampling effort was conducted in 2024 (n = 24 females). These samples were collected from known trap and transport conservation fishing sites within Upper and Lower Lough Erne, shown in Figure 5-23. Length, weight, and body fat analysis using a handheld distell fat meter were recorded along with prevalence and intensity of the swim bladder parasite *Anguillicola crassus* as basic biometric data at the site prior to the removal of the digestive tract, gonads and liver for laboratory analysis and the removal of the head for cranial dissection and otolith age analysis. The remaining carcasses were frozen for examination of contaminants within body fat along with laboratory lipid analysis. As recommended by ICES, the creation of a Silver eel quality database for Lough Erne is currently being produced. To ensure consistency of the data collection, samples will be collected from the same fishing sites and using similar methodologies. An in-depth silver eel database is also in development for Lough Neagh as part of the PhD. This will allow for the fulfilment of ICES recommendations but will also provide a novel comparison of two separate large lake systems to be completed. An extract of the preliminary findings from these surveys connected to the Lough Erne silver eel quality database is produced below with more detailed outputs to follow in a future thesis submission scheduled for early 2026.



**Figure 5-23 Map of Trap and transport sites used on (A) Lower Lough Erne and (B) Upper Lough Erne.**

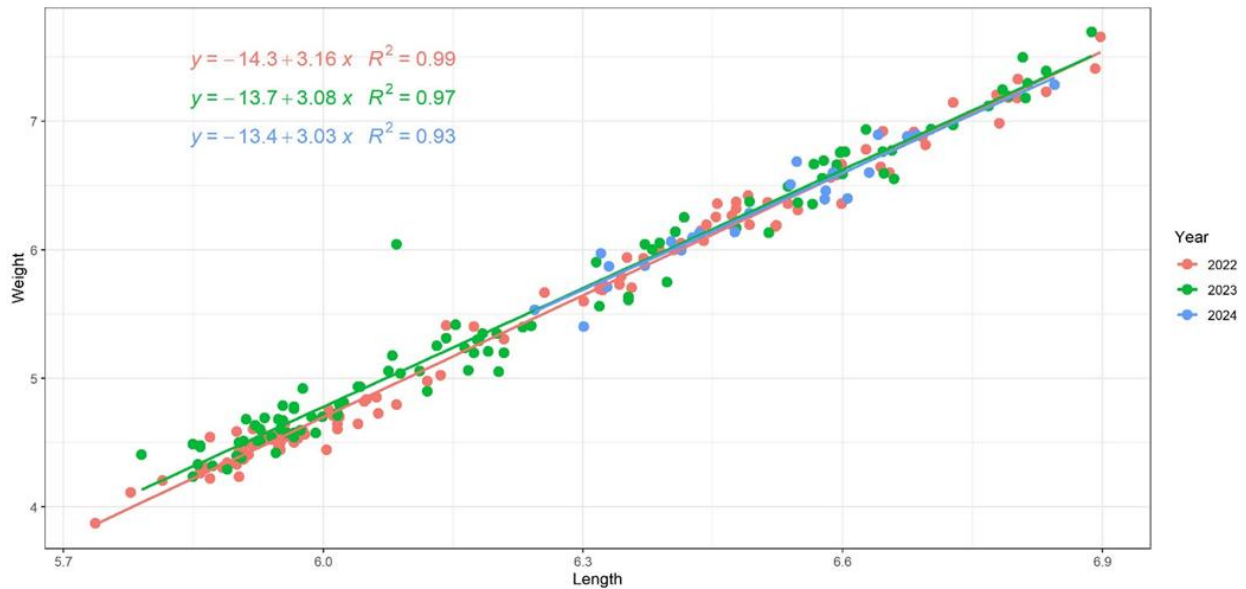
**5.4.5.2 Results**

**5.4.5.2.1 Length / Weight Relationship**

A summary of the samples collected within the surveys held between 2022 and 2024 for L. Erne silver eel health and quality survey is produced in Table 5-6. A strong length/weight relationship [ $R^2 > 0.90$ ] was recorded for eels captured and processed during these surveys (Figure 5-24).

**Table 5-6 Length (mm) and weight (g) – summary statistics of all individuals assessed in the survey between 2022-2024.**

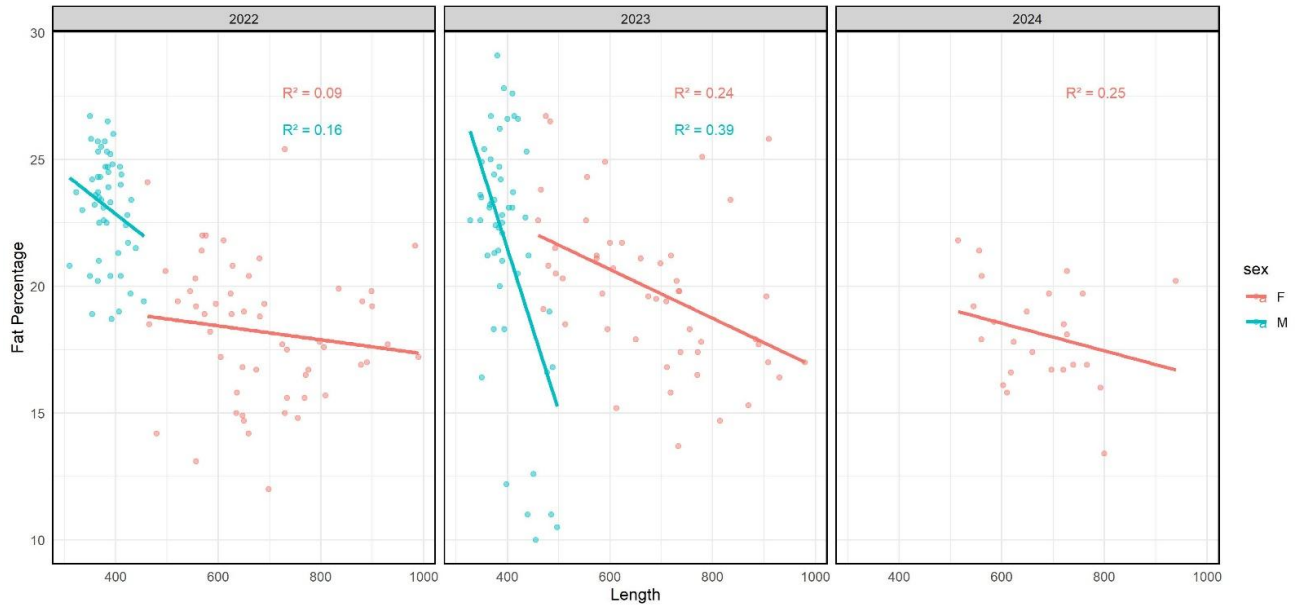
	<b>n</b>	<b>Mean Length</b>	<b>Max Length</b>	<b>Min Length</b>	<b>Mean Weight</b>	<b>Max Weight</b>	<b>Min Weight</b>
All	224	553	990	310	420	2196	48
Male	100	390	497	310	107	421	48
Female	224	682	990	460	668	2196	152



**Figure 5-24 log-transformed length (mm) – weight (grams) regression with strong relationships recorded for silver eels sampled between 2022 and 2024**

#### 5.4.5.2.2 Silver Eel Fat Content

Preliminary fat content measurements using a Distell handheld fat meter show an overall mean percentage body fat of 20.4% (n=224). Results in Figure 5-25 show a clear divide in percentage body fat between males and females each year with male individuals (22.3%, n=100) displaying generally high body fat percentages than female counterparts (18.3%, n=124) which is consistent with the literature on the disparity of body fat content between genders. Data for both males and females have high variability when recorded with the Distell fat meter suggesting inaccuracy for silver eel measurement - importantly some data were recorded showing levels below the accepted silvering threshold of 16-18%, yet all eels assessed were sampled from captured migrating silver eels. This follows inaccuracies for the fat meter when recording measurements for individual eel samples, particularly on silver eels as reported in WKPGMEQ (ICES, 2015). Inconsistencies in the outputs of this device have been suggested due to differences in the water content between eel life stages (Tesch, 2003). To account for any discrepancies within this dataset, a detailed laboratory calorific lipid analysis will be conducted as a standardised methodology with an attempt to produce a silver eel fat meter correction factor based on similar attempts by Pohlmann *et al.*, (2019).



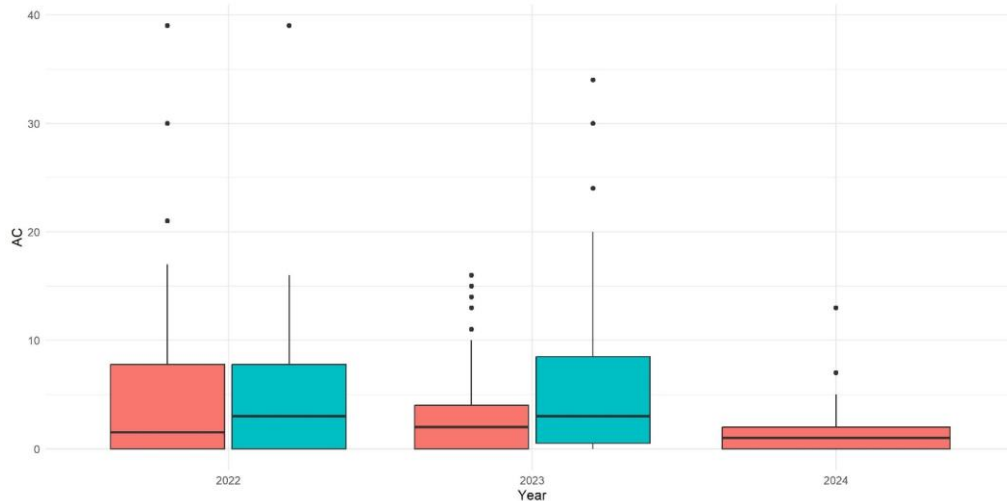
**Figure 5-25 Distell fat meter recorded body fat percentage (%) compared against total length (mm) for eels assessed each year between 2022-2024 split by sex.**

#### 5.4.5.2.3 *Anguillicola crassus*

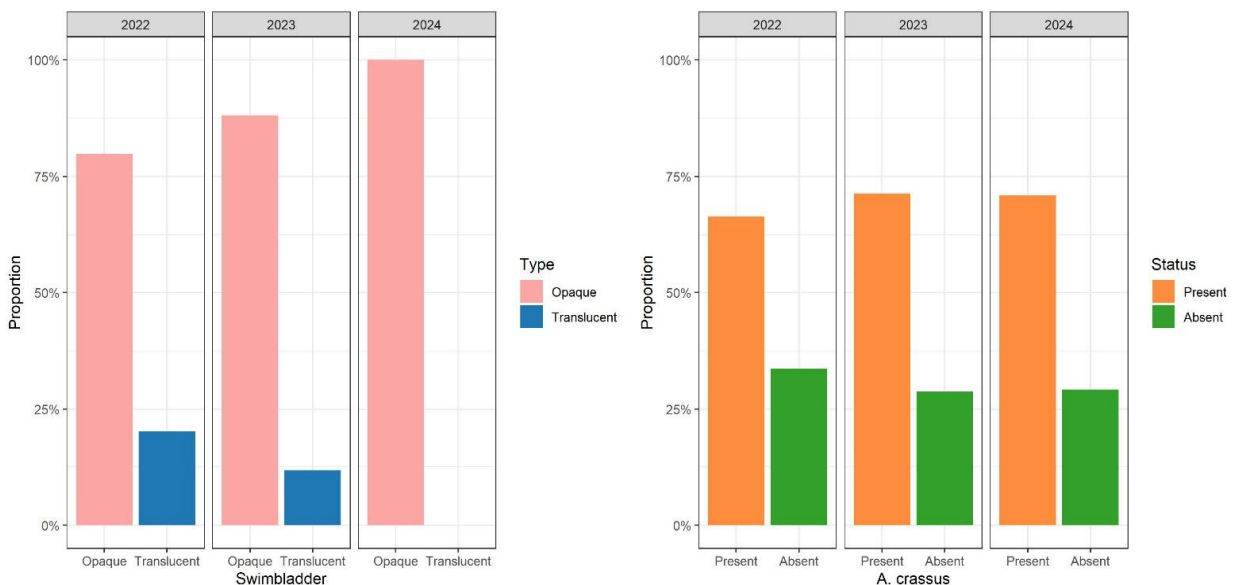
Within the 2022 report, this project provided the first update on *A. crassus* infection parameters in Erne silver eels since 2000. These parameters have continued to be collected for individuals each year providing a 3-year overview of the pathology of *A. crassus* infection in silver eels (Table 5-7). The results highlight the prevalence and intensity of this parasite within all samples (n=224) with comparisons made between males (n=100) and females (n=124). Due to *A. crassus* burrowing through the swim bladder wall scar tissue is developed creating a thicker layer of tissue and thus appearing opaque. To assess this, the swim bladder appearance was recorded for all individuals (Figure 5-27) with 87% of individuals having a swim bladder that appeared opaque. When assessed in comparison to *A. crassus* prevalence at 71% of individuals (also shown in Figure 5-27) it could be suggested that the opaque swim bladders could signify previous *A. crassus* infection.

**Table 5-7 Total *A. crassus* prevalence and intensity recorded for all individuals sampled during the survey from 2022 – 2024.**

	Mean Intensity	Max Intensity	Min Intensity	% prevalence
All	5	39	1	71
Male	6	39	1	71
Female	4	39	1	72



**Figure 5-26 Comparison of *A. crassus* mean intensity divided by sex for individuals sampled in each of the years 2022-2024**



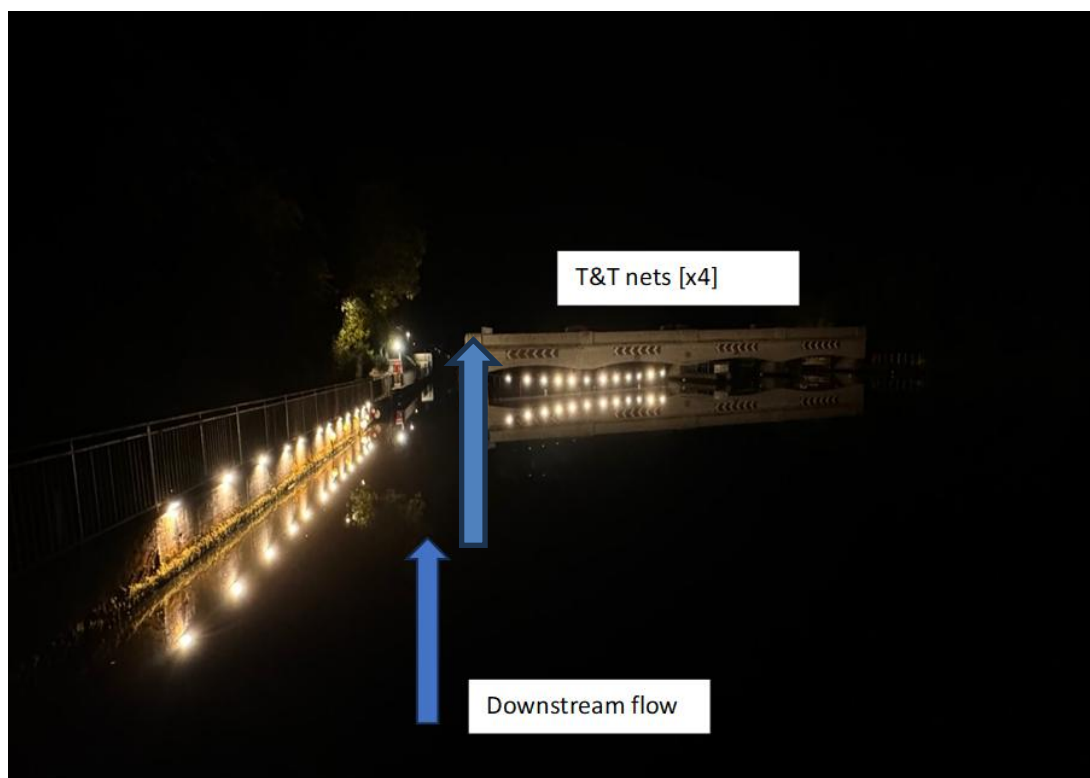
**Figure 5-27 (left) comparison of swimbladder appearance per year across all individuals, (right) comparison of *A. crassus* prevalence across years.**

#### 5.4.6 Deflection Light Array

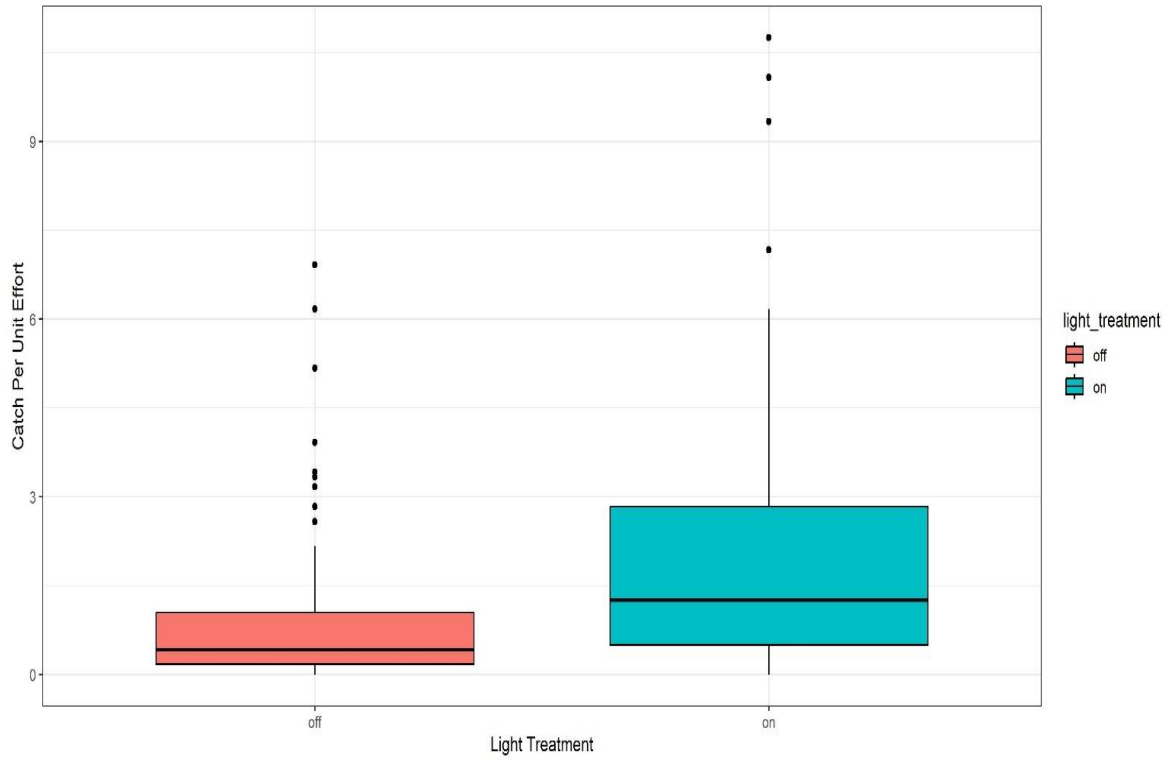
Lough Erne is constrained by two large hydroelectric dams at the mouth of River Erne (Cliff Dam and Cathleen Falls) presenting considerable barriers to migratory fish species including eel. To reduce the number of individuals passing through these turbines, a suspended light array eel deflection method was piloted during the 2023 season at Portora Sluice gates with very promising results. The simple design of the suspended light array was created to be cost

effective whilst also having potential for a tech transfer between sites on the lough and in other systems requiring only a small portable generator for power.

The pilot study was based on a simple proof of concept using a known inefficient net on the sluice gates. The array was activated so that a dark zone was created at this inefficient net to try and coral eels towards it. This simple experiment proved the validity of the design, improving the net efficiency from 4% to 21% whilst keeping full access to the open navigation channel beside the gates due to access requirements. Following this successful pilot study, modifications were made to the light array to increase deflection influence on out migrating silver eels to induce an earlier swimming direction change effectively moving them from the open channel towards the nets (Plate 5-6). This array was installed for the full 2024 silver eel fishing season from August 2024 to February 2025. Preliminary results showed a significant increase to the CPUE at the gates with the lights active (Figure 5-28,  $p = <0.05$ ). A full analysis of this data will be supplied in the associated PhD thesis.



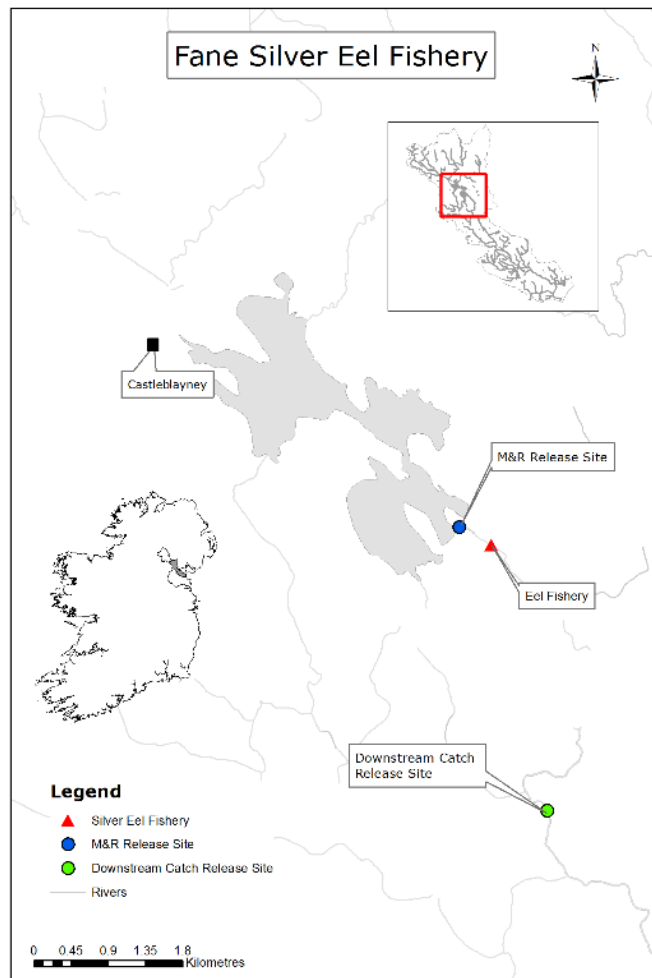
**Plate 5-6 Photograph of deflection light array in operation at Portora Sluice gates.**



**Figure 5-28** Box plot showing increased median CPUE of eel from the nets thus illustrating increased conservation effort by way of additional eels caught when deflective light array is active.

## 5.5 Fane

The Fane is a relatively small catchment within the Eastern River Basin District (ERBD) with the silver eel fishery located in the upper reaches of the system approximately 28 km from the coast. The catchment has a riverine wetted area of 84 ha (0.84 km<sup>2</sup>) and a lacustrine wetted area of 553 ha (5.53 km<sup>2</sup>). A research silver eel fishery was carried out on the Clarebane River on the outflow of Lough Muckno in the Fane catchment from 2011 to the present (Figure 5-29). The site was the location of a commercial fishery until 2008.



**Figure 5-29 Map of silver eel fishing and release locations within the Fane catchment, 2023 (Insets: Map of Ireland with Fane catchment (shaded) and Neagh-Bann River Basin District (outlined) and detail of Fane catchment rivers with sampling location indicated (red box)).**

### 5.5.1 Silver Eel Catch

In 2024, silver eel catches at the Fane Fishery were lower than the previous year's numbers with a total catch of 346 kg (995 eels, including batch weighs), (Table 5-8). These catches were made over 28 nights fished. However nightly catches were generally low but persistent. A storm caused sampling issues for the Eel Fisheries in 2024. The storm came in on Saturday 23<sup>rd</sup> November and fishing ceased due to the excessive gale winds. Highest catches were observed on the night following the storm, the 24<sup>th</sup> of November (Figure 5-30). Due to water levels,

fishing started later in the season than usual (22<sup>nd</sup> of September, 2023) and instead began on the 21<sup>st</sup> of October. Fishing continued right until the 12<sup>th</sup> of December. Once water temperature readings declined below 6°C catches dwindled (Figure 5-31).

**Table 5-8 Silver eel catch record for Fane Fishery, 2011 – 2024.**

<b>Year</b>	<b>No. Days Fished</b>	<b>Catch (kg)</b>	<b>No of Eels</b>
2011	13	290	1,433
2012	21	448	1,195
2013	19	1,151	3,097
2014	25	797	2,542
2015	23	730	1,810
2016	9	76	206
2017	20	793	2,376
2018	34	725	1,974
2019	26	500	1,323
2020	27	465	996
2021	22	550	1,203
2022	37	1081	2,440
2023	40	356	1,001
2024	28	346	995

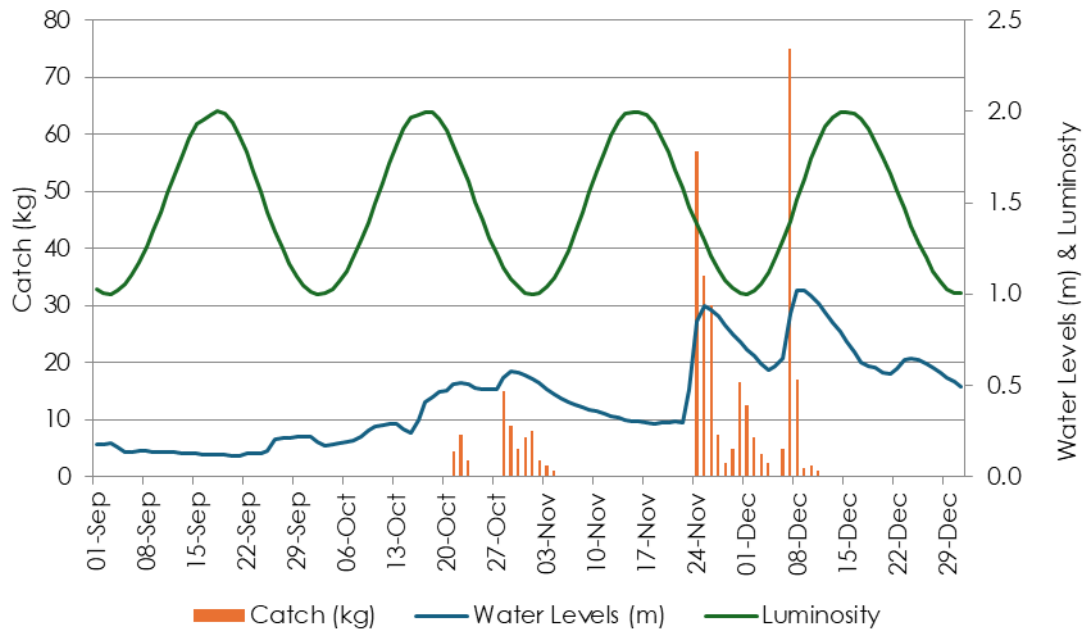


Figure 5-30 Catch (kg), water levels (m) and luminosity for the Fane Fishery, 2024.

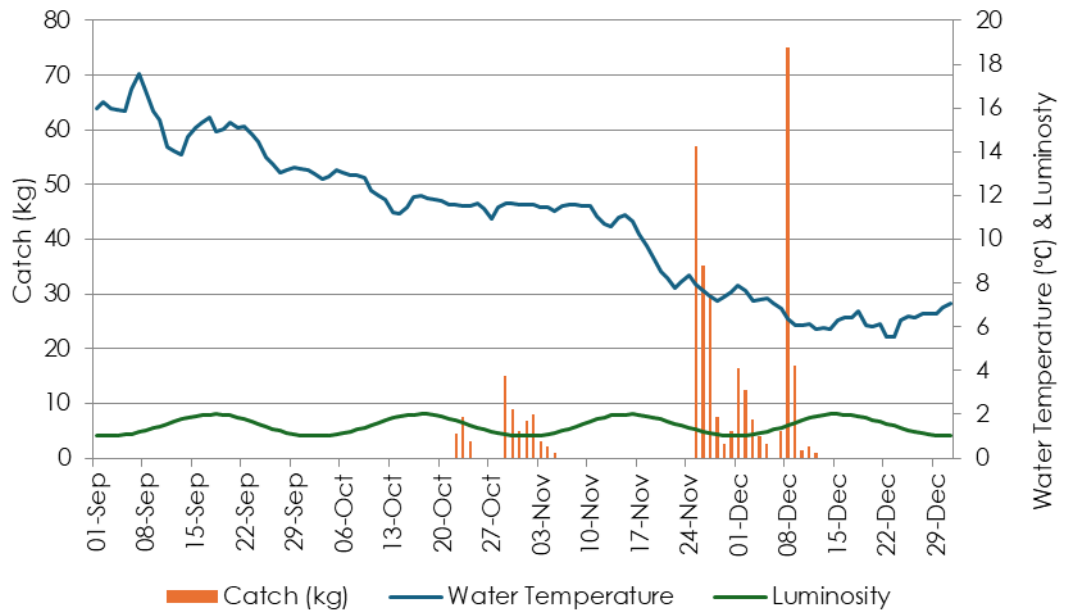


Figure 5-31 Catch (kg), water temperature (°C) and luminosity for the Fane Fishery, 2024.

### 5.5.2 Mark Recapture

A mark recapture survey was carried out during the 2024 season. 248 eels were tagged using PIT tags. 38 recaptures were recorded. 15.31% overall percentage of recaptures. 11.33 % recaptures were specimens which were tagged during the 2024 silver eel season. There were 5.2% historical recaptures, from previous tagging surveys of yellow eels on Lough Muckno in 2016 (n=9), 2017 (n=2) and 2018 (n =2). Table 5-9 depicts numbers of tagged eels with number and percentages of recaptures from each year (2014-2024).

**Table 5-9 Mark-recapture results for Fane Silver Eel Fishery 2014-2024.**

Year	No. Tagged	No. Recaptured	% Recapture
2014	272	80	29
2015	296	100	34
2016	0	0	0
2017	126	26	20.6
2018	365	46	12.6
2019	188	28	14.9
2020 *	0	n.a.	n.a.
2021	54	0	0
2022	150	12	8
2023 **	0	n.a.	n.a.
2024	248	38	15.31

\* No PIT tags were deployed in 2020 due to the COVID-19 Lockdown.

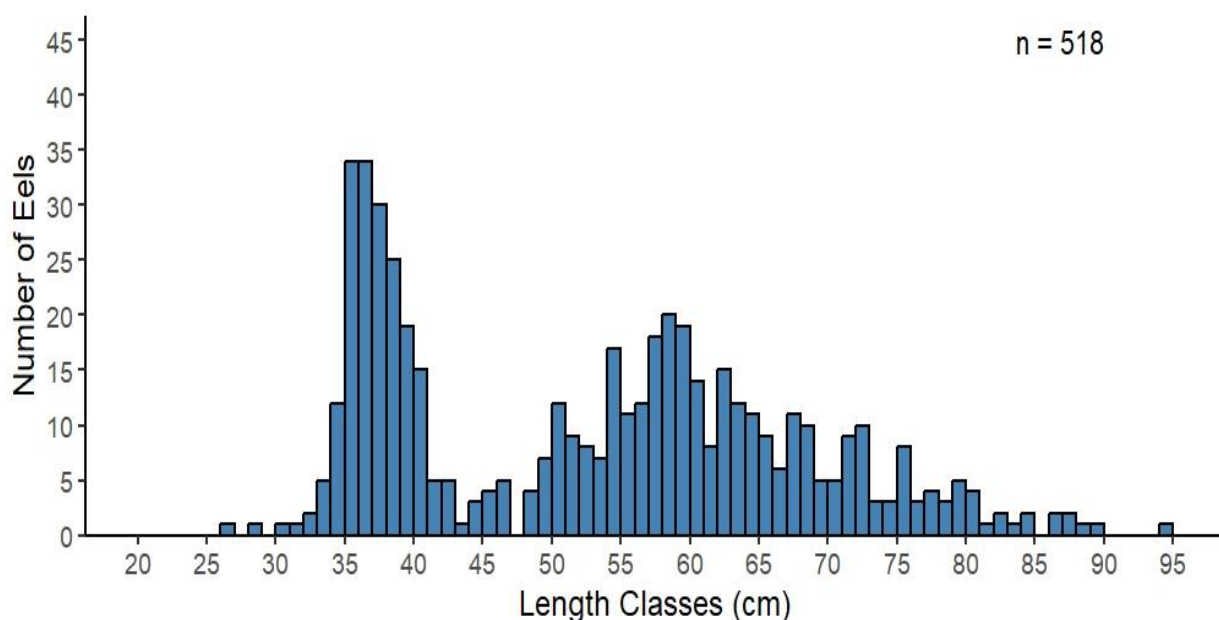
\*\* No PIT tags were deployed in 2023 due to reduced staffing levels.

### 5.5.3 Eel Biology

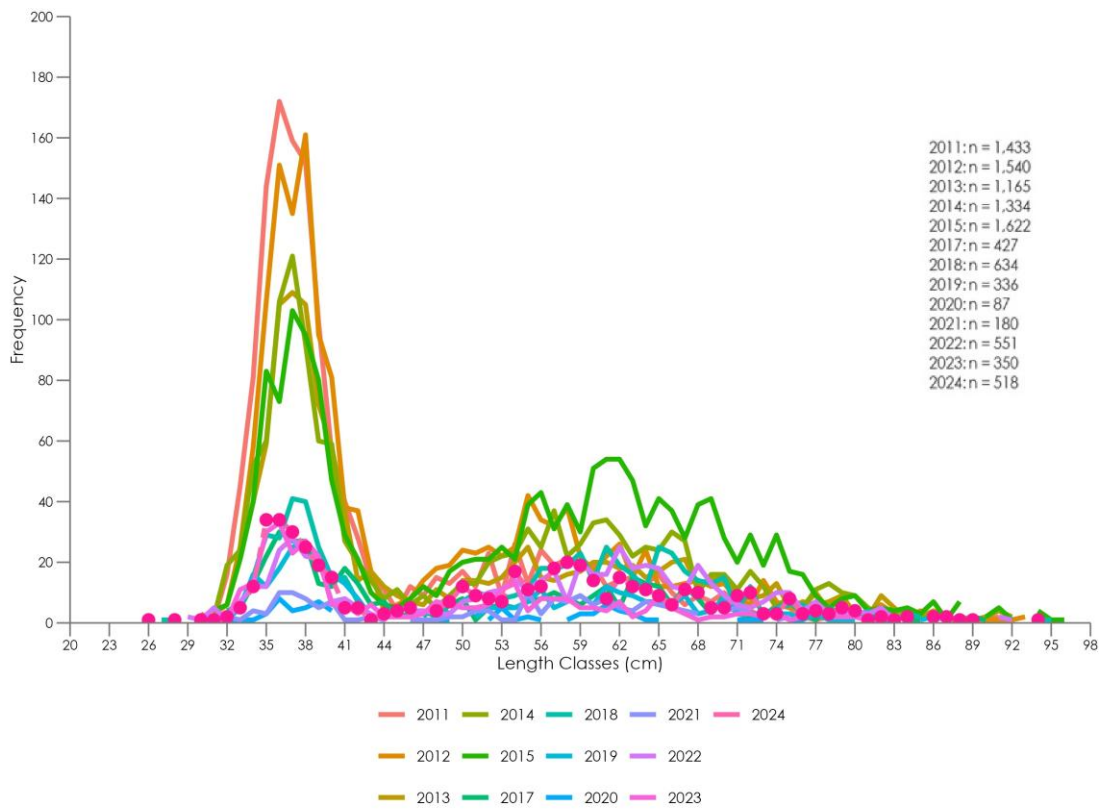
The average length of eel was 53.0cm (ranging from 26.5cm to 94.4cm), (Figure 5-32 and Figure 5-33). The average weight was 0.343kg (ranging from 0.021 kg to 1.835 kg), (Table 5-9). The length frequency trend shows a sharp peak depicting male silvers in the 30-40 cm length classes, followed by a broader, shallower peak depicting females from approximately 45 cm in length onwards to the maximum length recorded for the season (Figure 5-32). Out of the 518 eels measured, 389 had head widths recorded; 14.14% of these were broadhead eels (n = 55), (Figure 5-34). A sample of 51 eels was retained for dissection from the Fane 2024 season. Out of this total, 66.6% were females (n = 34) and 33.3% were male (n = 17).

**Table 5-10 Length and weight data for processed silver eels from the Fane Fishery, 2011 – 2024.**

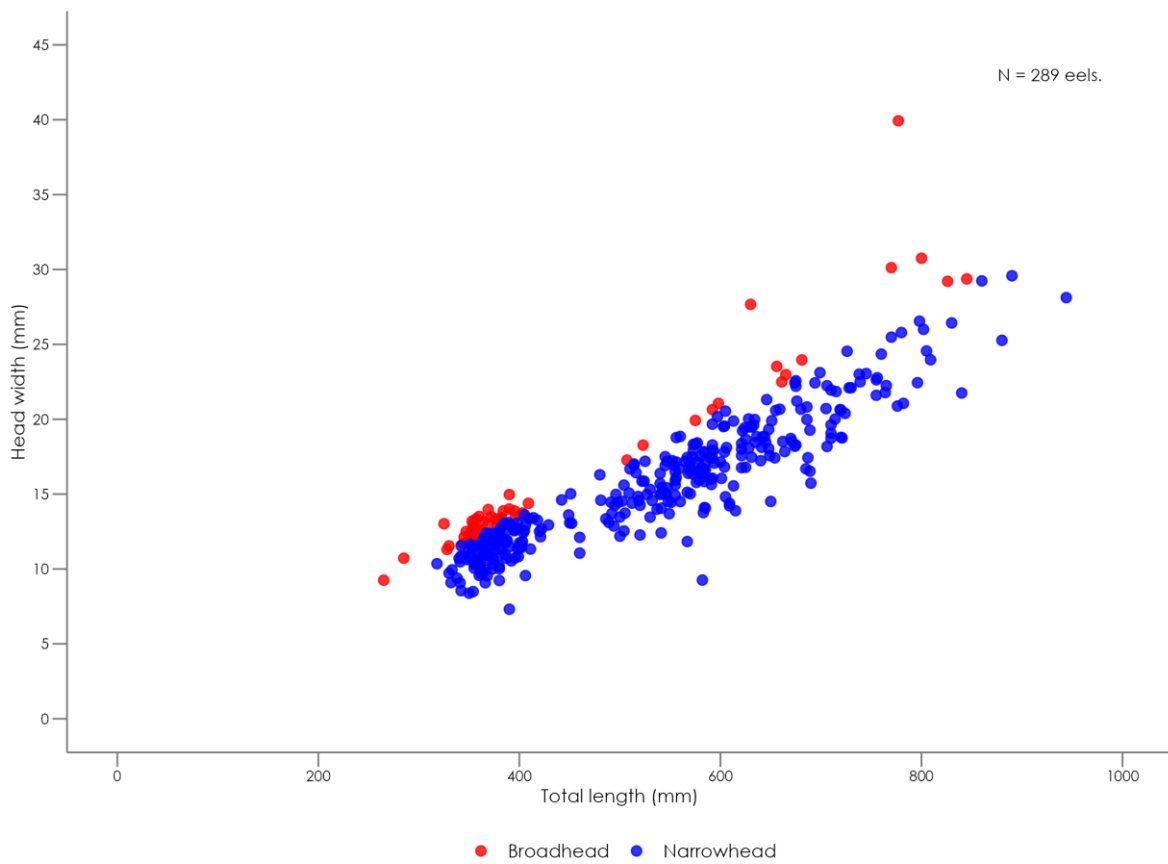
Year	No. Eels	Mean Length (cm)	Min. Length (cm)	Max. Length (cm)	Mean Weight (kg)	Min. Weight (kg)	Max. Weight (kg)	Total Weight (kg)
2011	1433	43.8	30.4	91.7	0.187	0.044	1.709	268
2012	1541	47.1	31.4	96.0	0.251	0.050	2.090	387
2013	1165	49.2	30.8	96.6	0.289	0.030	1.952	337
2014	1334	50.4	30.4	95.0	0.292	0.045	1.721	389
2015	1622	54.0	31.2	96.6	0.370	0.030	2.045	599
2017	427	51.9	30.9	94.7	0.332	0.014	1.751	142
2018	634	54.1	27.5	95.5	0.367	0.042	2.200	232
2019	337	50.8	23.4	91.4	0.313	0.052	1.461	106.86
2020	87	50.2	22.0	86.5	0.29	0.057	1.200	25.25
2021	180	54.3	29.0	82.7	0.352	0.035	1.400	63.32
2022	551	56.2	29.6	94.2	0.411	0.016	2.033	226.64
2023	350	48.3	27.5	91.7	0.267	0.040	1.9870	93.54
2024	518	53.0	26.5	94.4	0.343	0.021	1,835	2024



**Figure 5-32 Length frequency for silver eels caught at the Fane Fishery, 2024.**



**Figure 5-33 Length frequency for silver eels caught at the Fane Fishery, 2011 – 2024.**

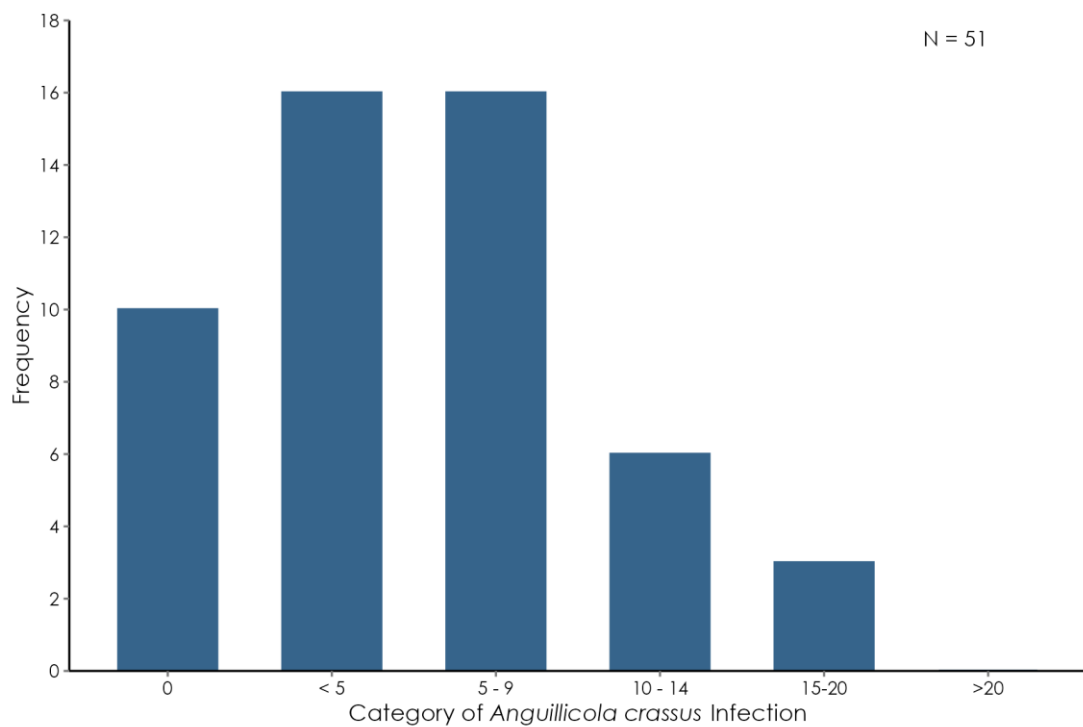


**Figure 5-34 Broadhead and narrowhead records for the Fane Fishery, 2024.**

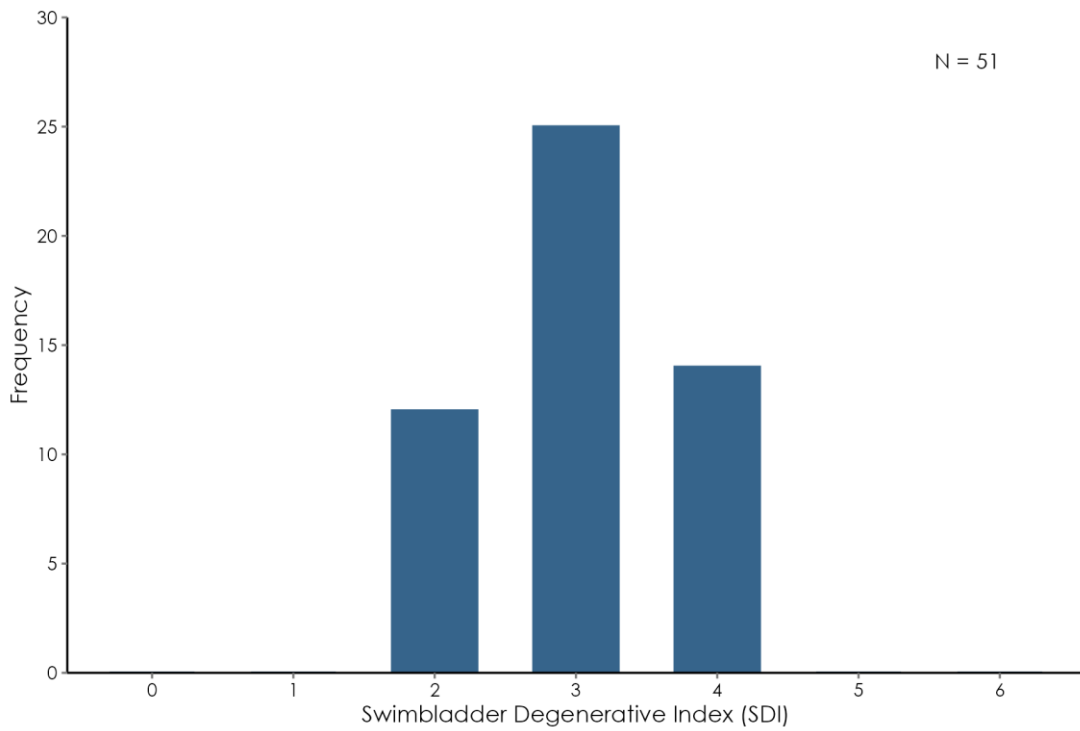
#### 5.5.4 *Anguillicola crassus*

Mortalities taken from the Fane fishery during the 2024 season were investigated for the presence of the invasive swimbladder nematode *Anguillicola crassus*. Prevalence and infection intensity was examined and recorded. These parameters are determined by the Swimbladder Degenerative Index (SDI) and the Length Ratio Index (LRI) (from, Lefebvre *et al.*, 2002 and Palstra *et al.*, 2007, respectively). 41 out of 51 eels were infected with *Anguillicola crassus*, with a prevalence of 80.39%. The intensity of infection was 6.49. The maximum infection burden per eel was 17 parasites. 68.3% of infected eels were female (n=28). 31.7% of infected eels were male (n=13).

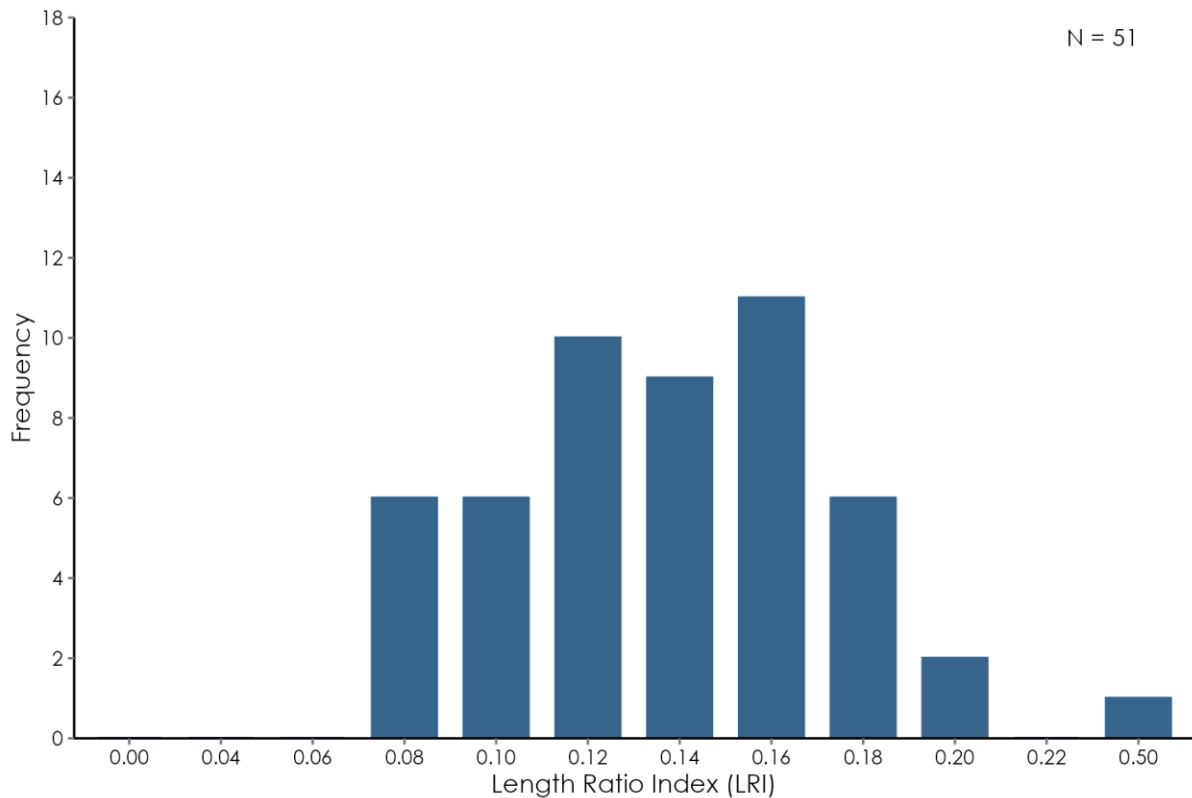
While a number of eels were uninfected in the sample (19.6%, n = 10), the majority of the dissected eels fell into categories of infection of <5 parasites or 5-9 parasites in their swimbladders (31.4%, n=16 in both categories), (Figure 5-35). The intensity of infection dropped with fewer eels presenting infection intensities of 10-14 and 15-20 parasites. There were no eels with infection intensities >20 parasites. Swimbladder health as diagnosed by the Swimbladder Degenerative Index (SDI) and the Length Ratio Index (LRI) both indicated only moderate levels of damage (Average SDI = 3 and average LRI = 0.13). No severe damage was reported (Figure 5-36 and Figure 5-37).



**Figure 5-35 Categories of infection by *Anguillicola crassus* for the Fane Fishery, 2024.**



**Figure 5-36 Results of Swimbladder Degenerative Index (SDI) for the Fane Fishery, 2024. Moderate damage noted on average.**



**Figure 5-37 Results of Length Ratio Index (LRI) for the Fane Fishery, 2024. Slight to moderate damage noted on average.**

## 5.6 Barrow

The Barrow catchment is a large riverine catchment located on the east coast of Ireland in the South Eastern River Basin District (SERBD). The catchment has a riverine wetted area of 72,780 ha (727.8 km<sup>2</sup>). The SERBD is 60% calcareous bedrock which makes it a very productive habitat for eels. There has historically been a commercial fishery on the River Barrow and the presence of historical catch will aid in the assessment of the current silver eel escapement levels from the river. There is also historical research data on the River Barrow from the Fisheries Research Centre which is available to Inland Fisheries Ireland. The assessment of the silver eel stocks from a river dominated catchment will help highlight any difference in production and escapement of eels compared with catchments with large lake/lacustrine wetted areas. The Barrow is the first riverine dominated silver eel index catchment assessed to date.

The fishing location is situated upstream of the town of Graiguenamanagh; approximately 5 km upstream from the tidal limit (estuary) in the River Barrow (Figure 5-38). The location of the Ballyteiglea Lock fishing site means that over 99% of the River Barrow freshwater wetted area is above the fishing site. Four nets were fished from openings on the Ballyteiglea Lock gates of the canal section of the River Barrow during the silver eel season. Historically the commercial fishery in the River Barrow concentrated effort on the canal lock gates.

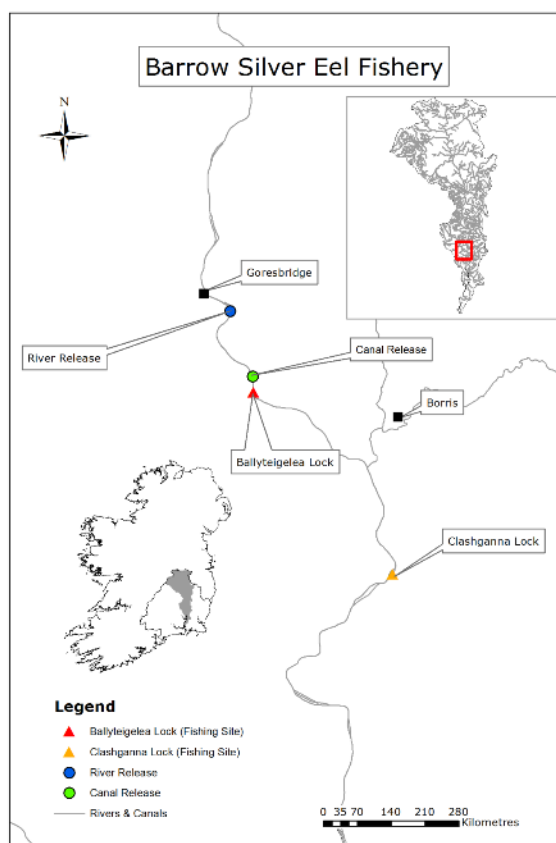


Figure 5-38 Map of silver eel fishing and release locations within the Barrow catchment, 2023 (Insets: Map of Ireland with Barrow catchment (shaded) and South Eastern River Basin District (SERBD) (outlined) and detail of Barrow catchment rivers with sampling location indicated (red box)).

### 5.6.1 Eel catch

In 2024, after 18 nights of fishing, a total of 159.16 kg of silver eels were captured at the Ballyteiglea Lock (Barrow Silver Eel Fishery), (Table 5-11). This equated to 1,050 eels, with the majority being caught in November during moderate flood events. While fishing on the Barrow commenced in late September (27<sup>th</sup>), lower water levels resulted in the majority of fishing nights being carried out in November. There were only two fishing nights in October. The highest catch was recorded on the 19<sup>th</sup> of November, at 397 eel (at a weight of 57 kg), (Figure 5-39). A storm caused sampling issues for the fishing sites in 2024. The storm came in on Saturday 23<sup>rd</sup> November and fishing ceased on the Barrow due to the excessive gale winds. Fishing continued through November to mid-December and finished on the 12<sup>th</sup> of that month. Once water temperature readings declined below 10°C catches dwindled (Figure 5-40).

**Table 5-11 Silver eel catch record for Barrow Fishery, 2014 – 2024.**

<b>Year</b>	<b>No. Days Fished</b>	<b>Catch (kg)</b>	<b>No of Eels</b>
2014	22	174	1,223
2015	20	128	687
2016	25	193	880
2017	24	273	1,388
2018	28	391	2,808
2019	24	179	1,329
2020	29	238	1,163
2021	20	196	1,200
2022	21	189	1,055
2023	20	53	203
2024	18	159	1,050

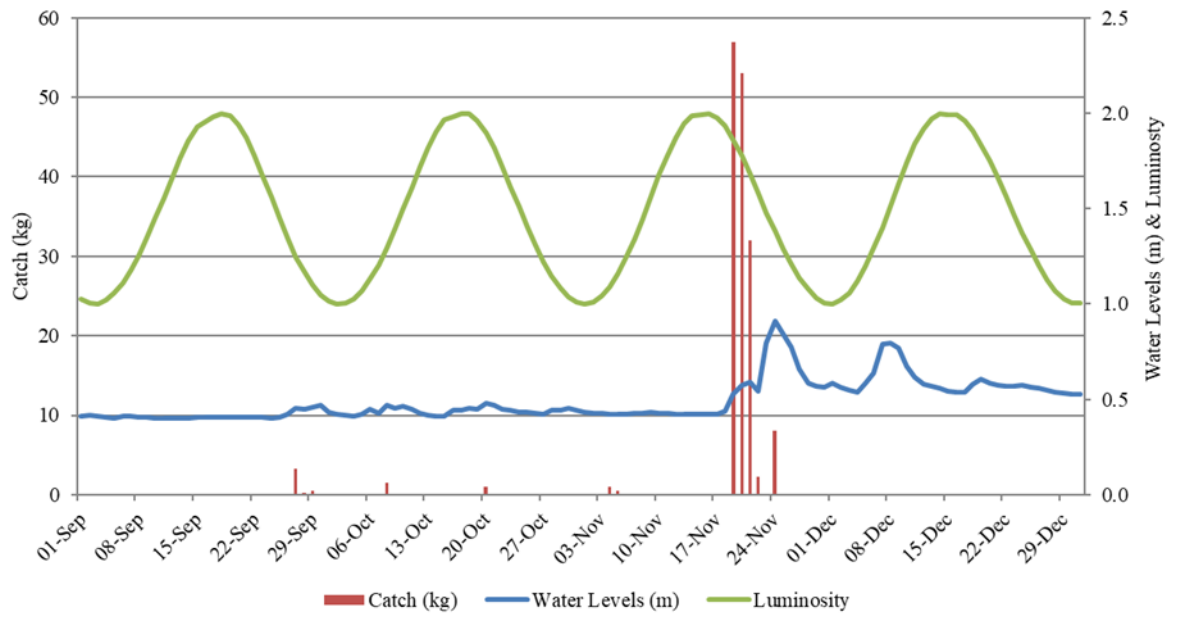


Figure 5-39 Catch (kg), water levels (m) and luminosity for the Barrow Fishery, 2024.

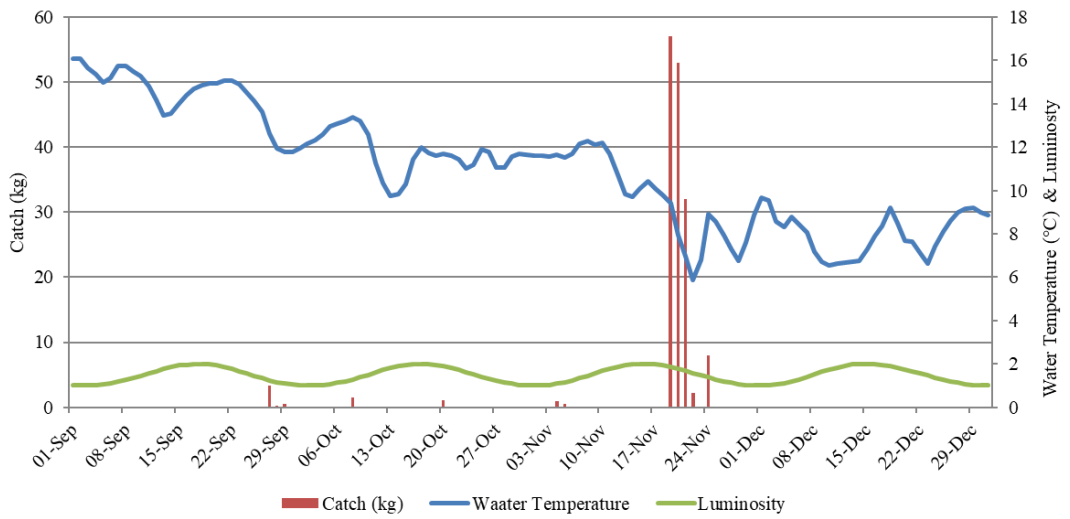


Figure 5-40 Catch (kg), water temperatures (°C) and luminosity for the Barrow Fishery, 2024.

### 5.6.2 Mark Recapture

Tagging was carried out during the 2024 season. 102 eels were tagged using PIT Tag. 9 recaptures were recorded. 8.8% overall percentage of recaptures, all which were captured in the 2024 silver eel season. There were no historical recaptures. Table 5-12 depicts numbers of tagged eels with number and percentages of recaptures from each year (2014-2024).

**Table 5-12 Mark-recapture results for Barrow Silver Eel Fishery 2015-2024.**

Year	No. Tagged	No. Recaptured	% Recapture
2015	279	41	14.7
2016	48	21	43.7
2017	51	8	15.7
2018	432	61	14.1
2019	202	52	25.7
2020 *	0	n.a.	n.a.
2021	99	1	1.01
2022	153	5	3.3
2023 **	0	n.a.	n.a.
2024	102	9	8.8

\* No PIT tags were deployed in 2020 due to the COVID-19 Lockdown.

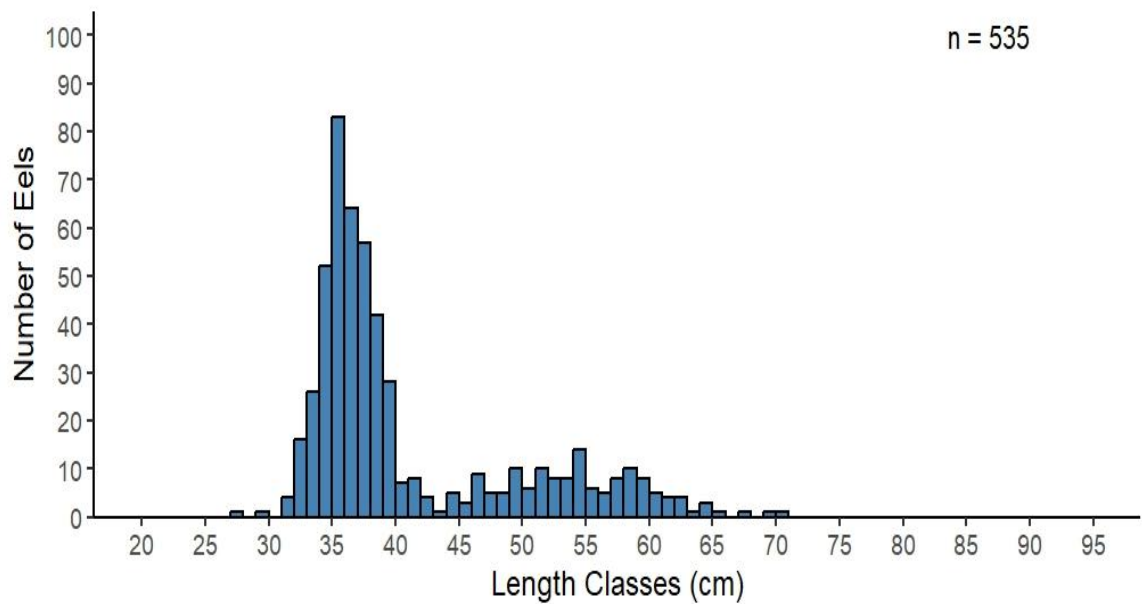
\*\* No PIT tags were deployed in 2023 due to reduced staffing levels.

### 5.6.3 Eel Biology

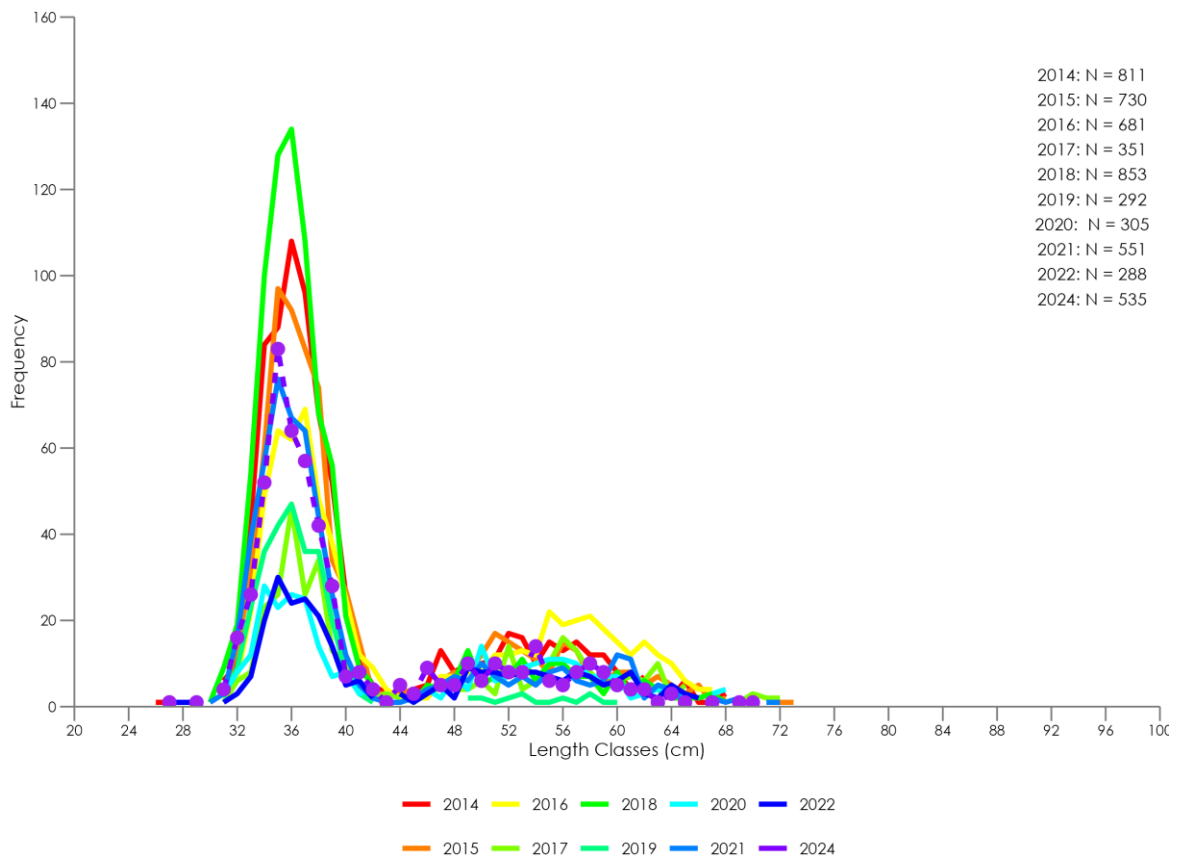
The average length of eel processed in the Barrow fishery was 41.0cm (ranging from 27.9 cm to 70.0 cm), (Figure 5-41 and Figure 5-42, Table 5-13). The average weight was 0.146 kg (ranging from 0.010 kg to 0.689 kg). The usual trend is a high sharp peak depicting male silvers in the 35 cm length classes, followed by a broader, shallower peak depicting females from approximately 45 cm in length onwards to the maximum length recorded for the season (Figure 5-41). Out of the 535 eels measured, 202 had head widths recorded. 14.36% of these were broadhead eels (n = 29). (Figure 5-43). A sample of 47 eels was retained for dissection from the Barrow 2024 season. Out of this total, 12.7% were females (n = 6) and 87.2% were male (n = 41).

**Table 5-13 Length and weight data for processed silver eels from the Barrow Fishery, 2014 – 2024. Note: there were no data collected for 2023, and the fishery catch was batch weighed.**

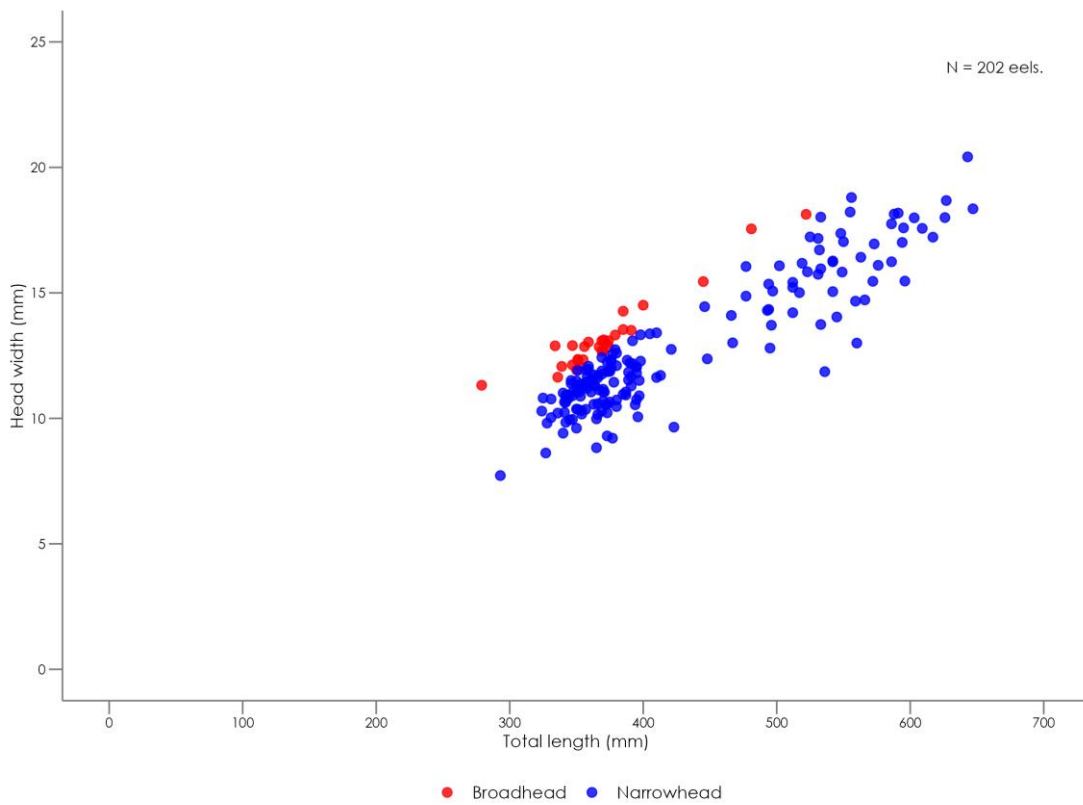
Year	No. of Eels	Mean Length (cm)	Min Length (cm)	Max Length (cm)	Mean Weight (kg)	Min Weight (kg)	Max Weight (kg)	Total Weight (kg)
2014	811	41.4	27.6	76.2	0.140	0.033	0.742	113.578
2015	730	41.8	31.5	77.4	0.149	0.050	0.873	108.730
2016	681	45.2	32.0	77.8	0.195	0.052	0.860	132.983
2017	351	45.5	26.2	81.8	0.203	0.025	1.078	71.337
2018	853	39.5	21.3	72.3	0.1212	0.010	0.7390	103.379
2019	292	38.2	31.6	69.3	0.1084	0.052	0.6830	31.538
2020	305	45.6	31.4	75.8	0.2070	0.051	0.849	63.233
2021	551	41.3	30.4	79.2	0.151	0.052	0.983	82.970
2022	288	44.9	24.1	79.4	0.192	0.002	1.201	55.481
2024	535	41.0	27.9	70.0	0.146	0.0103	0.6890	78.091



**Figure 5-41 Length frequency for silver eels caught at the Barrow Fishery, 2024.**



**Figure 5-42 Length frequency for silver eels caught at the Barrow Fishery, 2011 – 2024.**

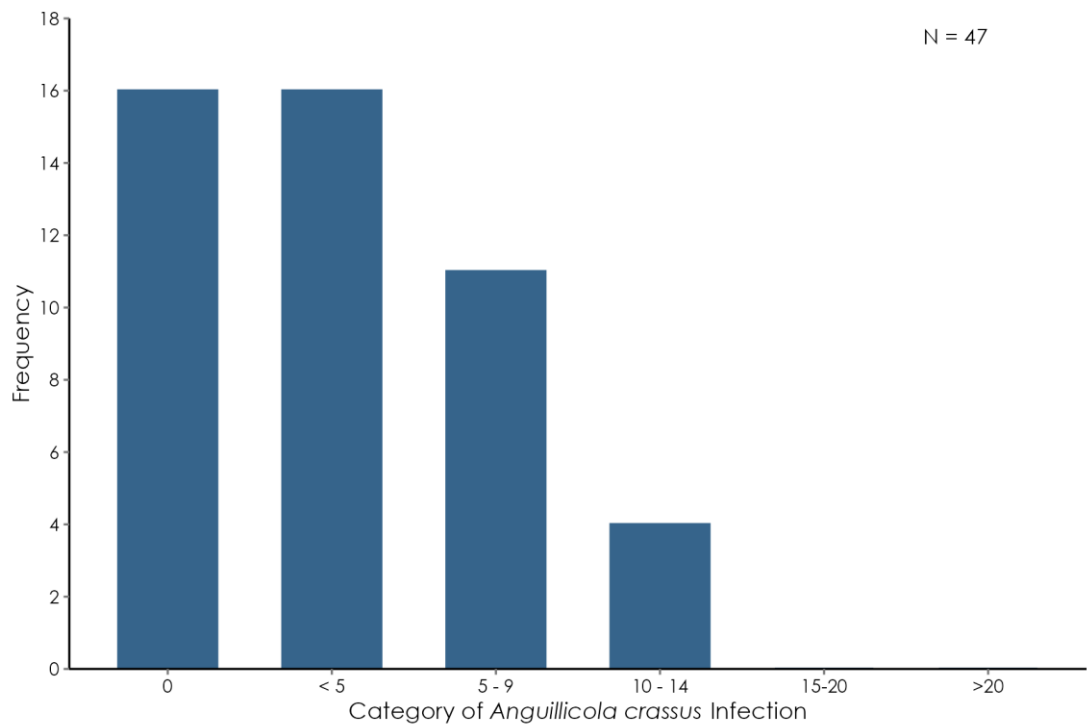


**Figure 5-43 Broadhead and narrowhead records for the Barrow Fishery, 2024.**

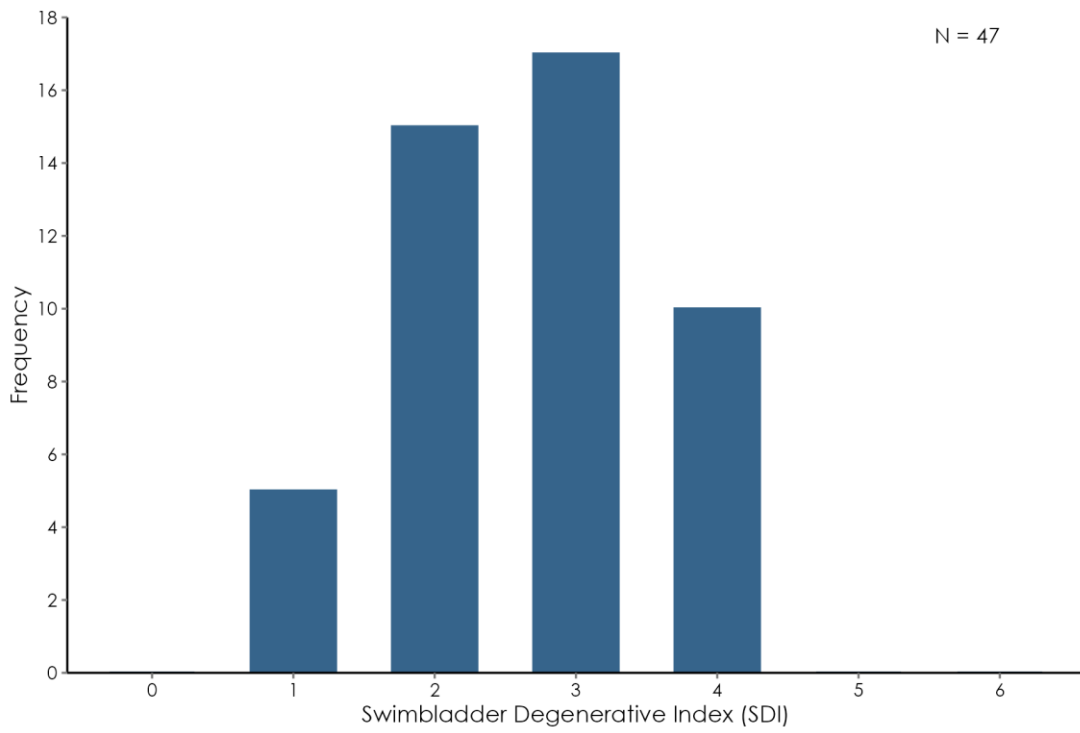
#### 5.6.4 *Anguillicola crassus*

Mortalities taken from the Barrow fishery during the 2024 season were investigated for the presence of the invasive swimbladder nematode *Anguillicola crassus*. Prevalence and infection intensity was examined and recorded. These parameters are determined by the Swimbladder Degenerative Index (SDI) and the Length Ratio Index (LRI) (from, Lefebrve et al., 2002 and Palstra et al., 2007, respectively). 31 out of 47 eels were infected with *Anguillicola crassus*, with a prevalence of 65.96%. The intensity of infection was 5.00. The maximum infection burden per eel was 13 parasites. 12.8% of eels were infected (n=6) were female. 53.2% of eels infected (n=25) were male.

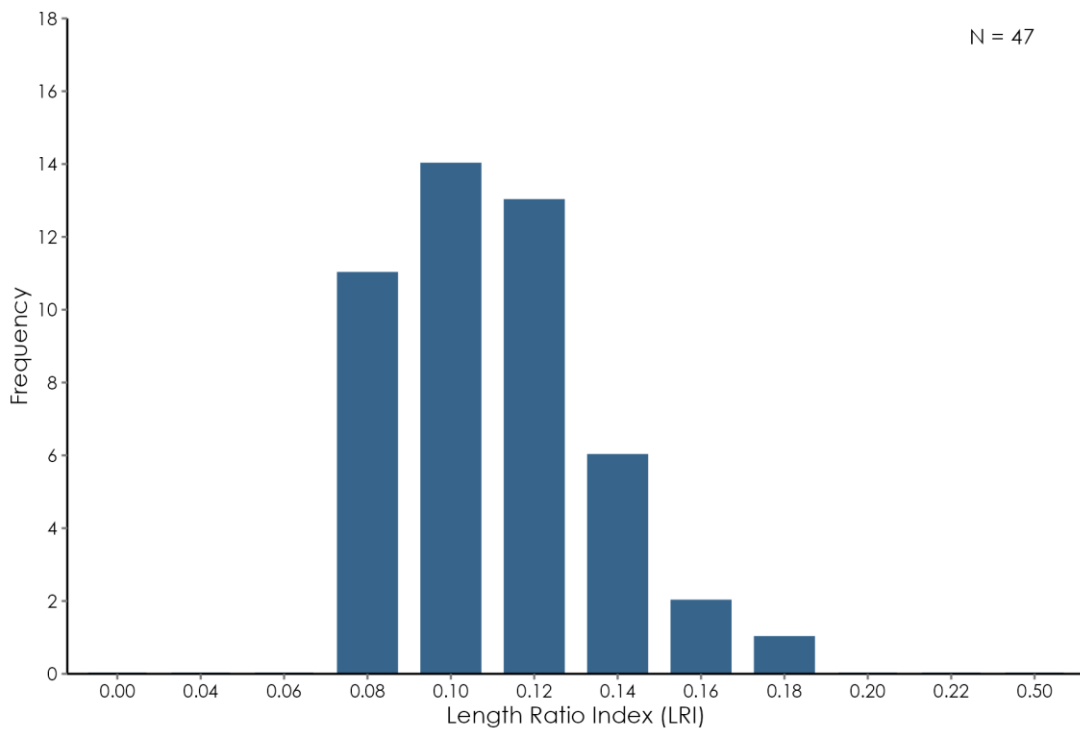
While a number of eels were uninfected in the sample (34%, n = 16), an equal number of the dissected eels fell into the category of infection of <5 parasites in their swimbladders (34%, n = 16), (Figure 5-44). Fewer individuals were noted in categories 5-9 and 10-14 parasites per swimbladder. There were no parasites noted in the higher categories of infection (15-20 and >20 parasites per swimbladder). Swimbladder health as diagnosed by the Swimbladder Degenerative Index (SDI) and the Length Ratio Index (LRI) both indicated slight to moderate levels of damage (average SDI = 2.6 and average LRI = 0.10). No severe damage was reported (Figure 5-45 and Figure 5-46).



**Figure 5-44 Categories of infection by *Anguillicola crassus* for the Barrow Fishery, 2024.**



**Figure 5-45 Results of Swimbladder Degenerative Index (SDI) for the Barrow Fishery, 2024.**



**Figure 5-46 Results of Length Ratio Index (LRI) for the Barrow Fishery, 2024.**

This section refers to Ch. 7.2.2 of the National EMP Report, 2008

Yellow-eel stock monitoring is integral to gaining an understanding of the current status of local stocks and for informing models of escapement, particularly within transitional waters where silver eel escapement is extremely difficult to measure directly. Such monitoring also provides a means of evaluating post-management changes and forecasting the effects of these changes on silver eel escapement. The monitoring strategy aims to determine, at a local scale, an estimate of relative stock density, the stock's length, age and sex profiles, and the proportion of each length class that migrate as silvers each year. Furthermore, individuals from this sample will be used to determine levels of contaminants and parasites to assess spawner quality. Two classes of survey methodologies will be employed eel specific surveys and multi-species surveys, mainly involving standardised fyke netting and electro-fishing. Table 6-1 gives the locations for eel specific lake and transitional waters to be surveyed in the 2024 - 2026 period.

Water Framework Directive general fish surveys were undertaken on lakes (fyke nets, gill-nets and hydro acoustics), rivers (electro-fishing and fyke nets) and transitional waters (fyke nets, seine nets & beam trawls) in 2017 which adds significantly to the national eel specific programme. The WFD monitoring is being undertaken on a three-year rolling cycle by Inland Fisheries Ireland. The National programme of yellow eel monitoring, as laid out in the EMPs, was undertaken by Inland Fisheries Ireland with additional support from the Marine Institute and AFBI (Table 6-1).

Under the Irish Eel Management Plan a number of key monitoring objectives were outlined. A monitoring programme will aim to meet these objectives:

- 2.1 Estimate silver eel escapement using indirect assessment from yellow eel stocks.
3. Monitor the impact of fishery closure on yellow eel stock structure.
4. Inter-calibration with water framework sampling.
5. Compare current and historic yellow eel stocks.
6. Establish baseline data to track changes in eel stock over time.
8. Determine parasite prevalence and eel quality.

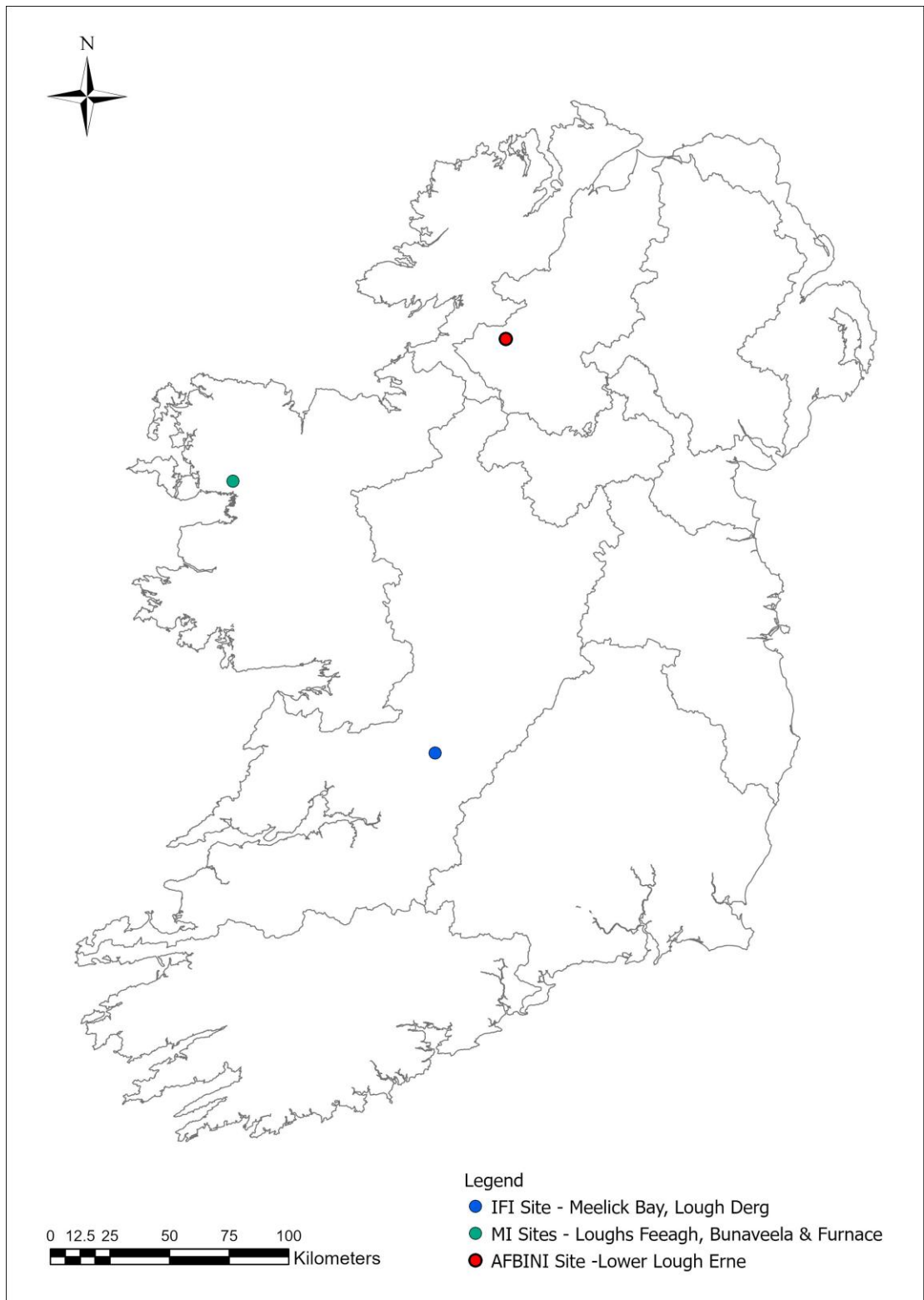
### 6.1 Eel specific surveys 2024

Yellow eel surveys took place in 4 lakes and 2 transitional waters (Figure 6-1 and Table 6-1). The lakes surveyed were Lough Derg (Meelick Bay), (IFI), Lough Feeagh and Bunaveela Lough (MI) and Lower Lough Erne (AFBINI). The transitional waters were Lough Furnace and Lower Lough Furnace in Burrishoole (MI).

The yellow eel surveys need to meet a number of objectives, to monitor the impact of fishery closure on yellow eel stock structure, compare with historic eel surveys, establish baseline data set, evaluate impedance of upstream migration and determine parasite prevalence within Ireland. Samples of eels are measured for length, weight, and INDICANG style morphological features associated with silvering (eye measurements, pectoral fin measurements, and pigmentation). At selected locations eels are retained for further analysis in the laboratory. These analyses include age, growth, sex determination, parasite prevalence and diet.

**Table 6-1 Monitoring Programme 2024 – 2026**

<b>RBD</b>	<b>Location</b>	<b>Water body</b>	<b>Life stage</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>
SHIRBD	ESB Shannon	Catchment	Silver	√	√	√
NWIRBD	ESB Erne	Catchment	Silver	√	√	√
WRBD	Burrishoole	Catchment	Silver	√	√	√
SERBD	Barrow	River	Silver	√	√	√
ERBD/NBRBD	Fane	River	Silver	√	√	√
NWIRBD	Erne	Lake	Silver		√	√
SHIRBD	Ardnacrusha	River	Elver	√	√	√
SHIRBD	Maigue	River	Elver	√	√	√
SHIRBD	Feale	River	Elver	√	√	√
SHIRBD	Inagh	River	Elver	√	√	√
NWIRBD	Erne	River	Elver	√	√	√
ERBD	Liffey	River	Elver	√	√	√
WRBD	Ballysadare	River	Elver			
WRBD	Corrib	River	Elver	√	√	√
WRBD	Burrishoole	River	Elver	√	√	√
SHIRBD	Parteen	River	Yellow	√	√	√
NWIRBD	Erne	Lake	Yellow	√		√
ERBD	L. Muckno	Lake	Yellow	√	√	
WRBD	Upper Lough Corrib	Lake	Yellow	√		
WRBD	Lower Lough Corrib	Lake	Yellow	√		
SHIRBD	Maigue	River	Yellow		√	
SHIRBD	Lough Derg	Lake	Yellow	√		
SHIRBD	Lough Ree	Lake	Yellow		√	
WRBD	Lough Conn	Lake	Yellow			√
WRBD	Shramore/Burrishoole	River	Yellow	√	√	√
WRBD	Lough Feeagh	Lake	Yellow	√	√	√
WRBD	Lough Furnace	T. water	Yellow	√	√	√
Ireland	WFD Rivers	Rivers	Yellow	√	√	√
Ireland	WFD Lakes	Lakes	Yellow	√	√	√
Ireland	WFD Transitional	T. water	Yellow	√	√	√



**Figure 6-1 Locations of yellow eel surveys carried out in 2024.**

### 6.1.1 MI yellow eel lake surveys 2024, Burrishoole Catchment

Poole *et al.* (2024): Eel recruitment and stock have been in decline since at least the mid 1980s. So far, much research has focussed on conservation objectives and estimating silver eel production in response to the EU Regulation (EC 1100/2007) and most surveys have been on waters subject to exploitation and/or stocking. The aim of this study is to examine a 35-year yellow eel survey dataset to determine relative abundance trends while accounting for survey design, and important physical and operational covariates. Chains of ten, or sometimes five, fyke nets were fished at fixed sites in four lakes on a catchment in the west of Ireland not impacted on by exploitation or stocking. Captured eels (10,474) were counted for each trap, and eel weight was recorded for each chain of nets (5,515 net nights fished). Data were analysed using a generalised additive model (GAM) that included smoothed trends over time and covariates day-of-year, depth, gradient, site and net chain. Yearly trends and between-chain variability were significant for all locations with trap depth and gradient being important for some lakes. Standardised trends by number and mass declined markedly in both tidal areas – 84.7% and – 89.5% by count and – 93.5% and – 89.5% by weight; significant declines (– 39.2% by count and – 54.1% by weight) were found in one of the freshwater lakes with the other, the one farthest upstream, having had changes over time but no significant difference between the start and end. This study provides a framework for analysing long-term fyke net catch data for eel, which may be useful for the international analysis of eel survey data.

Poole, R., Minto, C., Cooney, J., Drumm, A., Hughes, P., Murphy, M., Nixon, P., Sweeney, D. & O'Leary, C. (2024). Standardising long-term eel (*Anguilla anguilla*) fyke net survey data reveals covariate effects and improves estimates of declining relative abundance. *Fisheries Research*, 272; <https://doi.org/10.1016/j.fishres.2024.106938>

All four locations in Burrishoole were fished in 2024, Bunaveela, Feeagh, Furnace (Transitional) and lower Furnace, (Transitional), (Figure 6-2).



Bunaveela Lough is located in the upper reaches of the catchment. It has a surface area of 42 ha and a maximum depth of 23 m. Bunaveela L. was fished in the traditional style (sets of 10 nets perpendicular to the shore) in 2024 (12 & 13<sup>th</sup> June 2024), with chains of 10 nets fished at three sites on each night. In total 11 eels were caught with a catch per unit of effort of 0.18 eels/net/night (Table 6-2). The average length was 42.2cm and ranged in length from 35.6cm to 57.3cm (Figure 6-3), and a total weight of 1.54 kg caught. No

eels were PIT tagged and no recaptures were recorded.

Lough Feeagh has a surface area of 395 ha and an average depth of 14.5 m (with several areas >35 m in depth). L. Feeagh was fished in the traditional style (sets of 10 nets perpendicular to the shore) in 2024 (18-19<sup>th</sup> June 2024), with chains of 10 nets fished at three sites on each night. In total, 68 eels were caught with a catch per unit effort (CPUE) of 1.13 eels/net/night (Table 6-2). The average length of eels was 42.7 cm and ranged in length from 31.6 cm to 56.7 cm (Figure 6-3), with a total weight of 10.42 kg caught in the two nights. No eels were PIT tagged and three previously tagged eels were recorded, one tagged in 2016 at Site C, one tagged in 2017 at Site E and one tagged in 2018 at Site D, all recaptures were made at the same site as where they were originally tagged. The one tagged in 2018 at Site D was also recaptured at Site D in 2023.

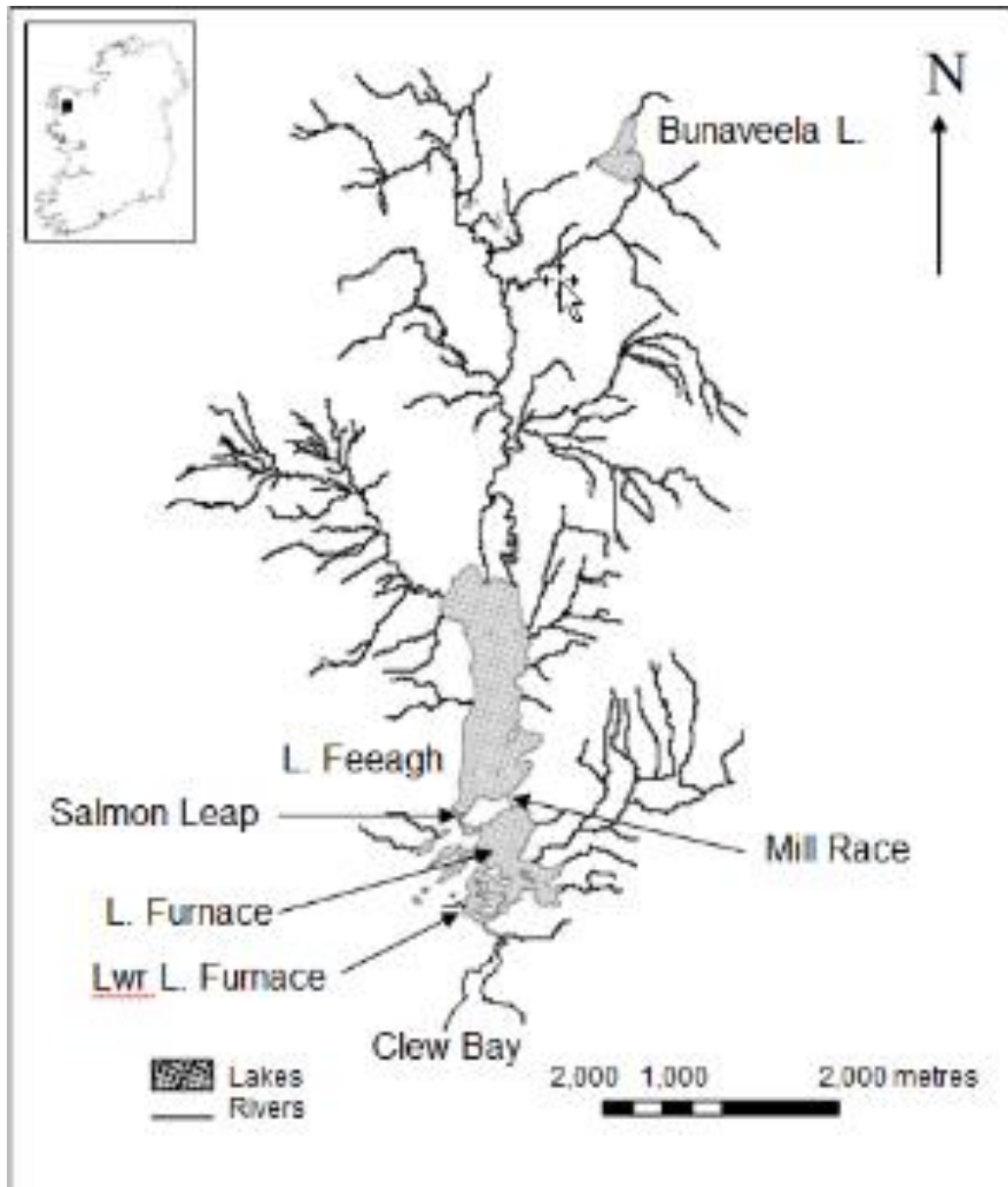


Figure 6-2 Map of Burrishoole showing the lakes surveyed.

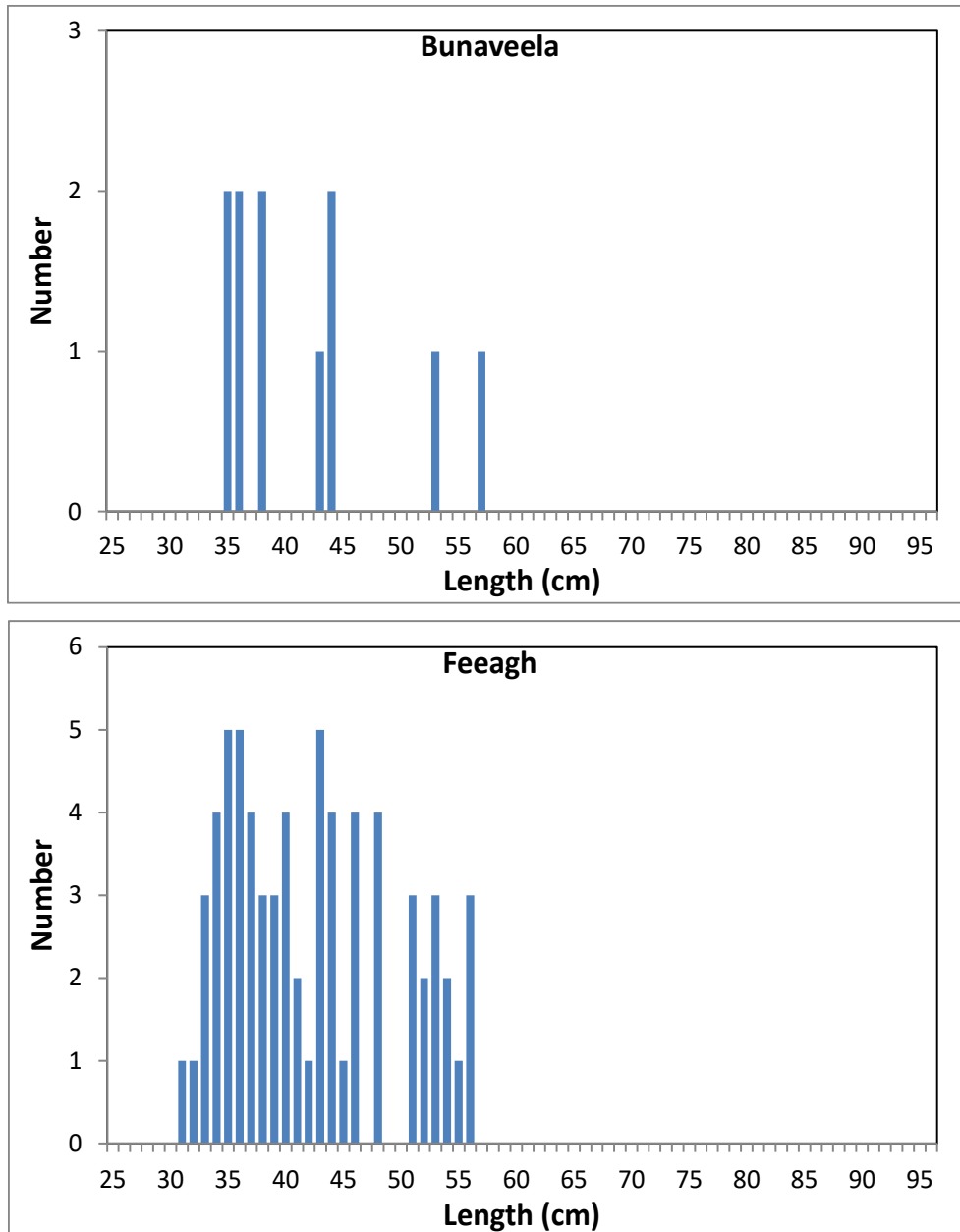


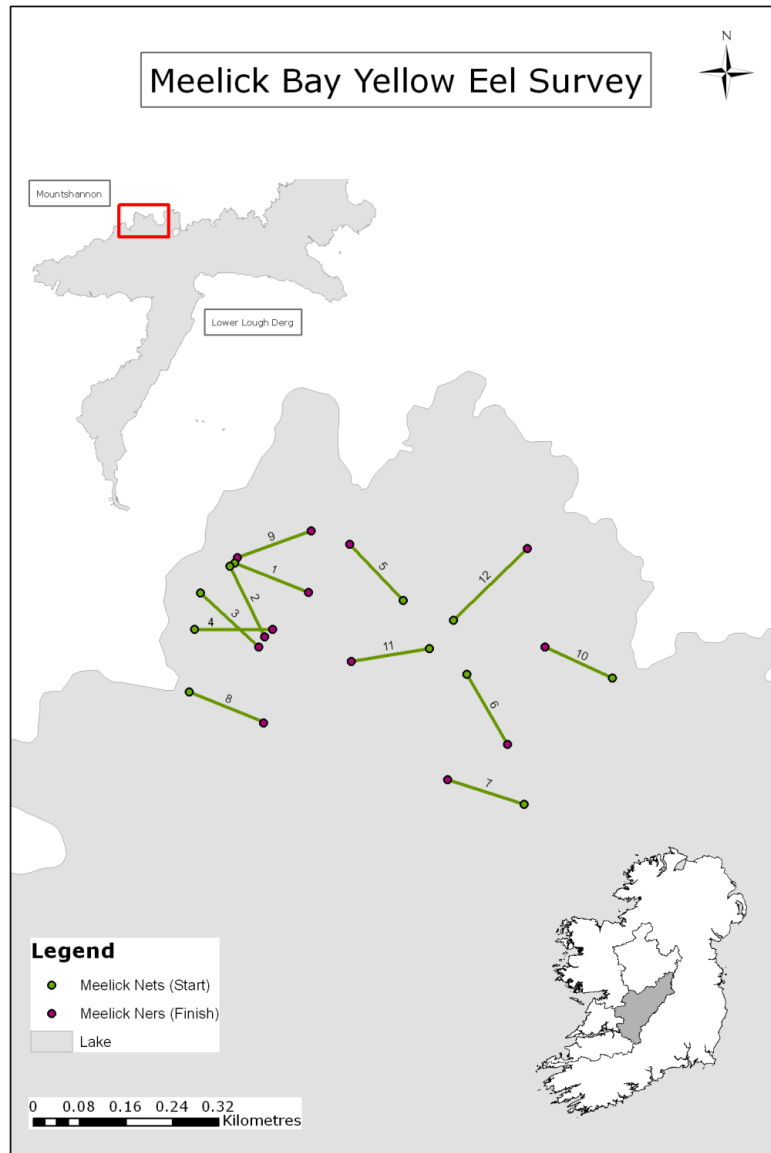
Figure 6-3 Length frequency of yellow eels captured at Bunaveela L. (n=11) (top), and L. Feeagh (n=68) (bottom), in 2024.

Table 6-2 Catch detail from yellow eel lakes surveys 2024.

Lake	Dates	No. Eels	Net*Nights	CPUE	Total Weight (kg)	Mean Length (cm)	Min Length (cm)	Max Length (cm)
Bunaveela	Jun-24	11	60	0.18	1.54	42.2	35.6	57.3
Feeagh	Jun-24	68	60	1.13	10.42	42.7	31.6	56.7

### 6.1.2 IFI yellow eel lake surveys 2024, Meelick Bay, Lough Derg.

Meelick Bay, on Lough Derg, is located in the Shannon catchment near Mountshannon in Co. Clare. The lake has a surface area of 11,857.37 ha and a maximum depth of 3.6 m. Meelick Bay was sampled for 6 nights during the summer of 2024 (Figure 6-4). The survey was repeated from earlier sampling in 2011, 2012, 2013 and 2018 which attempted to replicate, compare and contrast previous eel population studies in this bay (Moriarty, 1986). To this end, fyke nets were laid in chains of ten, to replicate the previous work.



**Figure 6-4** Map showing sampling locations and orientation of fyke nets for 2024 surveys. The layout reflects current and previous surveys on Meelick Bay, L. Derg, by EMP and FRC. Inset: Republic of Ireland with Shannon River Basin District (outlined) and Lough Derg catchment (shaded).

### 6.1.2.1 Eel Biology

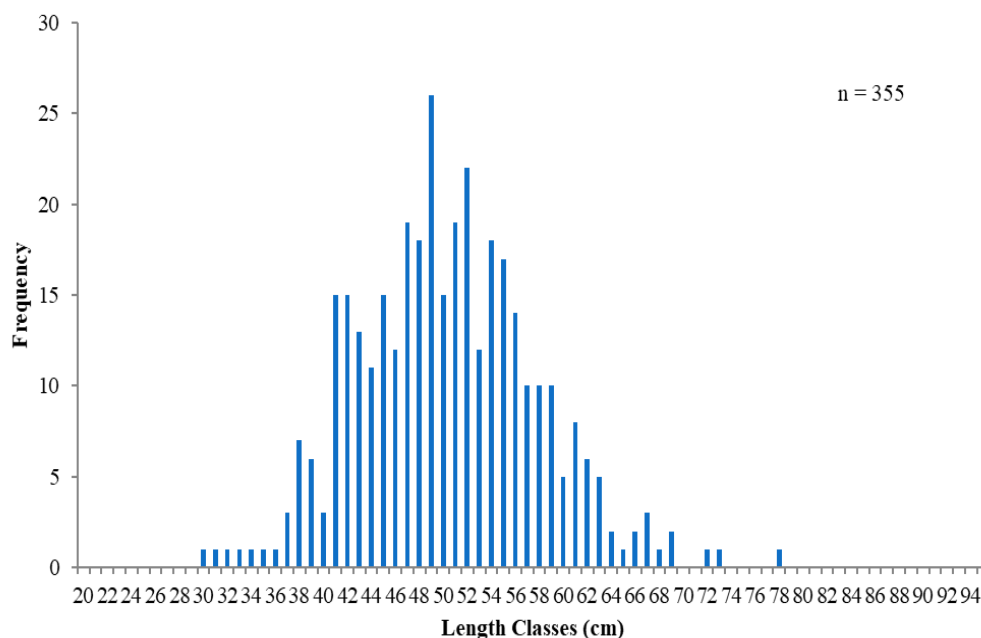
In total, 355 eels were caught with a catch per unit effort (CPUE) of 8.88 (Figure 6-4). The eels ranged in length from 30.8 cm to 78.9 cm and in weight from 0.0590 kg to 0.8470 kg, with a total weight of 89.297 kg caught over the 6 nights ( Table 6-3, Table 6-4 and Figure 6-5). No sacrificed eels were retained for this survey. Out of a total of 343 eels with head measures, it was found that 9 showed dimensions categorising them as broadheads (2.7%), (Figure 6-6).

**Table 6-3 Summary data from from Meelick Bay, Lough Derg fyke netting surveys 2024.**

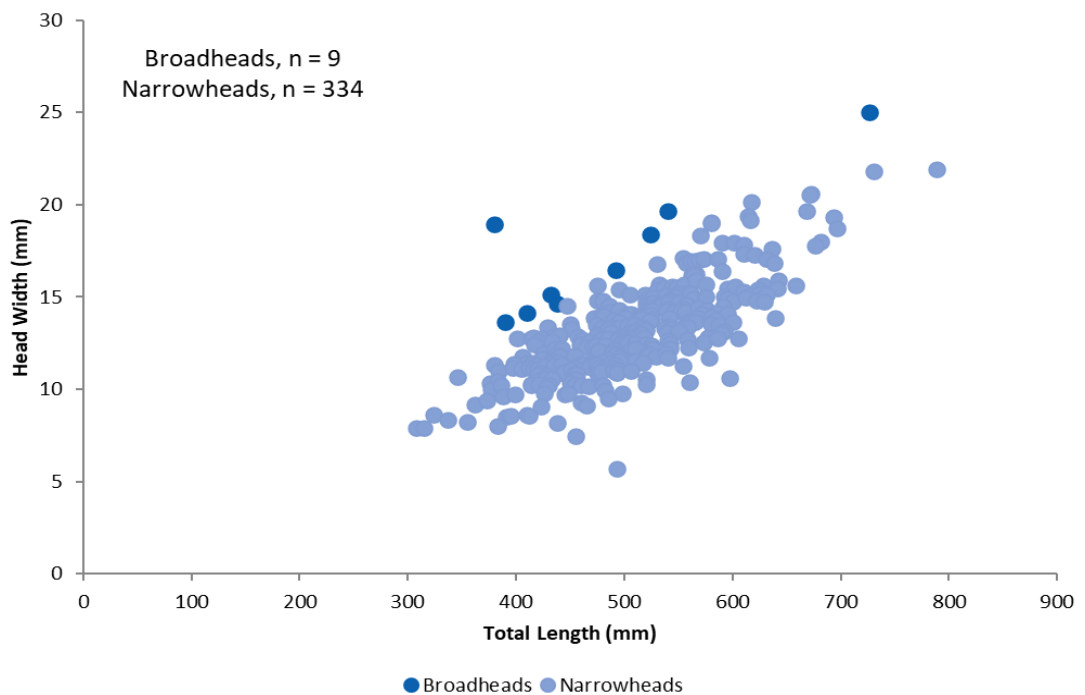
RBD	Lake	No. Eels	Average Length (cm)	Min Length (cm)	Max Length (cm)	Average Weight (kg)	Min Weight (kg)	Max Weight (kg)	Total Weight (kg)
SHRBD	Meelick Bay, Lough Derg	355	50.7	30.8	78.9	0.2523	0.0590	0.8470	89.2969

**Table 6-4 Length frequency data from Meelick Bay, Lough Derg fyke netting surveys 2024.**

RBD	Lake	No of Eels	20 - 29 cm	30 - 39 cm	40 - 49 cm	50 - 59 cm	60 - 69 cm	70 - 79 cm	> 80 cm
SHRBD	Meelick Bay, Lough Derg	355	0	23	147	147	35	3	0



**Figure 6-5 Length frequency of yellow eels captured at Meelick Bay, L. Derg, 2024.**



**Figure 6-6 Broadhead and narrowhead records for Meelick Bay yellow eels, 2024.**

### **6.1.3 AFBI yellow eel surveys 2024, Lower Lough Erne - survey overview.**

#### **6.1.3.1 Introduction**

The 2024 lower Lough Erne yellow eel survey was undertaken by AFBI from 2nd to 5<sup>th</sup> July. This survey was carried out as a part of the biennial AFBI Lower Lough Erne (LLE) yellow eel survey program.

To ensure data consistency and to enable trends to be compared across years the same commercial fishermen were employed using the same methodology as in previous LLE yellow eel surveys (from 2011-2022). The survey sites chosen in each of these surveys (figure 1) are an attempt to revisit sites fished during the intensive sampling regime devised during the Erne Eel Enhancement Programme (from 1998-2000) and to maintain a harmonised series of sites for the biennial survey needs.

Each day 6 chains of 5 Dutch fyke nets with a 12mm mesh size were set in a zone of the lake established during the previous LLE yellow eel surveys (Figure 6-7). The nets were retrieved the following morning with all eel catch being returned to shore for processing. Any bycatch was recorded and returned immediately. Lengths of every eel captured was recorded to the nearest cm with a sub sample of 25 being held each day from each zone (100 total) for more detailed analysis. This consisted of measuring length, weight, fat content, removal of digestive tract for stomach content analysis and parasite burden and removal of otoliths for age analysis. The total number of the invasive parasite *A. crassus* in each swim bladder was also recorded.

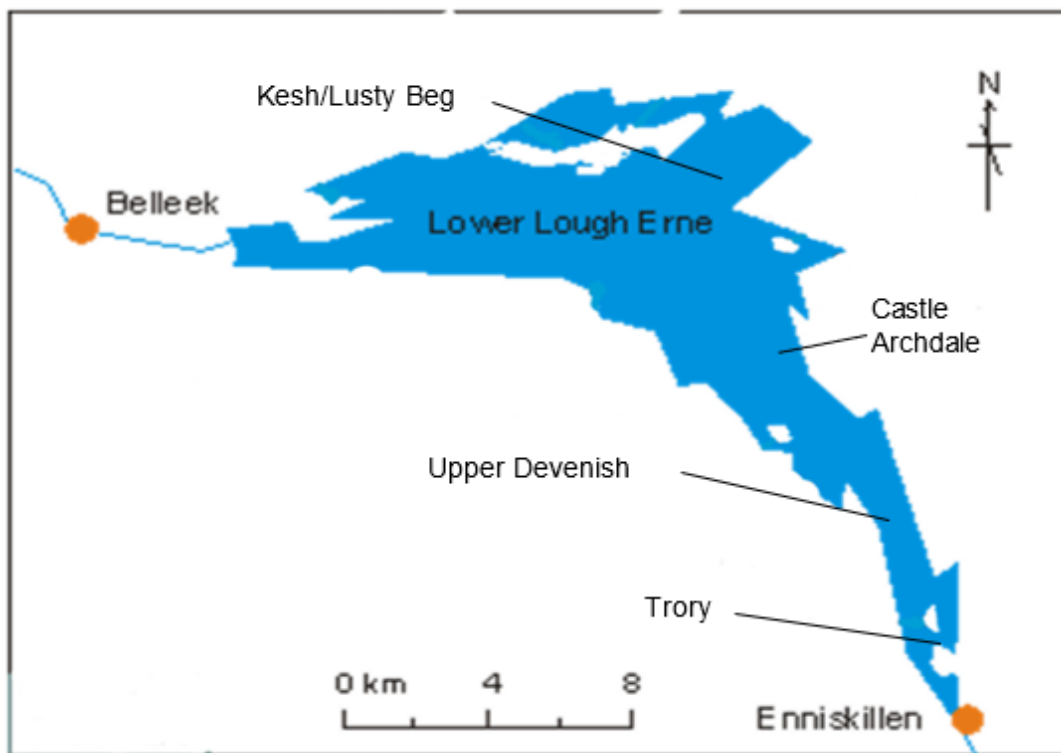


Figure 6-7 Four zones surveyed during the Lower Lough Erne yellow eel survey.

### 6.1.3.2 Results

#### 6.1.3.2.1 Total Catch

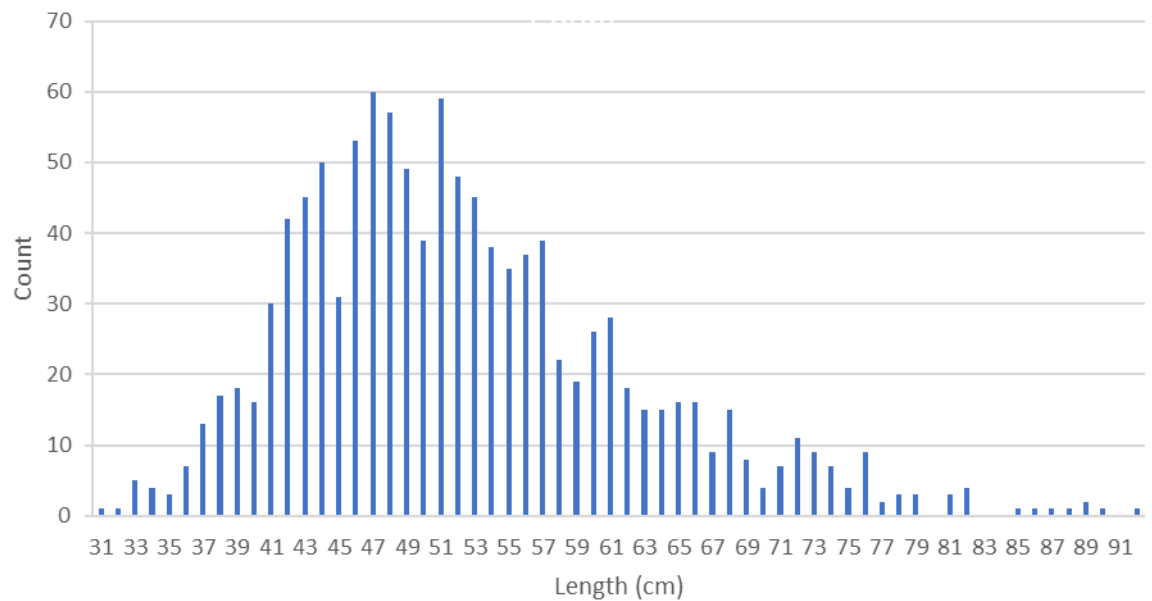
An overview of the results of this survey are presented below. During the 5-day survey a total of 1,123 eels were caught and measured, a drop of 350 eels from the 2022 yellow eel survey. Of the 1,123 eels caught and measured 128 (11.4%) were classified as broadhead, with 995 being narrowhead. The mean CPUE for 2024 was 9.4, a historic low when compared to the previous 7 surveys within the past 13 years, across which the mean CPUE was 16.3 (Table 6-5). In the 2024 survey zonal CPUE trends followed a similar pattern to previous years with Trory being the lowest. However, Castle Archdale and Kesh zone had considerably lower CPUE than the overall zonal average, similar to the previous 2022 survey. Water temperatures in 2024 were recorded as varying from 13.8 to 14.6 °C, which for July was noted as being unseasonally low and reflected what continued to be a cool summer. This temperature range was significantly lower than that recorded in all other sample years and is believed to have been the major causative effect for such a drop in CPUE.

**Table 6-5 Catch per unit effort (CPUE) from Lower Lough Erne yellow eel surveys 2011-2024**

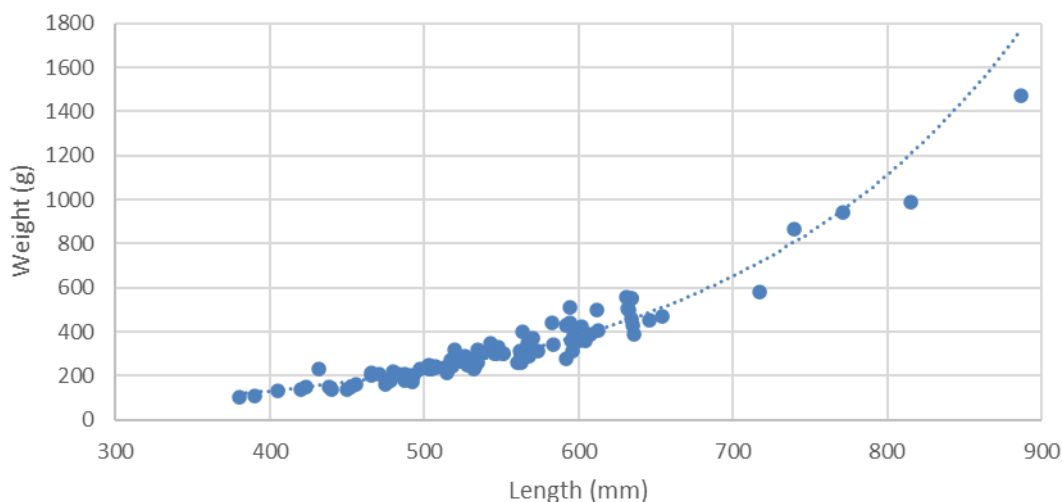
Zones	Year								Zonal Mean
	2011	2014	2016	2018	2020	2021	2022	2024	
<b>Trory</b>	8.52	3.23	8.73	10	12.5	7.7	8.6	8.9	8.52
<b>Upper Devenish</b>	19	18.23	13.76	14.1	18.3	12.23	12.3	9.2	14.02
<b>Castle Archdale</b>	27	28.3	30.77	25.6	27.5	13	13.3	10.3	21.25
<b>Kesh/Lusty</b>	25	25	12.76	30.7	12.7	29.07	14.9	9	19.16
<b>Mean</b>	14.9	17.0	16.5	20.1	17.8	15.5	12.3	9.4	

**6.1.3.2.2 Size Classes**

Size classes of eels captured during the 2024 yellow eel survey (Figure 6-8 Size classes from the 2024 Lower Lough Erne yellow eel survey (n = 1,123).) followed a similar trend to previous years. Length/weight relationship also appeared typical of European yellow eels (Figure 6-9).



**Figure 6-8 Size classes from the 2024 Lower Lough Erne yellow eel survey (n = 1,123).**



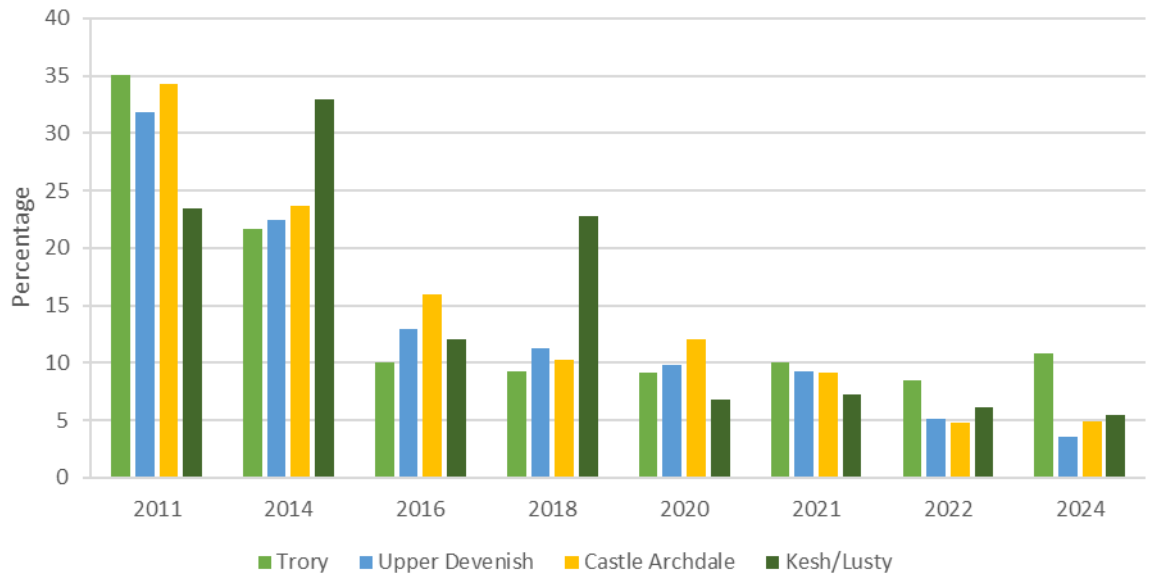
**Figure 6-9 Length and weight of individuals caught during the 2024 Lower Lough Erne yellow eel survey (n = 100).**

**6.1.3.2.3 Undersize Catch**

The 2024 LLE yellow eel survey saw a similarly low percentage of undersized eels (<40cm) as the 2022 survey (Table 6-6). Percentage of undersized eels has been falling since surveys began in 2011, despite the closure of the commercial fishery. This is unsurprising given the poor levels of recruitment and also coincides with the decrease in mean CPUE seen over the last 13 years highlighting the poor recruitment seen in Lough Erne. Undersize catch by zone is illustrated in Figure 6-10.

**Table 6-6 Percentage of catch under 40 cm from each year of the LLE yellow eel survey.**

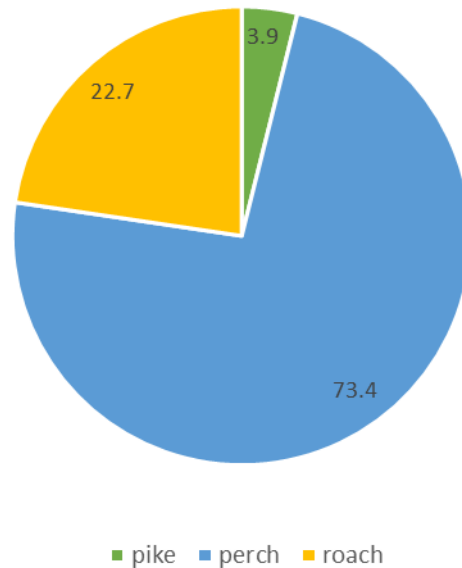
Zones	Year							
	2011	2014	2016	2018	2020	2021	2022	2024
<b>Troy</b>	35.1	21.7	10	9.3	9.1	10	8.5	10.8
<b>Upper Devenish</b>	31.8	22.5	13	11.3	9.8	9.3	5.1	3.6
<b>Castle Archdale</b>	34.3	23.7	16	10.3	12.1	9.2	4.8	4.9
<b>Kesh/Lusty</b>	23.4	33	12	22.8	6.8	7.2	6.1	5.5
<b>Mean</b>	31.2	25.2	12.8	13.4	9.5	8.9	6.1	6.2



**Figure 6-10 Percentage of catch made up by undersize eels (<40cm) caught in different zones of Lower Lough Erne from 2011 to 2024.**

**6.1.3.2.4 By-catch**

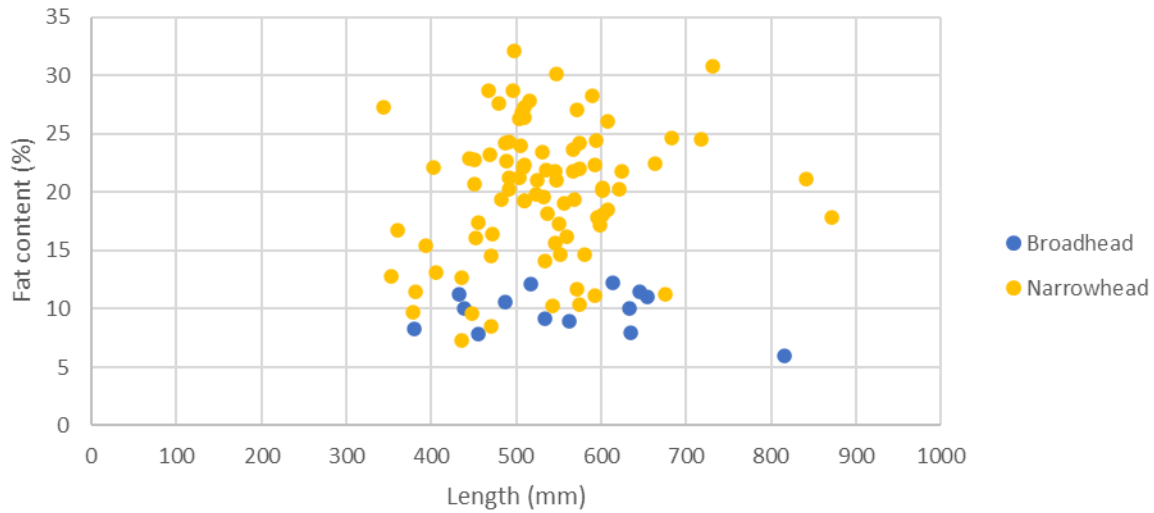
Only three species were caught as bycatch during the 2024 yellow eel survey with Perch making up over 73% of the bycatch (Figure 6-11). Remaining bycatch was made up by Roach and Pike, respectively.



**Figure 6-11 Total bycatch caught during the 2024 lower Lough Erne yellow eel survey, coloured by species.**

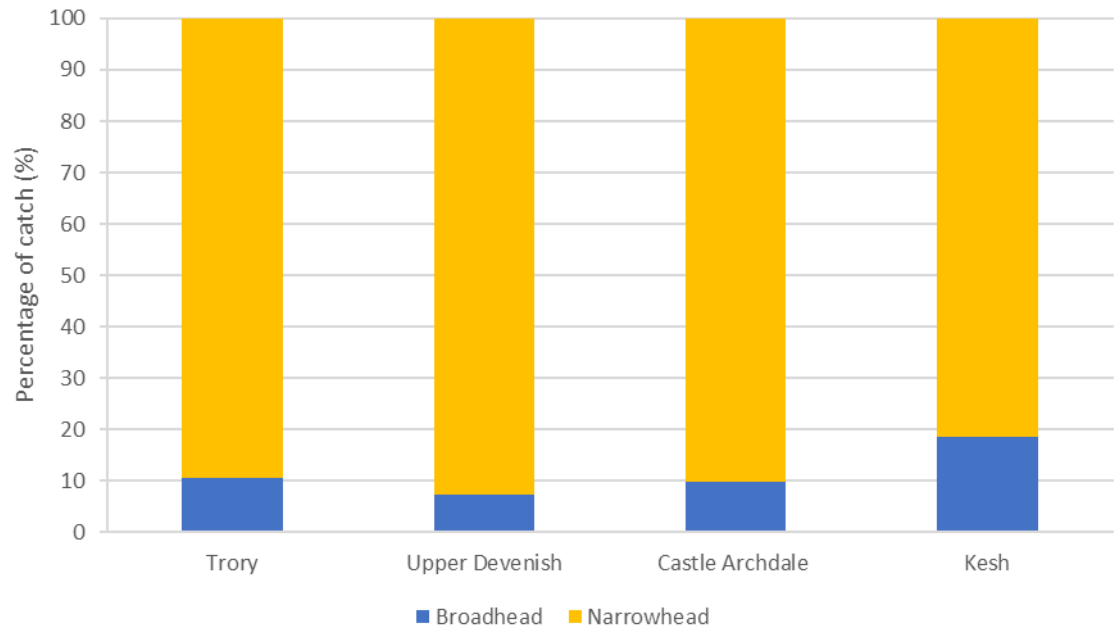
#### 6.1.3.2.5 Fat content and head shape

Fat content measurements from the 2024 survey show a similar pattern to previous surveys. Figure 6-12 below shows a clear divide in fat content between head shapes. These head shapes are associated with two distinct ecotypes of yellow eel: Broadhead and Narrowhead. Broadhead individuals consistently displayed lower fat content, often in single figures (Figure 6-12).



**Figure 6-12 Fat content from 2024 Lower Lough Erne yellow eel survey catch, coloured according to ecotype (n=100).**

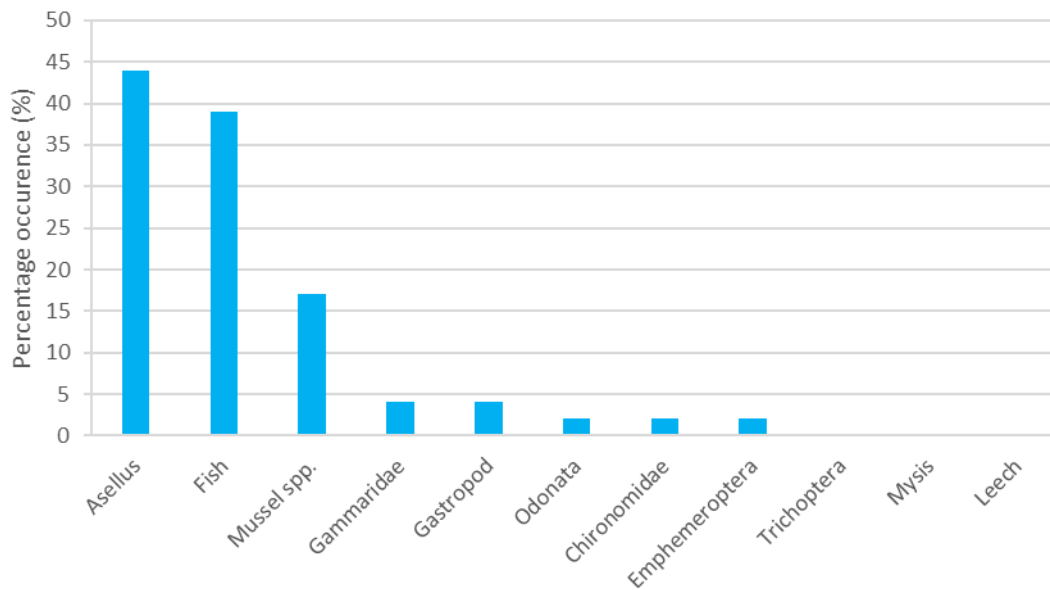
There was no difference in Fulton's condition factor between ecotypes, both groups having a mean of 0.19. It is expected that following further analysis, broadhead individuals will show reduced gonadal development due to their depleted fat content. Ecotype ratio also showed zonal variation, with Kesh having the highest prevalence of broadheads at 18.45% and Upper Devenish having the lowest at 7.25% broadhead (Figure 6-13).



**Figure 6-13 Frequency of broadhead and narrowhead individuals caught in different zones of Lower Lough Erne in 2024.**

**6.1.3.2.6 Stomach Contents**

Results of stomach content analysis from the 2024 Lower Lough Erne yellow eel survey are shown below. Of the 100 digestive tracts that were examined 54% were empty. The percentage occurrence of different food items is shown below in Figure 6-14. Fish were found in both broadhead and narrowhead individuals. Where fish were present in the stomach contents, 89% of the time they were the sole prey item, and the maximum number of fish prey items present was two. This high degree of specialisation highlights the importance of fish prey availability for eels in Lough Erne. Broadhead individuals had a higher percentage of empty stomachs than narrowhead individuals, in contrast with the results of the 2022 survey. Of note is the continuing drop in frequency of Chironomids in eel stomachs; when these surveys began, (both in the EEEP and ensuing early surveys) eel stomach contents were dominated by Chironomids.



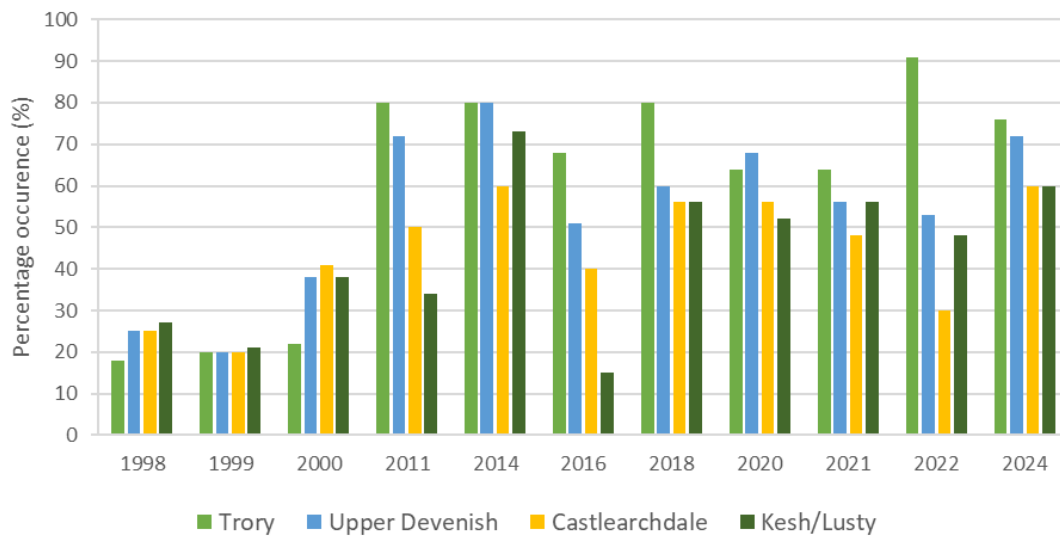
**Figure 6-14 Percentage occurrence of prey items in stomach contents of Lower Lough Erne yellow eels surveyed in 2024 (n = 100, of which 46 contained food).**

**6.1.3.2.7 *Anguillcola crassus* distribution and infection parameters**

Prevalence and intensity of infections with the invasive swim bladder nematode *Anguillicola crassus* was also examined during the 2024 yellow eel survey. Table 6-7 shows mean prevalence of the parasite across each zone over the previous 26 years. *A. crassus* prevalence for 2024 followed a similar zonal pattern to recent years, with prevalence higher in Trory and Upper Devenish than Castle Archdale and Kesh (Figure 6-15).

**Table 6-7 Prevalence (%) of the invasive swim bladder parasite *A. crassus* from lower Lough Erne yellow eel surveys 1998-2024.**

Zones	Year										
	1998	1999	2000	2011	2014	2016	2018	2020	2021	2022	2024
<b>Trory</b>	18	20	22	80	80	68	80	64	64	91	76
<b>Upper Devenish</b>	25	20	38	72	80	51	60	68	56	53	72
<b>Castle Archdale</b>	25	20	41	50	60	40	56	56	48	30	60
<b>Kesh/Lusty</b>	27	21	38	34	73	15	56	52	56	48	60
<b>Mean</b>	23.8	20.3	34.8	59	73.3	43.5	63	60	56	55.5	67



**Figure 6-15 Prevalence of *Anguillicola crassus* infection in yellow eels caught in different zones of Lower Lough Erne from 1998-2024.**

#### 6.1.3.2.8 Further work on the Erne

DAERA have awarded a PhD grant for a QUB AFBI research student to begin in Autumn of 2025. The title of the PhD is *The Broadhead Ecotype of the European Eel (*Anguilla anguilla*); An Understanding of its Fundamental Biology and Ontogenetic Development within Loughs Neagh and Erne*, and will be supervised by Dr Derek Evans (AFBI) and Prof Jaimie Dick (QUB).

A summary of the aims and objectives of the project are outlined below:

Broadhead ecotype exists across the European eel's range. Despite this, a full understanding of broadhead biology is absent and thus a recognised knowledge gap for eel management. This proposal aims to address this by using state of the art satellite imagery, hand-held DISTELL fat meter, MINDRAY M5 ultrasonography for *in-vivo* parasite and gonadal analysis, and acoustic telemetry for habitat use mapping. Such techniques will devise novel investigations examining morphology, habitat use, diet, fat content, age/ growth rates, parasite and contaminant burdens, of the broadhead ecotype. Currently, ecotype is assessed by a single morphological parameter and discrimination threshold determined arbitrarily. Production of a novel broadhead biological index using data from Neagh and Erne populations, provides transferable standard metrics for Europe wide application in eel ecological research. Broadhead eels and their potential to contribute to reproduction is underrepresented in data presented to stock assessment groups reviewing spawner quality. Novel findings on the health parameters, gonadal development, ontogeny and age at maturation of the broadhead ecotype, will advise reproductive potential. Results will facilitate knowledge transfer and development of processes used to advise stock assessment, research, and the refinement of national & international management actions for eel.

This project provides the unique opportunity to access and intentionally target this previously uncharted yellow eel ecotype in Loughs Neagh and Erne. By accessing fishing fleets yellow eels will be collected from onboard sampling of commercial vessels on Neagh and from

commissioned fishers on Erne using fyke nets and long lines during summer 2026, 2027 and 2028. Current broadhead prevalence will be estimated from both lake systems by developing fishery novel catch ratios. These metrics will compare catch frequency of broad head with narrow heads against standard fishery measures such as CPUE (catch per unit effort). Employing state of the art scientific technology and laboratory techniques. In the lab broadhead eel samples will be analysed by a variety of methods examining morphology, biometry, diet, fat content, age/ growth rates, parasite and contaminant burdens. Pollutants will be assessed by drying and re-dissolving samples of tissue in hexane followed by liquid chromatography-mass spectrometry techniques identifying compounds.

#### **6.1.4 MI yellow eel transitional water surveys 2024, Lough Furnace**

##### **6.1.4.1 Burrishoole Transitional Waters**

Lough Furnace, the tidal lough, has a surface area of 125 ha north of Nixon's Island and 16 ha between Nixon's Island and the mouth of the estuarine river (Lower Lough Furnace), (Figure 6-16 ). The main lough has a maximum depth of 21.5m. Furnace is heavily stratified with significant areas of deoxygenated water in the main basin. L. Furnace was fished in the traditional style (sets of 10 nets perpendicular to the shore) in 2023 (11<sup>th</sup> July & 16-17<sup>th</sup> July 2024), with chains of 10 nets fished at three sites on each night. Three chains of nets were fished at the Back of the House (10<sup>th</sup> July 2024), which is a shallow tidal area between the lough and the estuarine river.



In L. Furnace, 44 eels were caught with a catch per unit effort (CPUE) of 0.49 eels/net/night (Table 6-8). The average length was 40.9 cm ranging from 30.6 cm to 65.3 cm (Figure 6-17). A total weight of 6.14 kg was caught. No eels were PIT tagged and two recaptures were recorded, both tagged at Site A and both recaptured at Site A.

In Lower Lough Furnace (Back of the House), 12 eels were caught with a catch per unit effort (CPUE) of 0.4 eels/net/night (Table 6-8). The eels average length was 38.3 cm ranging in length from 31.8 cm to 65.3 cm (Figure 6-17), with a total weight of 1.29 kg caught. No eels were PIT tagged and none were recaptured. No eels were sacrificed in this survey from Lower Lough Furnace. With all the tagging, there is no evidence so far of adult yellow eel >30 cm moving between BOH and Furnace, or between Furnace and Feeagh, or vice versa. There is considerable evidence of site fidelity which warrants further investigation.

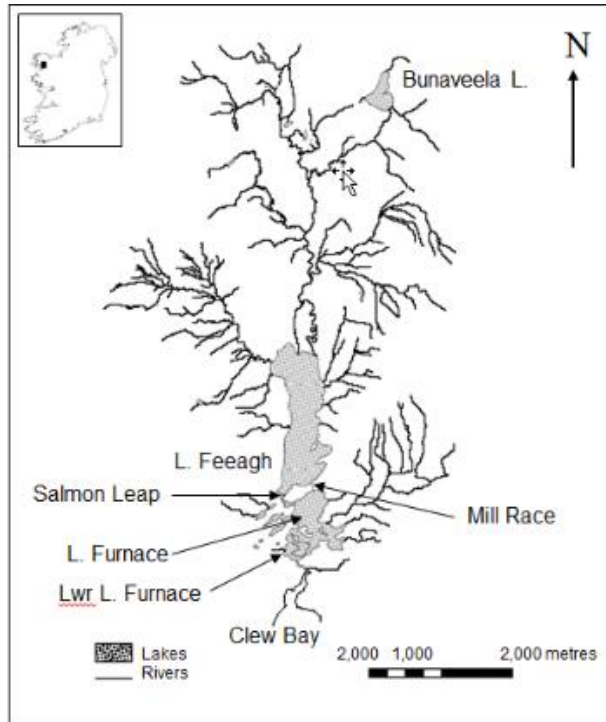


Figure 6-16 Location of Lough Furnace and Lwr Lough Furnace in the Burrishoole catchment.

Table 6-8 MI transitional waters yellow eel survey data, 2024

Lake	Dates	No. Eels	Net*Nights	CPUE	Total Weight (kg)	Mean Length (cm)	Min Length (cm)	Max Length (cm)
Furnace	Jul-24	44	90	0.49	6.14	40.9	30.6	65.3
Lwr Furnace BOH	Jul-24	12	30	0.40	1.29	38.3	23.1	56.4

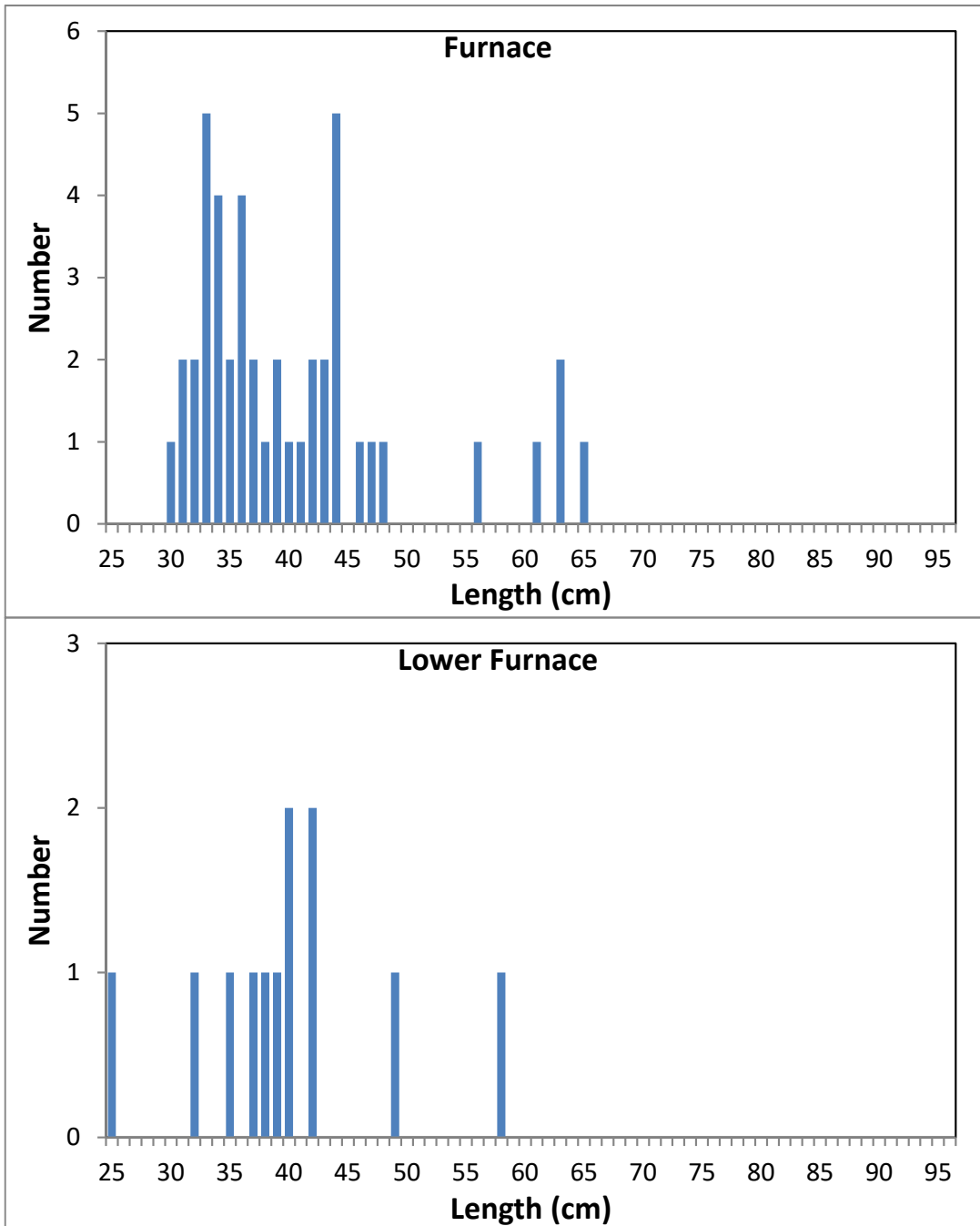


Figure 6-17 Length frequency of yellow eels captured at Lough Furnace (n = 44), (top), and Lower Lough Furnace (n = 12), (bottom), in 2024.

## **6.2 Water Framework Directive**

### **6.2.1 Introduction**

In December 2000, the European Union introduced the Water Framework Directive (WFD) (2000/60/EC) as part of a standard approach for all countries to manage their water resources and to protect aquatic ecosystems. The fundamental objectives of the WFD are to protect and maintain the status of waters that are already of good or high quality, to prevent any further deterioration and to restore all waters that are impaired so that they achieve at least good status by 2027. A key step in the WFD process is for EU Member States to assess the health of their surface waters through national monitoring programmes. Monitoring of all biological elements including fish is the main tool used to classify the status (high, good, moderate, poor and bad) of each water body. The responsibility for monitoring fish has been assigned to Inland Fisheries Ireland. A national fish stock surveillance monitoring programme has been initiated at specified locations in a 3-year rolling cycle.

Locations for WFD sampling sites for 2023 surveys are shown for lakes, rivers and transitional waters (Figure 6-18).

### **6.2.2 2023 Results**

#### **6.2.2.1 Lakes**

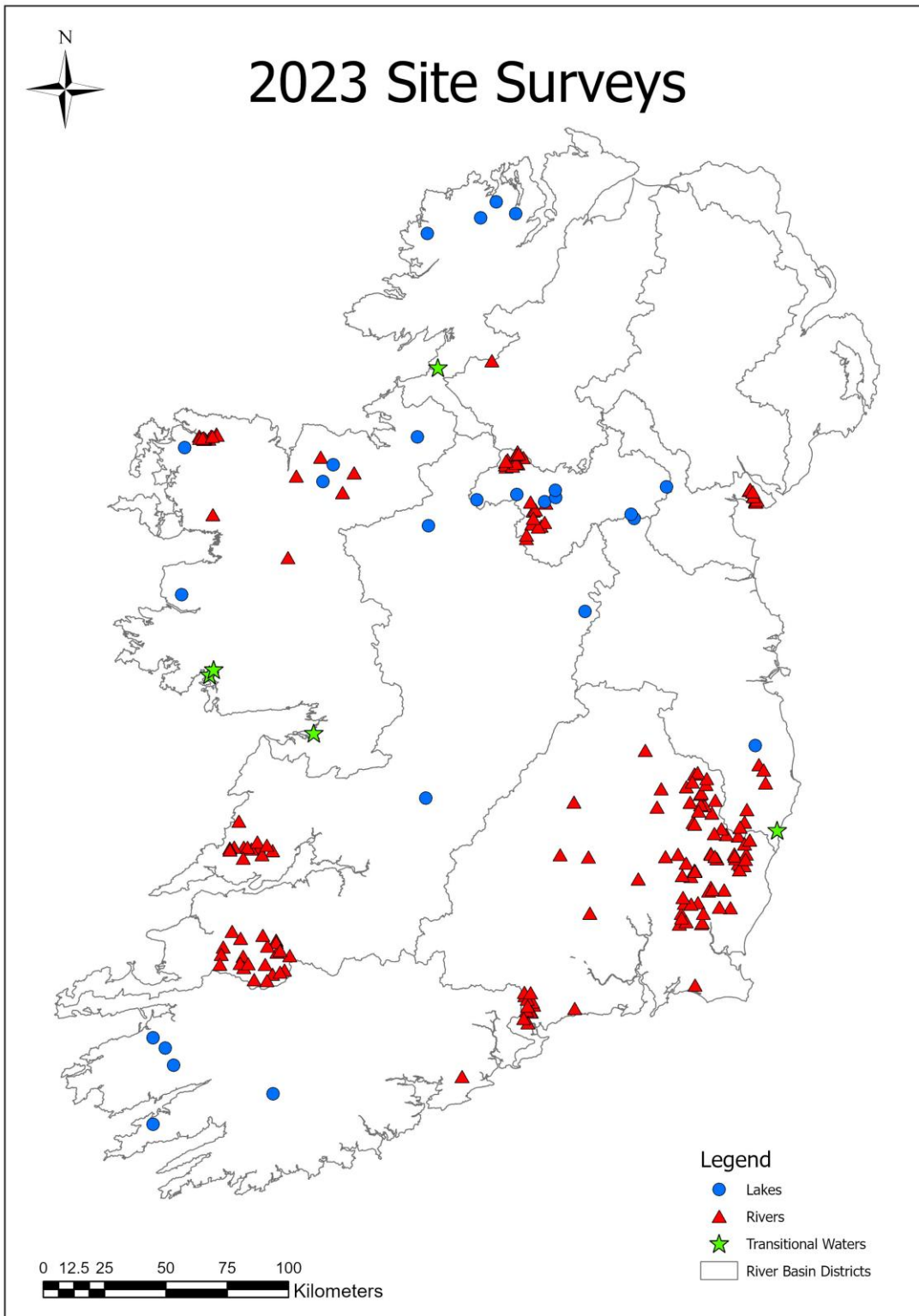
In 2023, 25 lakes were sampled with eels present in all 25 (92.6% of lakes). A total of 188 eels were caught during lake surveys (fyke net catches). They ranged in length from 29.5 to 95.7 cm with an average length of 51.4 cm. A mean CPUE of 0.737 was found across all lakes where eels were caught. While the highest CPUE value for eels was found in Lough Derg (CPUE = 13.333, n = 40 eels) the lowest were noted in Lough Beltra (CPUE = 0.167, n = 1 eel captured) (Appendix 6 WFD, Tables A6 1 and A6 2).

#### **6.2.2.2 Rivers**

A total of 179 sites were fished in 2023. Of these, eels were captured at 52 river sites leaving 127 sites showing a paucity of eel. The WFD river sites therefore had a 29.05 % eel presence rate, with 27.4% of sites (n = 49 sites) with having <10 individual captured eels. The highest catch at any site was 20 eels on the Glenamoy River (Glenamoy Village\_A) in Mayo. A total of 177 eels were caught across all 179 sites, ranging from 7.0 to 61.0 cm in total body length (Mean: 20.2 cm), (Appendix 6 WFD, Tables A6 3, A6 4 and A6 5). Densities (where eels were present) ranged from 0.0011 eels per m<sup>2</sup> (in the Slaney River, (Bunclody Golf Course\_A), n = 4 eels, up to 0.2348 eels per m<sup>2</sup> in the Slaney (Drumderry) River (Carnew Rd.\_A), n = 5 eels). The site with the highest number of eels captured was on the Glenamoy River (Glenamoy Village\_A) with 20 eels. The resulting density was 0.0167 eels per m<sup>2</sup> due to the area of the stream sampled.

#### **6.2.2.3 Transitional Waters**

A total of 5 estuary sites (across 4 estuaries) were covered in the 2023 surveys. A total of 25 eels were captured ranging in length from 26 to 80 cm (mean: 46.3 cm). European eel were caught at all but one of these estuaries (Kinvara Bay in Galway had no eel catch). CPUE values for transitional water sites ranged from 0.083 (Camus Bay, n = 2 eel) to 1.333 (Loch an tSaile, (North of Camus Bay), n = 16 eels) (Appendix 6 WFD, Tables A6 6 and A6 7).



**Figure 6-18 Location of WFD survey sites, 2023.**

### 6.3 Summary

MI fished Lough Bunaveela in 2024, with a total of 11 eels caught with a catch per unit of effort of 0.018 eels/net/night. Lough Feeagh caught 68 eels with a catch per unit effort (CPUE) of 1.13 eels/net/night with a total weight of 11.96 kg caught over the two nights.

IFI fished Meelick Bay (Lough Derg) in 6-day survey, capturing 355 eels with a total weight of 89.3 kg. The average length of 50.7 cm (range: 30.8 – 78.9 cm). The average weight was 0.2523 kg (range: 0.0590 – 0.8470 kg). Out of the 343 eels with head measurements taken, 2.7% were broadhead eels (n = 9 eels).

AFBI fished Lower Lough Erne, capturing 1,123 eels over a five-day survey. Of these 128 (11.4%) were noted as being broadhead eels. There were very few eels <40 cm recorded in the survey.

## 7 Recruitment

---

(refers to Ch. 7.3 of the National EMP Report, 2008)

### 7.1 Introduction

Many studies have focused on sampling the active phase of elver migration into freshwater (Gollock *et al.*, 2011; Jessop 2000; Knights and White 1998; Moriarty 1986, Naismith and Knights 1988; O'Connor 2003; Piper *et al.*, 2012; Reynolds *et al.*, 1994). Elvers exhibit counter current behaviour once they start actively migrating upstream. This means that instead of moving with the current as they do in the estuary, they now avoid the river current which will carry them downstream. To avoid the current, the elvers tend to migrate along the banks of the river and seek out slack water. At this time the elvers are congregated in schools near the bank of the river where they can be trapped.

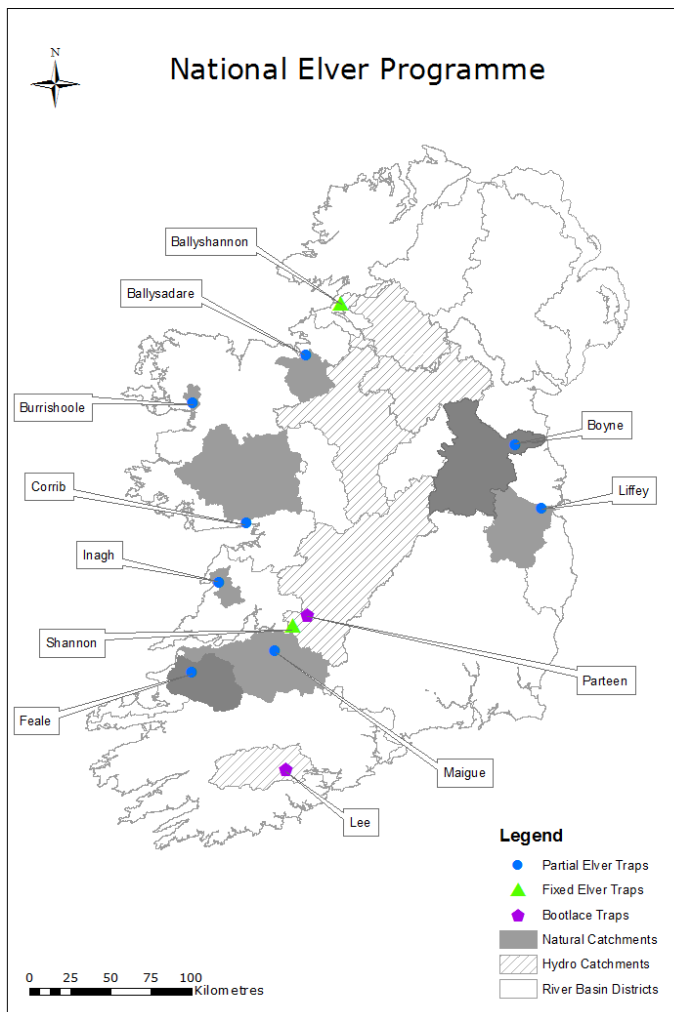
The sites monitored are shown in Figure 7-1.

The elver traps used on the Erne and the Shannon by the ESB are permanent brush ladders, based on the fixed ramp style traps designed by O'Leary and reported in an EIFAC technical paper on 'Eel Fishing gear and techniques in 1971, leading to holding boxes fitted with freshwater supplies. They are sited at the main hydro installations at Ardnacrusha and Parteen on the Shannon, Cathleen's Fall on the Erne and Inniscarra Dam on the Lee. They are described in more detail in the Irish SSCE reports.

The elver traps used by IFI are also based on the fixed ramp style traps. They have been cited in various studies with modifications being made to the traps (Gollock *et al.*, 2011; Jessop 1995; Jessop 2000, Moriarty 1986, Naismith and Knights 1988). Elvers and young yellow eels will encounter the ramp and ascend due to the flow of water attracting them upstream. The elver migration season extends from April to August, with migration influenced by water temperature and river discharge. White and Knights 1997 reported not catching juvenile eels in any numbers until temperatures rose above 15-16°C in mid-June /early July, peaking at >20°C. The pattern of distribution across a season has been described as waves of runs of short duration but repeated over the season (Jessop 2000). Where possible the traps are located downstream of a structure (e.g. weir or waterfalls) in order to get a flow of water to feed the traps. The structure also acts as a bottleneck restricting the ability of elvers utilising the whole river to ascend.

Elver traps currently run by the MI on the Burrishoole (IE\_West) are O'Leary type bristle ramp traps with gravity fed water supplies.

The aim of the long-term monitoring programme is to set up a number of sites as an index of recruitment in order to get an understanding of changes to relative abundance of recruitment since the implementation of the Eel Regulation. It is not intended to make assumptions on the whole catch entering the river as the proportion of elvers avoiding the traps is not known and is difficult to quantify. The elver traps sample a proportion of the elver migration in a standardised way and when operating for a number of years a trend in recruitment is observed.



**Figure 7-1 Location of recruitment monitoring stations in Ireland. (Note: Shannon site is located at Ardnacrusha).**

## 7.2 0+ Recruitment

There is no authorised commercial catch of juvenile eel in Ireland, but some fishing has been authorised in the past under Sec. 18 of the Fisheries Act for enhancement of the fisheries. Catches are made at impassable barriers, and this is reported in the relevant Regional Eel Management Plans.

ICES (2024) noted an increase in recruitment for the “Europe Elsewhere” series; the estimated figure was 7.2% (provisional) in 2024, rose to 7.4% (final) for 2023. The increase is based on increased recruitment in the Irish recruitment series that was not visible in the Bay of Biscay index sites.

### **7.2.1 Shannon & Erne**

Long-term monitoring of elver migrating at Ardnacrusha (Shannon) is undertaken by the ESB and at Cathaleen’s Fall (Erne) by the ESB in conjunction with DAERA and AFBI (Figure 7-2).

In the Erne recruitment has shown increases in catch since 2011 with high catches in 2018 and 2024. The 2024 season was good for recruitment for the Erne with 1,517 kg collected in the index traps at the station (total catch all traps = 1,792 kg). This was the highest recruitment since 1995.

For 2024 in the Shannon, a value of 43 kg of elvers were caught in the index traps at Ardnacrusha (total catch all traps = 44 kg); this was a further drop from that recorded in 2022.

### **7.2.2 Other Locations**

Long-term monitoring of migrating elvers also takes place at on the Feale, Inagh, Maigne, Liffey and Burrishoole Rivers (Table 7-1).

The Ballysadare elver trap, located and operated at the Ballysadare Fishing Club, has not been operated in 2024 due to staff shortages. The trap on the Corrib is located within the elver pass of the Galway weir. The trap caught 39.865 kg of elvers ( $n = >59,600$ ) in 2024 and operated from May until July. The Feale trap at Listowel ran from May to August. A total of 0.9 kg of elvers ( $n = > 2,570$ ) and 0.546 kg of yellow eels ( $n = 69$ ) were caught for the entire season with the highest catch in June. The elver trap on the River Inagh in Ennistymon ran from April to September. The total catch of elvers for the season was 0.6997 kg ( $n = >19,000$ ), 0.161 kg of yellow eels ( $n = 17$ ) were also caught during the survey period. The Maigne trap in Adare ran from May to September. The Maigne total catch of elvers for the season was 15.986 kg ( $n = <32,000$ ) and a further 0.417 kg of yellow eels ( $n = 423$ ). Elver catches in the Liffey are comprised of both glass eel and young yellow eel. Catches are influenced by water levels on the weir. 4.08 0.99 kg were caught in 2027, compared to 4.1 kg in 2023 and 5.6 kg in 2022.

In Burrishoole 2007, a small O’Leary style elver trap was installed in the outflow of the large release pond in Furnace. This provides some indicative data of the relative annual abundance of young eel recruitment. By numbers, the catch is predominantly zero age class glass eel (“elvers”) of various levels of pigmentation, but by weight the young yellow eels moving out of Lough Furnace make a more significant contribution. Age reading in 2023 indicated these were predominantly 1-year olds but ranged up to 9 years of age (Maguire, F. TCD). Figure 7-3 gives the annual weight of recruits trapped and compares with catches in a similar trap in the 1980s. Anecdotally, these current levels are about 10 times lower than those of the 1980s in the same location. There was a slight increase in 2024 compared to the previous three years, but still far below the historical levels. The increase in 2024 was mainly due to a substantial increase in glass eel and a reduction in young yellow eel.

Measurements of elvers and bootlace in 2022, the first in almost 30 years, indicated an average length for elvers (zero age glass eel) of 7.4cm, weight of 0.36g. The bootlace eel had an average length of 12.4cm, weight of 2.91g.

In 2023, the average size of elvers was similar to 2022, at 7.34cm and a weight also of 0.37g. The bootlace (young yellow eel) were 10.6cm in length and 1.89g weight.

In 2024, the average size of elvers was higher than 2023, at 7.41cm and a weight also of 0.36g. The bootlace (young yellow eel) were 9.8cm in length and 1.27g weight and the length frequency is presented in Figure 7.4.

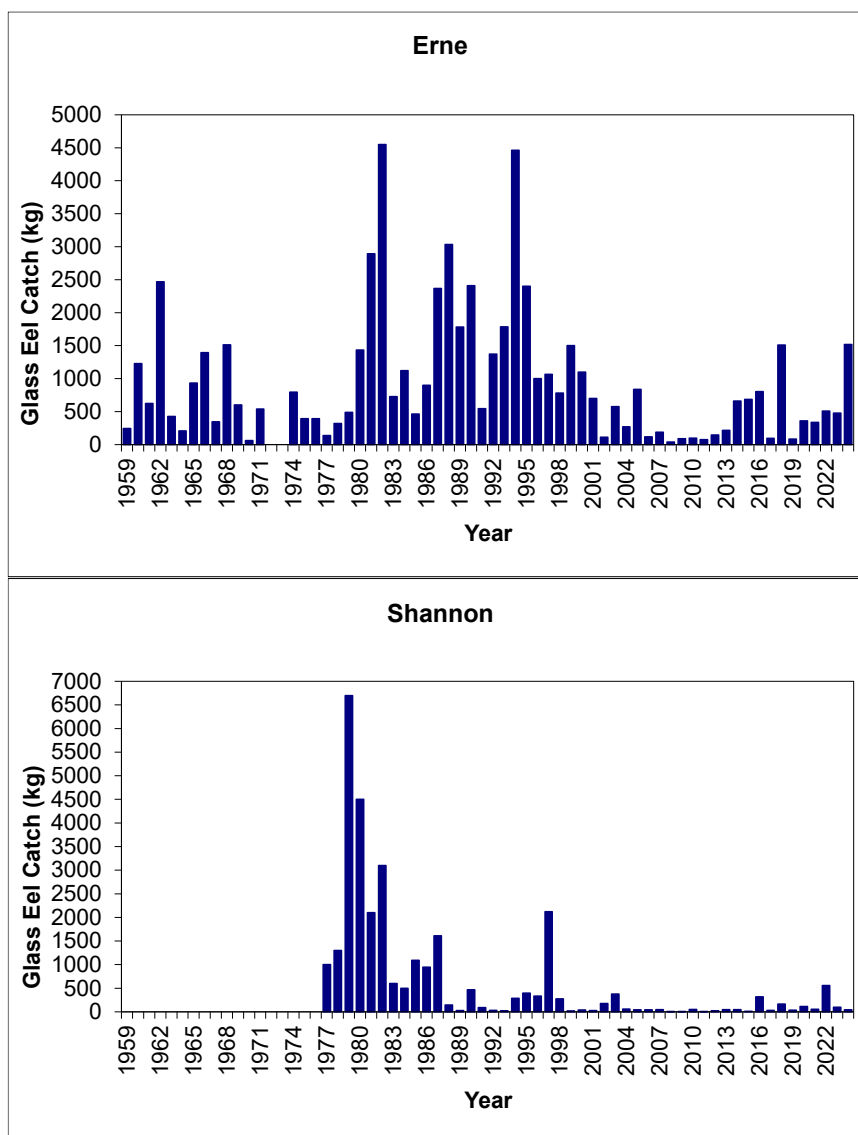


Figure 7-2 Annual elver catches (t) in the traps at Ardnacrusha (Shannon) and Cathaleen’s Fall (Erne) – data from ESB. Full trapping of elvers took place on the Erne from 1980 onwards indicated by the arrow. Erne 2015 onwards does not include the additional new trap.

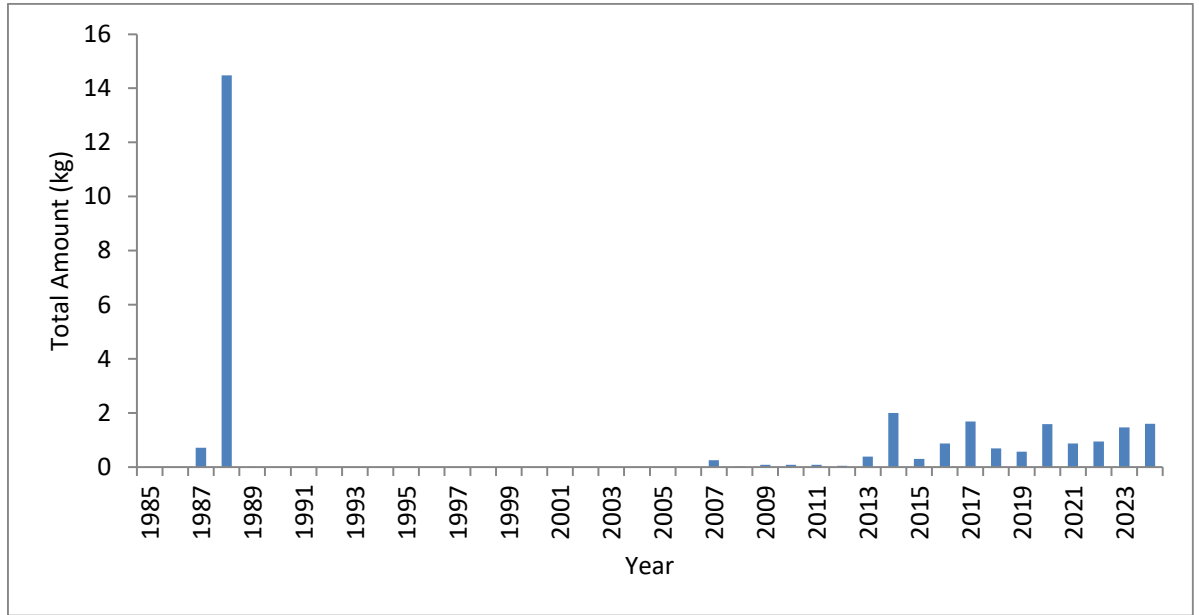


Figure 7-3 Total quantities (kg) of recruits in the Burrishoole index trap, including all ages.

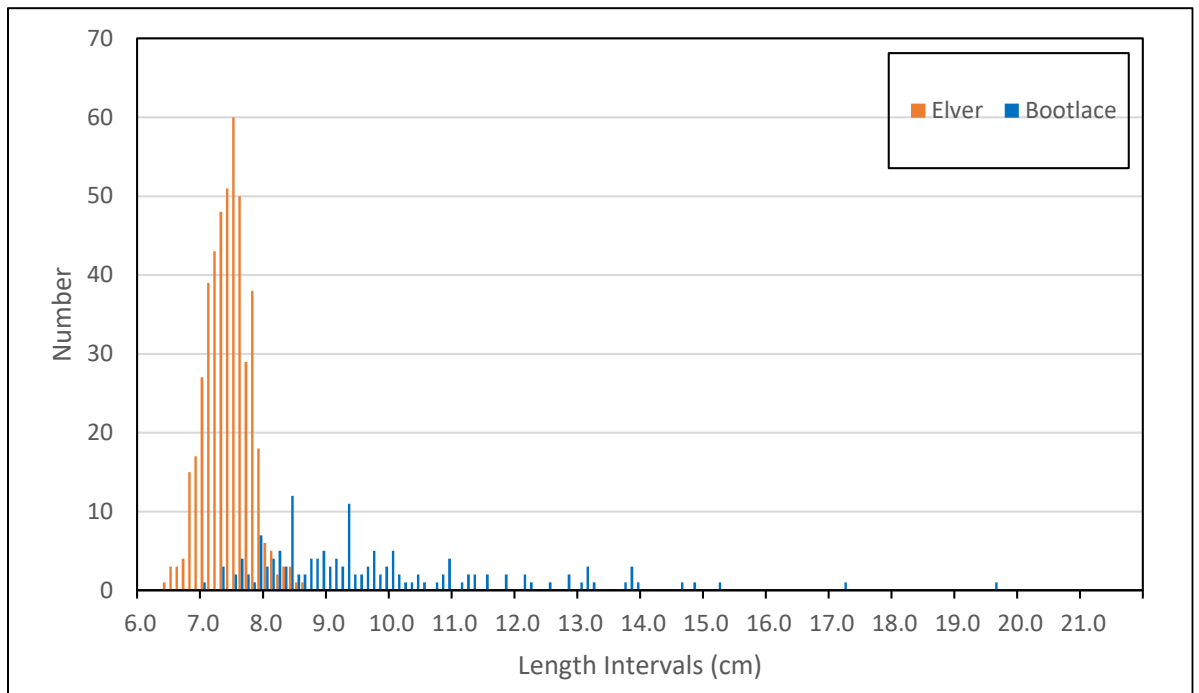


Figure 7-4 Length frequency of elver (ICES = glass eel 0+ age) and bootlace eel (ICES = young yellow eel), 2024.

**Table 7-1 Glass eel catches (kg), 1985 to 2024 (blanks = not fished). Only index stations included for Erne and Shannon**

Year	Erne Index traps	Shannon Ardnacrusha	R Feale	R Maigne	R Inagh	Sh. Estuary Glass Eels	R. Liffey Fish Pass	Burrishoole
1985	463	1093	503					
1986	898	948						
1987	2367	1610						0.7
1988	3033	145						14.5
1989	1781	27						
1990	2409	467						
1991	546	90						
1992	1371	32						
1993	1785	24						
1994	4463	287	70	14				
1995	2400	398	0	194				
1996	1000	332	0	34	140			
1997	1065	2120	407	467	188	616		
1998	782	275	81	8	11	484		
1999	1500	18	135	0	0	416		
2000	1100	39	174	0	120	43		
2001	699	27	58	2	18	1		
2002	113	178	116	5		37		
2003	576	378	36	72	111	147		
2004	269	58.126	0	0	24	1		
2005	838	41.36	0	1	0	41		
2006	118	42	1	0	4	3		
2007	189	45	0	0	39	12		0.259
2008	38.7	7	0	0	83	2		0.028
2009	88.3	7.75	42					0.089
2010	96.6	49.7	20	3	1	3		0.094
2011	74.34	7.239	7	5	15			0.084
2012	145.71	22.525	47		*		0.5	0.053
2013	214.7	46.615	68	14	44		1.1	0.393
2014	659.37	45.085	5	29**	40		0.3	2.000
2015	686.17	11.42	3	15	25		0.2	0.300
2016	805.06	317.2	30.5	29	51		0.4	0.870
2017	94.95	29.7	15	9	20		0.5	1.691
2018	1508.4	165.2	3.2	n/a	5.4		6.3	0.697
2019	83.99	34.6	7.6	n/a	2.12		1.5	0.569
2020	358	112	0.915	0.254	5.26		1.8	1.591
2021	336	62.25	0.409	1.15	0.564		2.7	0.876
2022	509.2	570	7.11	10.17	4.31		5.7	0.943

Year	Erne Index traps	Shannon Ardnacrusha	R Feale	R Maigue	R Inagh	Sh. Estuary Glass Eels	R. Liffey Fish Pass	Burrishoole
2023	479	97	0.436	0.403	0.611		4.1	1.47
2024	1517	43	0.937	15.986	6.997		1.2	1.60

### 7.3 Young Yellow Eel Recruitment

Monitoring of juvenile yellow eel migrating at Parteen Regulating Weir (Shannon) and Inniscarra on the R. Lee takes place using fixed brush traps.

The data for Parteen is presented in Figure 7-5. In 2009 and 2010, due to maintenance work by ESB at the Parteen regulating weir the discharge patterns were less favourable than in 2008. This may partly account for the poor catches recorded in 2009 & 2010. However, catches in the original Parteen hatchery trap continued to decline in 2011, 2012 and 2013. The catch in 2015 was 301.1 kg and in 2016 it was 890 kg.

In Parteen in 2023 the main catch was 820 kg and the new trap catch was 20.1 kg. Catches in 2023 were considerably higher than the previous two years.

In Parteen in 2024 the main catch was 152 kg and the new trap catch was 0.4 kg. Catches in 2024 were considerably lower than in 2023.

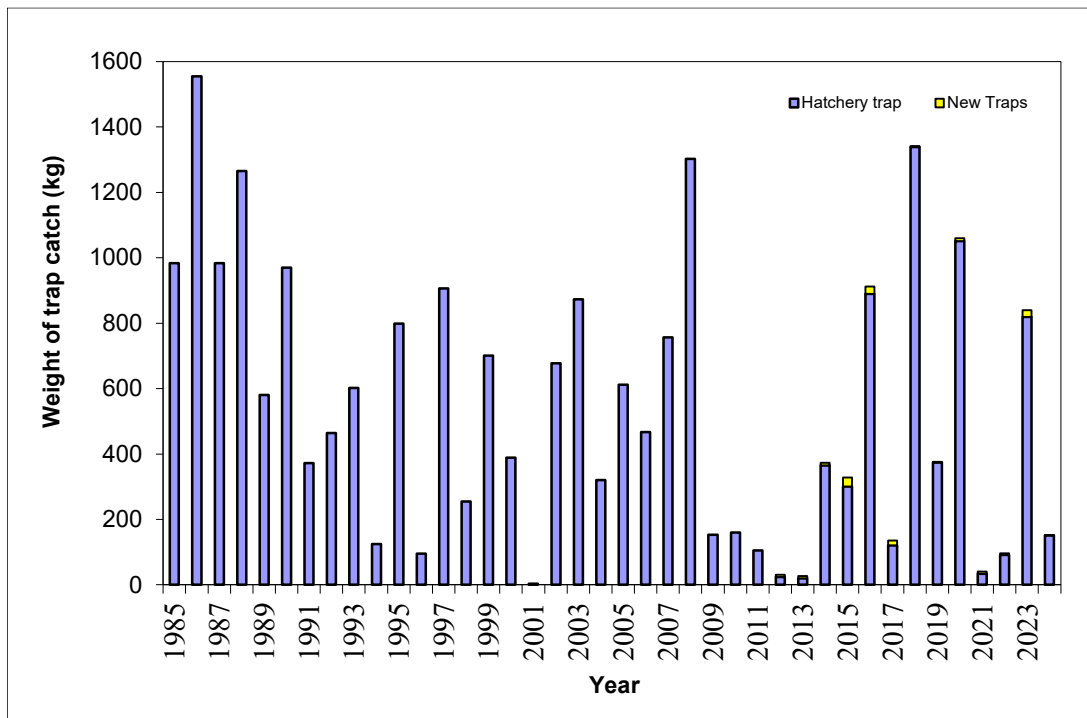


Figure 7-5 Juvenile yellow eel catches (kg) at Parteen Weir, 1985 to 2024. From 2012, a second trap was installed on the opposite bank (Clare) and in 2015 near the hatchery (Tipperary) and these data are included in the graph as separate bars.

In the River Lee, an elver trap was first put in place in the area immediately below Iniscarra station during 2008. In 2010, this trap caught less than one kg and in 2011, 48 kg were recorded. The catch has declined since 2011 with only 0.6 kg recorded in 2014 and 0.94 kg in 2015. The catch remained low in 2016 (1.1 kg) and in 2017 it was 13.8 kg.

In 2022, the trap operated from 15<sup>th</sup> March until 7<sup>th</sup> September, and the catches were released into the River Bride. A total of 1.04 kg of elver were caught in 2022.

In 2023, the trap operated from 15<sup>th</sup> March until the 7<sup>th</sup> September, with a total catch of 1.190 kg for the season.

In 2024, the trap operated from 15<sup>th</sup> March until the 15<sup>th</sup> September. The catches for the season were 0.225 kg. These catches were juvenile eels and were primarily 'bootlace eel' rather than elver. Unlike previous years when catches occurred during June-August, the entire 2024 catch was recorded in July (Table 7-2). The catches were released into the mid-catchment of the River Bride in Cork, which enters the River Lee below Iniscarra station. As the juvenile eel trap is located at Iniscarra station, which is mid-catchment, catches are low and are like previous years, as there is a significant area of available habitat below this trapping location.

**Table 7-2 Juvenile yellow eel catches from Iniscarra station trap in 2024.**

<b>Month</b>	<b>Catch (kg)</b>
March (began 15th)	0.000
April	0.000
May	0.000
June	0.000
July	0.225
August	0.000
September (until 15th)	0.000

## 8 References

---

- Dekker W., Pawson M., Walker A., Rosell R., Evans D., Briand C., Castelnaud G., Lambert P., Beaulaton L., Åström M., Wickström H., Poole R., McCarthy T.K., Blaszkowski M., de Leo G. and Bevacqua D. (2006). Report of FP6-project FP6-022488, Restoration of the European eel population; pilot studies for a scientific framework in support of sustainable management: SLIME. 19 pp. + CD.
- EPA. (2022). Water Quality in Ireland 2016 - 2021. <https://www.epa.ie/publications/monitoring--assessment/freshwater--marine/water-quality-in-ireland-2016--2021-.php>
- EPA. (2024). Water quality monitoring report on nitrogen and phosphorus concentrations in Irish waters 2024. <https://www.epa.ie/publications/monitoring--assessment/freshwater--marine/Water-Quality-Nitrogen-and-Phosphorus-Report-2024.pdf>
- EPA. (2025). Early insights indicator report Nitrogen concentrations in selected major rivers January-December 2024 <https://www.epa.ie/publications/monitoring--assessment/freshwater--marine/Early-insights-indicator-report-N-concs-Jan-Dec-2024.pdf>
- Gollock, M., Curnick, D. & Debney, A. (2011). Recruitment trends of juvenile eels in tributaries of the River Thames. *Hydrobiologia*, 672: 33-37.
- ICES. (2021): Joint EIFAAC/ICES/GFCM Working Group on Eels (WGEEL), and Country Reports 2020–2021. ICES Scientific Reports. Report. <https://doi.org/10.17895/ices.pub.8143>
- ICES. (2024). European eel (*Anguilla anguilla*) throughout its natural range. In Report of the ICES Advisory Committee, 2024. ICES Advice 2024 – ele.2737.nea <https://doi.org/10.17895/ices.advice.27100516>
- Jessop, B.M., (1995). Justification for and status of American eel elver fisheries in Scotia-Fundy Region. DFO Atl. Fish. Res. D c, 95/2, 10 p.
- Jessop B.M., (2000). Estimates of population size and instream mortality rate of American eel elvers in a Nova Scotia river. *Trans. Am. Fish. Soc.*, 129, 514:526.
- Knights, B. and White, E. M. (1998). Enhancing immigration and recruitment of eels: the use of passes and associated trapping systems. *Fisheries Management and Ecology* 5: 459-471.
- Lasne, E. and Laffaille, P. (2008). Analysis of distribution patterns of yellow European eels in the Loire catchment using logistic models based on presence-absence of different size –classes. *Ecol. Freshwater Fish*: 17:30-37.
- Lenihan, E. S., McCarthy, T. K., and Lawton, C. (2021). Modelling daily catches of silver - phase European eel (*Anguilla anguilla*) in two hydropower - regulated rivers. *Fisheries Management and Ecology*, 28(1), 53-64.
- MacNamara, R., & McCarthy, T. K. (2014). Silver eel (*Anguilla anguilla*) population dynamics and production in the River Shannon, Ireland. *Ecology of Freshwater Fish*, 23(2), 181-192.
- McCarthy, T. K., Nowak, D., Grennan, J., Bateman, A., Connelly, B., & MacNamara, R. (2014). Spawner escapement of European eel (*Anguilla anguilla*) from the River Erne, Ireland. *Ecology of Freshwater Fish*, 23(1), 21-32.
- McCarthy, T. K., Nowak, D. and Lawton, C. (2016). Ocean Connections: Silver Eel (*Anguilla anguilla*) Production, Spawner Biomass Escapement and Mitigation of Hydropower Eel Mortalities in the River Erne, Ireland.
- McCarthy, T. K., Lenihan, E. S., & Lawton, C. (2019, DECEMBER). Estimation of downstream migrating Irish silver-phase eel *Anguilla anguilla* populations by removal sampling. In *Eels Biology, Monitoring, Management, Culture and Exploitation: Proceedings of the First International Eel Science Symposium*. 5m Books Ltd.
- Moriarty, C. (1986). Observations on the Eels of Meelick Bay, Lough Derg, 1981 – 1984. *Vie Milieu*, 36 (4) 279- 283.

- Naismith, I. A. and Knights, B. (1988). Migrations of elver and juvenile European eels, *Anguilla anguilla* L., in the River Thames. *Journal of Fish Biology* 33 (Supplement A), 166-175.
- O'Connor, W. (2003). Biology and management of the European eel in the Shannon estuary, Ireland. Unpublished Ph.D. thesis. In Faculty of Science, Department of Zoology: National University of Ireland, Galway.
- Piper, A. T.; Wright, R. W. and Kemp, P. S. (2012). The influence of attraction flow on upstream passage of European eel (*Anguilla anguilla*) at intertidal barriers. *Ecological Engineering* 44: 329-336.
- Pohlmann, J. D., Freese, M., Reiser, S., & Hanel, R. (2019). Evaluation of lethal and nonlethal assessment methods of muscle fat content in european eel (*Anguilla anguilla*). *Canadian Journal of Fisheries and Aquatic Sciences*, 76(4), 569-575 (. <https://doi.org/10.1139/cjfas-2018-0032>
- Poole, W.R., Reynolds, J.D.R. & Moriarty, C. (1990). Observations on the silver eel migrations of the Burrishoole river system, Ireland. 1959 to 1988. *Int. Revue Ges Hydrobiol.* 75 (6); 807-815.
- Poole, W.R. (1994). A population study of the European Eel (*Anguilla anguilla* (L.)) in the Burrishoole System, Ireland, with special reference to growth and movement. *PhD, Dublin University*; 416pp.
- Poole, R., Minto, C., Cooney, J., Drumm, A., Hughes, P., Murphy, M., Nixon, P., Sweeney, D. & O'Leary, C. (2024). Standardising long-term eel (*Anguilla anguilla*) fyke net survey data reveals covariate effects and improves estimates of declining relative abundance. *Fisheries Research*, 272; <https://doi.org/10.1016/j.fishres.2024.106938>
- Reynolds, J. D.; Donnelly, R.; Molloy, S. and Walsh, T. (1994). ESB Shannon Eel Management Group. River Shannon Glass Eel /Elver Management Programme. Final Report July 1994.
- Sandlund, O.T., Diserud, O. H., Poole, R., Bergersen, K., Dillane, M., Rogan, G., Durif, C., Thorstad, E. B., and Vøllestad, L. A. (2017). Timing and pattern of annual silver eel migration in two European watersheds are determined by similar cues. *Ecology and Evolution*, DOI:10.1002/ece3.3099; 11pp.
- Tesch, F.-W., Bartsch, P., Berg, R., Gabriel, O., Henderson, I. W., Kamstra, A., Kloppmann, M., Reimer, L. W., Söffker, K., & Wirth, T. (2003). *The Eel* Third edition With contributions from.
- Walker, A.M., Andonegi, E., Apostolaki, P., Aprahamian, M., Beaulaton, L., Bevacqua, P., Briand, C., Cannas, A., De Eyto, E., Dekker, W., De Leo, G., Diaz, E., Doering-Arjes, P., Fladung, E., Jouanin, C.11, Lambert, P., Poole, R., Oeberst, R. & Schiavina, M. (2011). Report of Studies and Pilot Projects for carrying out the Common Fisheries Policy; LOT 2: Pilot projects to estimate potential and actual escapement of silver eel; POSE. DGMARE Contract: SI2.539598.
- White, E. M. and Knights, B. (1997). Environmental factors affecting migration of the European eel in the River Severn and Avon, England. *Journal of Fish Biology* 50:1104-1116.

## **Appendix 1: Members of the Technical Expert Group on Eel 2024-2025**

---

The TEGE is comprised of the following representatives:

Dr. Ciara O'Leary	Inland Fisheries Ireland
Dr. Robert Cruikshanks	Inland Fisheries Ireland
Dr. Russell Poole	Marine Institute
Dr. Denis Doherty	Electric Ireland
Dr. Derek Evans	Agri-Food & Bioscience Institute, N. Ireland
Dr. Sarah McLean	Loughs Agency

The following experts were invited to attend relevant meetings.

Jonathan McDowell	Queens University
Fearghail Armstrong	Loughs Agency
Dr. Fintan Egan	Marine Institute
Niamh Heatley	Queens University

## **Appendix 2: Conservation of Eel Fishing Bye-law No. C.S. 335, 2024**

---

**DEPARTMENT OF THE ENVIRONMENT, CLIMATE AND COMMUNICATIONS  
INLAND FISHERIES ACTS 1959 TO 2017  
CONSERVATION OF EEL FISHING BYE-LAW NO. C.S. 335, 2024**

I, Eamon Ryan, Minister for the Environment, Climate and Communications, in exercise of the powers conferred on me by section 57 of the Inland Fisheries Act 2010 (No. 10 of 2010) (as adapted by the Communications, Climate Action and Environment (Alteration of Name of Department and Title of Minister) Order 2020 (S.I. No. 373 of 2020)), at the request of Inland Fisheries Ireland, and for the purpose of giving full effect to the State's Eel Management Plan under Council Regulation (EC) No. 1100/2007 of the 18 September 2007<sup>1</sup>, hereby make the following byelaw::

1. (1) This Bye-law may be cited as the Conservation of Eel Fishing Bye-law No. C.S. 335, 2024.

(2) This Bye-law comes into operation on the day of its making.

2. (1) Notwithstanding anything contained in any bye-law fixing the annual close season, it is prohibited for a person –

(a) to take, or attempt to take, or to fish for or to attempt to fish for, or to aid or assist in the taking or fishing for, eel, or

(b) to be in possession of or sell or offer for sale or reward, or to purchase eel caught or taken by any means,

in any fishery district.

(2) In this Article “eel” means eel of the species *Anguilla anguilla*.

3. The Conservation of Eel Fishing Bye-Law No. C.S. 319, 2015 is revoked.

GIVEN under my hand,

28 March 2024.

EAMON RYAN

---

Minister for the Environment,  
Climate and Communications.

#### EXPLANATORY NOTE

(This is not part of the Bye-law and does not purport to be a legal interpretation).

This Bye-law prohibits the taking, or attempting to take, fishing for or attempting to fish for, aiding or assisting the taking of or fishing for, eel in any fishery district in the State. It also prohibits being in possession of, selling or offering for sale or reward, or purchasing eel caught or taken by any means in any fishery district in the State. This bye-law applies to eel and all of its life stages.

#### FOOTNOTE

Section 57 (7) of the Inland Fisheries Act, 2010 provides that any person aggrieved by this Bye-law may within 28 days after its publication in the *Iris Oifigiúil*, appeal against same to the High Court.

## Appendix 3: Reports on Fisheries closures, illegal fishing and other management actions from the IFI RBD's.

---

The Eel Management Information data collection for 2024 was carried out via a new MicroSoft Forms survey forwarded to the Directors of the IFI RBDs for completion.

Below is the template form which Directors would see on clicking on the form link. The individual form responses from each RBD follow.

### Eel Management Information

Form for circulation to River Basin District Directors and Agency Staff  
Deadline for return: **23rd May 2025**

Section 1

#### Reporting Body

1. Select applicable Reporting Body \*

- North Western RDB
- Western RBD Galway
- Western RBD Ballina
- Shannon RBD
- South Western RBD
- South Eastern RBD
- Eastern / Neagh-Bann RBD
- Loughs Agency (LA)
- Department of Agriculture, Environment and Rural Affairs (DEARA)

2. Date of filling in form \*

Please input date (dd/MM/yyyy)



**Management Action 1. Reduction of fishery to achieve EU target**  
**Adherence to Bye-Laws**

3. Confirm fishery ceased under **Conservation of Eel Fishing Bye-law No. C.S. 335, 2024.**  
(This bye-law is open ended and therefore has no end date). \*

Yes

No

4. Confirm that no licences were issued as per **Conservation of Eel Fishing (Prohibition on Issue of Licences) Bye-law No. 858, 2009.** \*

No eel fishing licences were issued

Eel Fishing licences were issued

**Management Action 1. Reduction of fishery to achieve EU target (Contd.)**  
**Estimated level of illegal fishing**

5. Was there any illegal eel fishing noted?

Yes

No

6. Estimated level of illegal fishing:

Low

Moderate

High

7. Insert number of reports (state whether they were alleged or confirmed):

Enter your answer

8. Main catchments where illegal activity occurred:

Enter your answer

9. Number of gear seizures:

⋮

Enter your answer

10. Gear types seized:

Enter your answer

11. Insert quantity/length of gear seized:

Enter your answer

12. Number of Eel Dealer Interceptions:

Enter your answer

13. Estimated tonnage on board:

Enter your answer

14. Declared origin(s) of cargos:

Enter your answer

15. Describe action taken:

Enter your answer

16. General impression of levels of illegal activity since the cessation of the commercial fishery:

Enter your answer

17. Please upload relevant photos:

 Upload file

File number limit: 3 Single file size limit: 100MB Allowed file types: Word, Excel, PPT, PDF, Image, Video, Audio

### Management Action 2. Trap & Transport (T&T)

18. Was trap & transport undertaken in your RBD?

Yes

No

19. Was there any evidence of illegal trading of eel in conjunction with the T&T programme:

*If applicable*

Enter your answer

20. General impression of the programme:

*If applicable*

Enter your answer

21. Please upload relevant photos:

File number limit: 3 Single file size limit: 100MB Allowed file types: Word, Excel, PPT, PDF, Image, Video, Audio

### Management Action 3. Ensure Upstream Migration at Barriers

22. Were any barriers removed or elver access improved (e.g. elver bristle mats added)?

Yes

No

23. If 'Yes', please describe changes:

Enter your answer

24. Please upload relevant photos:

File number limit: 3 Single file size limit: 100MB Allowed file types: Word, Excel, PPT, PDF, Image, Video, Audio

#### Management Action 4. Improve Water Quality

25. Were there any actions carried out to improve water quality?

Yes

No

26. If 'Yes', please list any sites or actions which have significantly improved water quality to the benefit of eels

Enter your answer

27. Please upload relevant photos:

File number limit: 3 Single file size limit: 100MB Allowed file types: Word, Excel, PPT, PDF, Image, Video, Audio

#### Many thanks for taking the time to respond

- on behalf of the Eel Monitoring Research Team

**Completed Eel Management Form Responses from IFI RBDs**

	NWRBD	SWRBD	SERBD	ShRBD	ERBD / Neagh-Bann RBD	WRBD Ballina
Confirm fishery ceased with Bye-law:	Fishery ceased	Fishery ceased	Fishery ceased	Fishery ceased	Fishery ceased	Fishery ceased
Confirm that no licences were issued:	No eel licences issued	No eel licences issued	No eel licences issued	No eel licences issued	No eel licences issued	No eel licences issued
Was there any illegal eel fishing noted?	No	No	No	Yes	Yes	No
Estimated level of illegal fishing:				Low	Low	
Insert number of reports:				Three separate recovery of nets	Two separate events on Lough Ramor. One where 80 eels were seized from a net at Lough Ramor (and released alive) on 01/02/2024. The net was unattended, with no prosecution or fixed-charge penalty notice following the event. Another where equipment was seized and a penalty notice was issued and paid.	
Main catchments where illegal activity occurred:				Lough Ree, Lough Derravaagh	Lough Ramor, Virginia, Co. Cavan (Kells Blackwater system)	
Number of gear seizures:				3	2	
Gear types seized:				Fyke Nets	15m not nets in one event and Angling equipment (not specified), including a keepnet in a second event	
Insert quantity/length of gear seized:				10	One instance 15m net seized. Another saw fishing equipment seized and returned after payment of fine.	

	NWRBD	SWRBD	SERBD	ShRBD	ERBD / Neagh-Bann RBD	WRBD Ballina
Number of Eel Dealer Interceptions:				None	None	
Estimated tonnage on board:				n/a	n/a	
Declared origin(s) of cargos:				n/a	n/a	
Describe action taken:					In one case, nets were seized, eels released alive, with no penalty issues. In the second instance, an individual was cautioned and issued with a fixed charge penalty notice. Equipment returned upon payment of the €150 fine.	
General impression of levels of illegal activity since the cessation of the commercial fishery:				Low levels on Ree and Upper Inny	Very low	
Please upload relevant photos:	-	-	-	-	Photos uploaded - see below	-
Was trap & transport undertaken in your RBD?	Yes	Yes	No	Yes	No	No
Was there any evidence of illegal trading of eel in conjunction with the T&T	No	No		no		
General impression of the programme:	Yes - programme works well	No issues identified		Works well.		
Please upload relevant photos:	-	-	-	-	-	-
Were any barriers removed or elver access improved (e.g. elver bristle mats added)?	No	No	Yes	No	No	No

	NWRBD	SWRBD	SERBD	ShRBD	ERBD / Neagh-Bann RBD	WRBD Ballina
If 'Yes', please describe changes:			SERBD staff work closely with Local Authorities to remove small barriers whilst the LA were carrying out bridge repair works. This will improve access for eels and other species.			
Please upload relevant photos:	-	-	-	-	-	-
Were there any actions carried out to improve water quality?	No	No	Yes	Yes	No	No
If 'Yes', please list any sites or actions:			<p>Incident - Tipperary cheese plant (TwoMileBorris, Co. Tipp). Slurry was discharged into courses forming part of the Clover River (Suir). Polluting discharge from an IPC licenced facility in Tipp Town investigated. Samples were taken to assess the damage to the River Ara (Suir). A discharge of white material into the River Suir d/s of Holycross, (Co. Tipp) investigated. Discharge was from Uisce Éireann drinking water treatment. All 3 cases resulted in convictions, fines, legal costs and improved water quality.</p>	<p>Enforcement activities ongoing in all Shannon catchments. Prosecutions were taken in the Sheelin area re breaches. Warning letters issued where required and consultations with landowners where required. Riverine enhancement works carried out also in Ennell and Sheelin catchments, which addresses the hydromorphology impacts.</p>		
Please upload relevant photos:	-	-	Photos uploaded - see below	-	-	-

**Uploaded photos with completed forms:**

**ERBD / Neagh-Bann RBD - Photos depicting illiegal fishing activities.**



Unspecified angling equipment seized along with a keepnet on Lough Ramor. An individual was cautioned and issued with a fixed charge penalty notice. Equipment returned upon payment of the €150 fine.

**SERBD - Photos showing investigation into water quality offences.**



Incident - Tipperary cheese plant (TwoMileBorris, Co. Tipperary). Slurry was discharged into courses forming part of the Clover River (Suir). Polluting discharge from an IPC licenced facility in Tipp Town investigated. Samples were taken to assess the damage to the River Ara (Suir). A discharge of white material into the River Suir d/s of Holycross, (Co. Tipperary) investigated. Discharge was from Uisce Éireann drinking water treatment. All 3 cases resulted in convictions, fines, legal costs and improved water quality.

**Completed Eel Management Form Responses from Loughs Agency and DEARA**

	<b>Lough Agency</b>	<b>DEARA</b>
Confirm fishery ceased with Bye-law:	Fishery ceased	
Confirm that no licences were issued:	No eel licences issued	
Was there any illegal eel fishing noted?	No	
Estimated level of illegal fishing:		
Insert number of reports:		
Main catchments where illegal activity occurred:		
Number of gear seizures:		
Gear types seized:		
Insert quantity/length of gear seized:		
Number of Eel Dealer Interceptions:		
Estimated tonnage on board:		
Declared origin(s) of cargos:		
Describe action taken:		
General impression of levels of illegal activity since the cessation of the commercial fishery:		
Please upload relevant photos:		
Was trap & transport undertaken in your RBD?		
Was there any evidence of illegal trading of eel in conjunction with the T&T	No	
General impression of the programme:		
Please upload relevant photos:		
Were any barriers removed or elver access improved (e.g. elver bristle mats added)?	No	
If 'Yes', please describe changes:		
Please upload relevant photos:		

	Lough Agency	DEARA
Were there any actions carried out to improve water quality?	Yes	
If 'Yes', please list any sites or actions:	<p>Delivered nature-based solutions for fisheries improvement in Foyle and Carlingford during 2024 including riparian fencing, tree planting and bank stabilisation measures to increase the integrity and diversity of riparian and instream habitats making them more resilient to the impacts of climate change and the pressures from agricultural pollution. Projects address the dual challenges of climate change and biodiversity loss and their impacts on fisheries such as reduced fish populations and poor water quality. To maximise productivity and restore ecological functions a suite of in-river works was completed including improvements to spawning gravels, installation of rubble mats and creation of vortex weirs to improve sediment transport and to promote increased salmonid spawning activity. New pools were created in some rivers and boulders and large woody debris was used to improve predator and climate refuge areas for juvenile salmonids to reduce mortality rates. In total Loughs Agency delivered 56 Fisheries Improvement projects in 2024 which totalled:</p> <ul style="list-style-type: none"> <li>• 23.9km Fencing</li> <li>• 1250 metres of Soft Engineering</li> <li>• 362m2 of Gravel Regrading</li> <li>• 540 tonnes of Gravel Addition</li> <li>• 12,500 Trees Planted</li> </ul>	
Please upload relevant photos:		

## Appendix 4: Silver Eel Trap and Transport Tables: Shannon, Erne and Lee

### Appendix 4- 1 River Shannon Silver Eel Weekly Collection Sheet 2024/25

Wk No.	Week Ending	Jolly Mariner, Athlone	Yacht Club, Athlone	Kilaloe Eel Weir	Others (see comment)	Total for Week
1	30/08/24	0		Not Fishing		0
2	06/09/24	0		Not Fishing		0
3	13/09/24	3931	261	Not Fishing		4192
4	20/09/24	0	0	Not Fishing		0
5	27/09/24	1320	0	Not Fishing		1320
6	04/10/24	5845	236	0		6081
7	11/10/24	0	0	0		0
8	18/10/24	336	25	0		361
9	25/10/24	0	0	0		0
10	01/11/24	821	106	0		927
11	08/11/24	0	0	0		0
12	15/11/24	0	0	0		0
13	22/11/24	509	0	0		509
14	29/11/24	1928	538	0		2466
15	06/12/24	3727	0	198	20	3945
16	13/12/24	7533	728	945	20	9226
17	20/12/24	0	0	90	0	90
18	27/12/24	0	0	0	0	0
19	03/01/25	0	0	0	20	20
20	10/01/25	0	0	95	10	105
21	17/01/25	2157	239	0	0	2396
22	24/01/25	Not Fishing	Not Fishing	0	0	0
23	31/01/25	Not Fishing	Not Fishing	565	0	565
24	07/02/25	Not Fishing	Not Fishing	95	0	95
25	14/02/25	Not Fishing	Not Fishing	0	0	0
26	21/02/25	Not Fishing	Not Fishing	0	0	0
27	28/02/25	Not Fishing	Not Fishing	0	0	0
28	07/03/25	Not Fishing	Not Fishing	20	0	20
29	14/03/25	Not Fishing	Not Fishing	Not Fishing	Not Fishing	0
30	21/03/25	Not Fishing	Not Fishing	Not Fishing	Not Fishing	0
31	28/03/25	Not Fishing	Not Fishing	Not Fishing	Not Fishing	0

<b>Wk No.</b>	<b>Week Ending</b>	<b>Jolly Mariner, Athlone</b>	<b>Yacht Club, Athlone</b>	<b>Kilaloe Eel Weir</b>	<b>Others (see comment)</b>	<b>Total for Week</b>
<b>Total to Date(kgs)</b>		<b>28107</b>	<b>2133</b>	<b>2008</b>	<b>70</b>	<b>32318</b>
<b>Wk No.</b>	<b>Week Ending</b>	<b>Jolly Mariner, Athlone</b>	<b>Yacht Club, Athlone</b>	<b>Kilaloe Eel Weir</b>	<b>Others (see comment)</b>	<b>Total for Week</b>
<b>Catch Quota per Location</b>		<b>No Quota</b>	<b>No Quota</b>	<b>No Quota</b>		

Appendix 4- 2 River Erne Silver Eel Weekly Collection Sheet 2024/25

Week No.	Week Ending	Lisnaskea	Ferny Gap	Portora	Urney Bridge	Lough Gowna	Total for Week
1	30/08/2024	0	0	0	Not Fishing	0	0
2	06/09/2024	492	603	388	Not Fishing	0	1483
3	13/09/2024	242	478	333	Not Fishing	0	1053
4	20/09/2024	0	0	0	Not Fishing	0	0
5	27/09/2024	0	0	0	Not Fishing	0	0
6	04/10/2024	0	1446	293	Not Fishing	0	1739
7	11/10/2024	0	0	0	Not Fishing	0	0
8	18/10/2024	208	473	176	Not Fishing	0	857
9	25/10/2024	0	506	654	Not Fishing	0	1160
10	01/11/2024	0	2470	522	Not Fishing	0	2992
11	08/11/2024	699	354	336	Not Fishing	0	1389
12	15/11/2024	0	0	0	Not Fishing	0	0
13	22/11/2024	0	0	0	Not Fishing	0	0
14	29/11/2024	838	2794	2276	Not Fishing	0	5908
15	06/12/2024	648	961	1276	Not Fishing	3831	6716
16	13/12/2024	0	0	914	Not Fishing	2076	2990
17	20/12/2024	0	0	0	Not Fishing	0	0
18	27/12/2024	310	303	141	Not Fishing	0	754
19	03/01/2025	0	0	0	Not Fishing	0	0
20	10/01/2025	0	0	0	Not Fishing	0	0
21	17/01/2025	0	0	0	Not Fishing	0	0
22	24/01/2025	0	0	0	Not Fishing	0	0
23	31/01/2025	0	163	268	Not Fishing	0	431
24	07/02/2025	0	0	0	Not Fishing	0	0
25	14/02/2025	0	0	0	Not Fishing	0	0

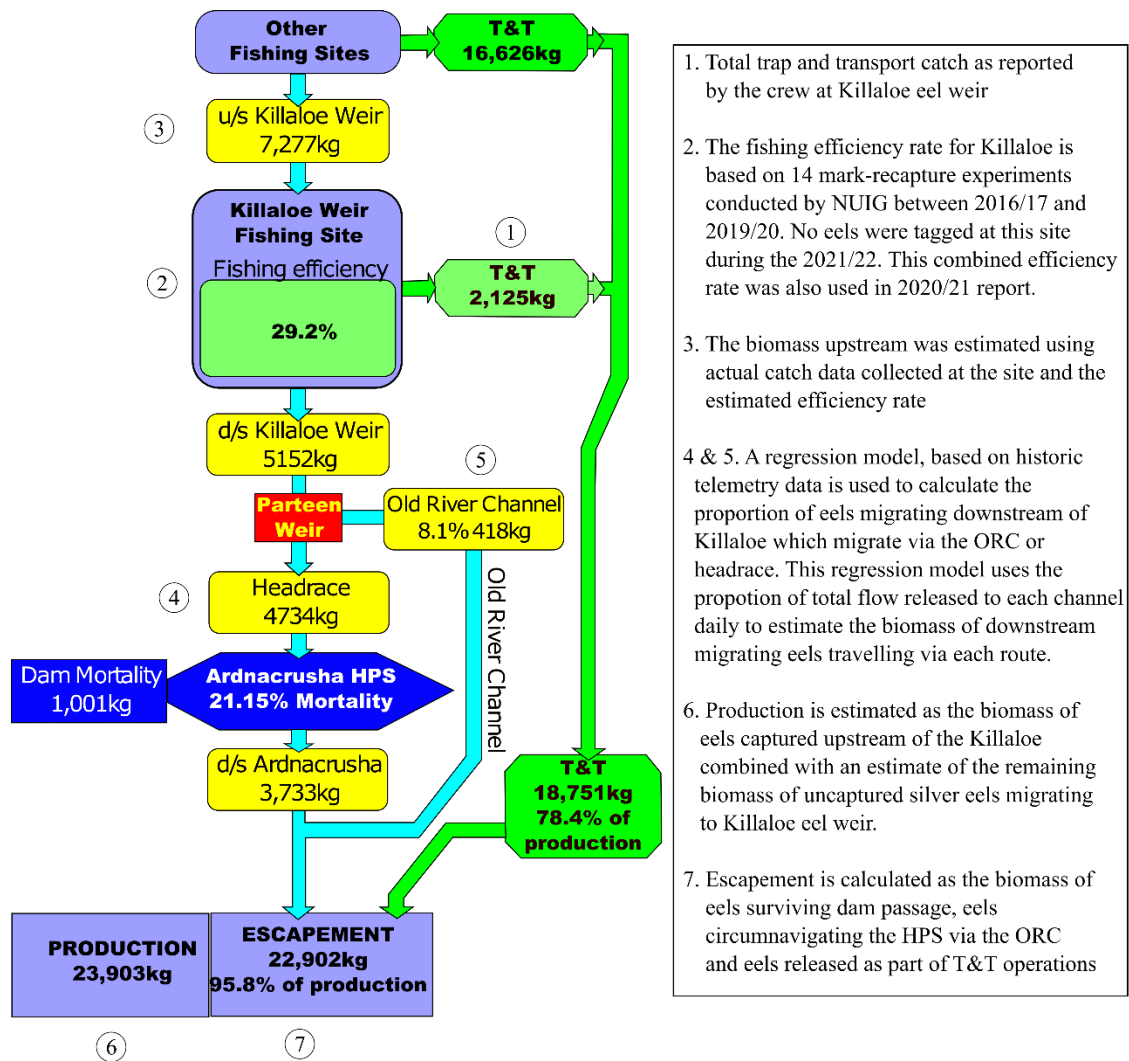
Week No.	Week Ending	Lisnaskea	Ferny Gap	Portora	Urney Bridge	Lough Gowna	Total for Week
26	21/02/2025	0	94	0	Not Fishing	0	94
27	28/02/2025	0	0	0	Not Fishing	0	0
28	07/03/2025	0	0	570	Not Fishing	945	1515
29	14/03/2025				Not Fishing		0
30	21/03/2025				Not Fishing		0
<b>Total to Date(kgs)</b>		<b>3437</b>	<b>10645</b>	<b>8147</b>	<b>0</b>	<b>6852</b>	<b>29081</b>
Week No.	Week Ending	Lisnaskea	Ferny Gap	Portora	Urney Bridge	Lough Gowna	Total for Week

Appendix 4-3 River Lee Silver Eel Weekly Collection Sheet 2024

Date	Location	Total Weight of Catch (kg)	Total to Date (kg)
03/09/2024	Boat Centre Iniscarra	175	175
04/09/2024	Boat Centre Iniscarra	205	380
05/09/2024	Boat Centre Iniscarra	133	513
06/09/2024	Boat Centre Iniscarra	84	597
07/09/2024	Boat Centre Iniscarra	35	632
08/09/2024	Boat Centre Iniscarra	110	742
09/09/2024	Boat Centre Iniscarra	128	870
10/09/2024	Boat Centre Iniscarra	93	963
11/09/2024	Boat Centre Iniscarra	75	1038
12/09/2024	Boat Centre Iniscarra	124	1162
<b>Total Catch for Season</b>			<b>1162</b>

**Appendix 5: Silver eel flow diagram explanation**

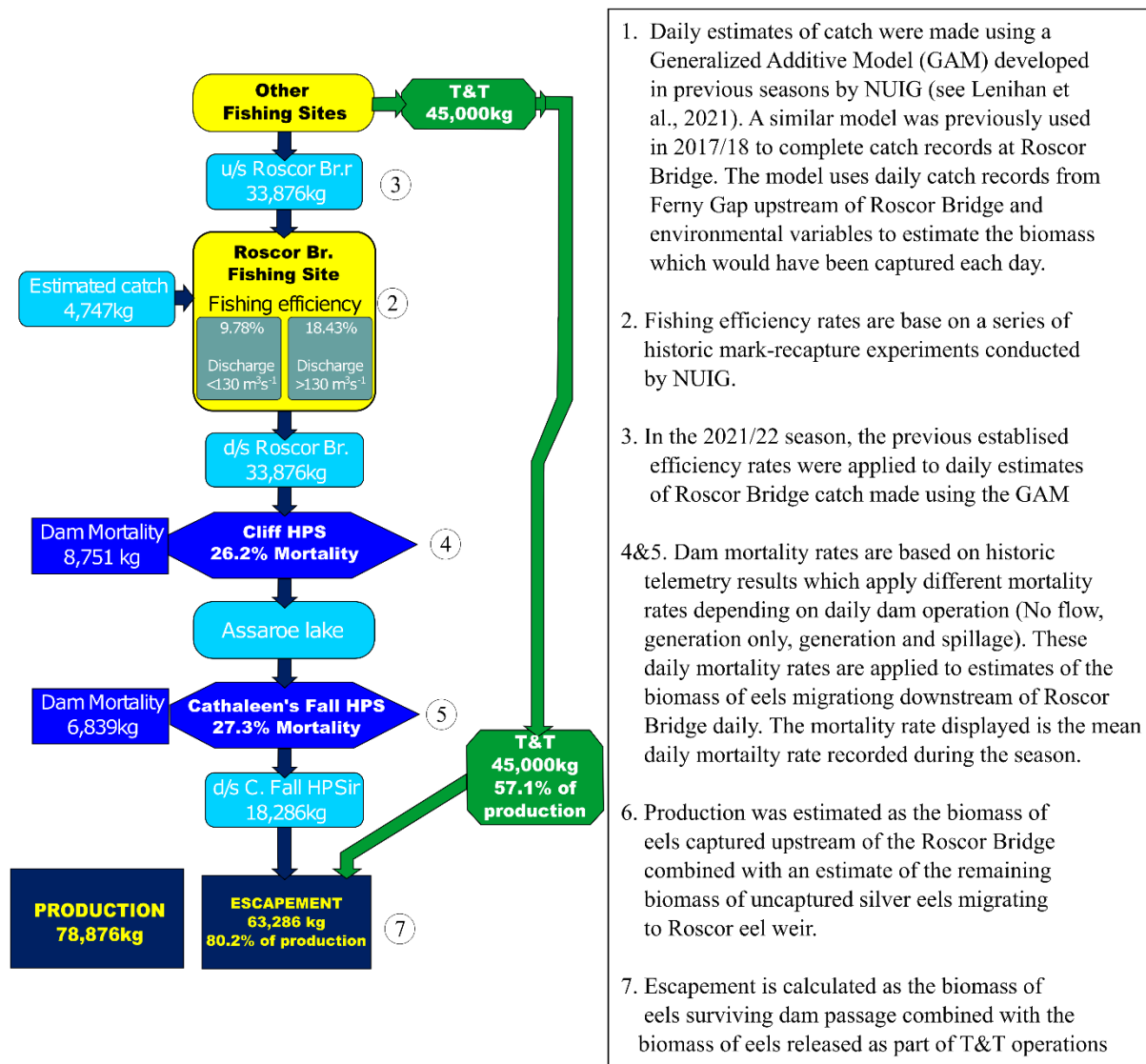
**Shannon Flow Diagram**



1. Total trap and transport catch as reported by the crew at Killaloe eel weir
2. The fishing efficiency rate for Killaloe is based on 14 mark-recapture experiments conducted by NUIG between 2016/17 and 2019/20. No eels were tagged at this site during the 2021/22. This combined efficiency rate was also used in 2020/21 report.
3. The biomass upstream was estimated using actual catch data collected at the site and the estimated efficiency rate
- 4 & 5. A regression model, based on historic telemetry data is used to calculate the proportion of eels migrating downstream of Killaloe which migrate via the ORC or headrace. This regression model uses the proportion of total flow released to each channel daily to estimate the biomass of downstream migrating eels travelling via each route.
6. Production is estimated as the biomass of eels captured upstream of the Killaloe combined with an estimate of the remaining biomass of uncaptured silver eels migrating to Killaloe eel weir.
7. Escapement is calculated as the biomass of eels surviving dam passage, eels circumnavigating the HPS via the ORC and eels released as part of T&T operations

A5 1 Flow diagram explanation for the Shannon catchment

## Erne Flow Diagram



A5 2 Flow diagram explanation for Erne catchment

## Appendix 6: Water Framework Directive

Table A6 1 Summary data from WFD Lakes Survey, 2023.

RBD	Lake	Net Nights	No of Eels	CPUE	Average Length (cm)	Min Length (cm)	Max Length (cm)	Average Weight (kg)	Min Weight (kg)	Max Weight (kg)	Total Weight (kg)
ERBD	Drumkeery, Lough	6	5	0.833	48.9	42.5	61.0	0.224	0.140	0.394	1.120
ERBD	Tay, Lough	9	0	0.000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NWRBD	Anure, Lough	9	8	0.889	42.9	34.2	52.5	0.129	0.073	0.239	1.032
NWRBD	Bawn, Lough	6	2	0.333	64.0	51.7	76.2	0.539	0.248	0.831	1.078
NWRBD	Beagh, Lough	9	4	0.444	46.3	41.0	57.6	0.177	0.092	0.340	0.708
NWRBD	Corglass, Lough	9	0	0.000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NWRBD	Derrybrick, Lough	6	2	0.333	77.3	74.5	80.0	0.740	0.627	0.853	1.480
NWRBD	Egish, Lough	6	1	0.167	58.0	58.0	58.0	0.318	0.318	0.318	0.318
NWRBD	Fern, Lough	9	3	0.333	32.8	29.5	37.8	0.049	0.033	0.058	0.147
NWRBD	Garadice, Lough	18	10	0.556	61.3	44.5	86.0	0.436	0.139	1.061	4.357
NWRBD	Glen, Lough	9	7	0.778	45.9	36.1	61.2	0.194	0.097	0.449	1.360
NWRBD	Scur, Lough	9	6	0.667	71.2	61.3	82.0	0.595	0.317	1.020	3.569
NWRBD	Skeagh, Lough	9	3	0.333	70.7	59.0	80.0	0.623	0.358	0.853	1.868
SHRBD	Cavetown, Lough	9	8	0.889	70.3	63.0	80.0	0.621	0.415	0.945	4.965
SHRBD	Derg, Lough	3	40	13.333	55.1	39.6	68.1	0.320	0.096	0.649	12.801
SHRBD	Derravaragh, Lough	18	5	0.278	62.6	52.0	70.0	0.441	0.254	0.592	2.204
SHRBD	Meelagh, Lough	9	2	0.222	69.7	69.4	70.0	0.599	0.559	0.638	1.197
SWRBD	Acoose, Lough	9	2	0.222	47.7	32.3	63.0	0.208	0.049	0.367	0.416
SWRBD	Allua, Lough	9	5	0.556	63.9	58.0	78.5	0.561	0.374	1.093	2.806
SWRBD	Brin, Lough	6	9	1.500	39.7	30.7	45.0	0.109	0.044	0.198	0.981
SWRBD	Caragh, Lough	9	2	0.222	41.8	37.4	46.2	0.116	0.072	0.161	0.233
SWRBD	Glenbeg, Lough	9	5	0.556	41.4	32.2	46.3	0.119	0.047	0.167	0.596
WRBD	Carrowmore, Lake	18	9	0.500	43.1	31.0	80.0	0.196	0.057	0.853	1.762
WRBD	Easky, Lough	9	9	1.000	51.1	33.1	95.7	0.331	0.069	1.421	2.976
WRBD	Gill, Lough	18	36	2.000	42.7	33.0	55.2	0.139	0.069	0.307	5.021
WRBD	Glencullin, Lough	6	3	0.500	37.7	35.0	40.0	0.100	0.081	0.118	0.301
WRBD	Talt, Lough	9	2	0.222	48.0	47.9	48.1	0.191	0.169	0.212	0.381

**Table A6 2 Length frequency data from WFD Lakes Surveys, 2023.**

RBD	Lake	No of							
		Eels	20 - 29 cm	30 - 39 cm	40 - 49 cm	50 - 59 cm	60 - 69 cm	70 - 79 cm	> 80 cm
ERBD	Drumkeery, Lough	5	0	0	3	1	1	0	0
ERBD	Tay, Lough	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NWRBD	Anure, Lough	8	0	2	5	1	0	0	0
NWRBD	Bawn, Lough	2	0	0	0	1	0	1	0
NWRBD	Beagh, Lough	4	0	0	3	1	0	0	0
NWRBD	Corglass, Lough	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NWRBD	Derrybrick, Lough	2	0	0	0	0	0	1	1
NWRBD	Egish, Lough	1	0	0	0	1	0	0	0
NWRBD	Fern, Lough	3	1	2	0	0	0	0	0
NWRBD	Garadice, Lough	10	0	0	1	4	3	1	1
NWRBD	Glen, Lough	7	0	1	4	1	1	0	0
NWRBD	Scur, Lough	6	0	0	0	0	3	2	1
NWRBD	Skeagh, Lough	3	0	0	0	1	0	1	1
SHRBD	Cavetown, Lough	8	0	0	0	0	5	2	1
SHRBD	Derg, Lough	40	0	2	8	15	15	0	0
SHRBD	Derravaragh, Lough	5	0	0	0	1	3	1	0
SHRBD	Meelagh, Lough	2	0	0	0	0	1	1	0
SWRBD	Acoose, Lough	2	0	1	0	0	1	0	0
SWRBD	Allua, Lough	5	0	0	0	3	1	1	0
SWRBD	Brin, Lough	9	0	4	5	0	0	0	0
SWRBD	Caragh, Lough	2	0	1	1	0	0	0	0
SWRBD	Glenbeg, Lough	5	0	1	4	0	0	0	0
WRBD	Carrowmore, Lake	9	0	5	2	1	0	0	1
WRBD	Easky, Lough	9	0	3	2	2	1	0	1
WRBD	Gill, Lough	36	0	15	15	6	0	0	0
WRBD	Glencullin, Lough	3	0	2	1	0	0	0	0
WRBD	Talt, Lough	2	0	0	2	0	0	0	0

**Table A6 3 Summary data from WFD Rivers Survey, 2023.**

<b>RBD</b>	<b>River Name</b>	<b>River Site</b>	<b>Methodology</b>	<b>Density (no/m<sup>2</sup>)</b>	<b>No. Eels</b>
ERBD	Aughrim (Ballycreen) River	Macreddin Br_A	TEF (Handset)	0.0000	0
ERBD	Aughrim (Coolalug) River	Ballyday_A	TEF (Handset)	0.0000	0
ERBD	Aughrim (Derry) River	Kilpipe Br_A	TEF (Handset)	0.0000	0
ERBD	Aughrim (Derry) River	Mucklagh_A	TEF (Handset)	0.0000	0
ERBD	Avonmore (Ballinacorbeg) River	Ballinacorbeg_A	TEF (Handset)	0.0000	0
ERBD	Avonmore (Garryduff) River	Montiagh East_A	TEF (Handset)	0.0000	0
ERBD	Avonmore (Moneystown) River	Castlekevin_A	TEF (Handset)	0.0000	0
ERBD	Colligan (Araglin) River	Coumeraglin Mountain_A	TEF (Handset)	0.0000	0
NBIRBD	Big Louth (Aghhameen) River	Killin_A	TEF (Handset)	0.0000	0
NBIRBD	Big Louth (Garden) River	Piedmont_A	TEF (Handset)	0.0857	1
NBIRBD	Big Louth (Moneycrockroe) River	Moneycrockroe_A	TEF (Handset)	0.0000	0
NBIRBD	Big Louth (Piedmont) River	Castletowncooley_A	TEF (Handset)	0.0239	1
NBIRBD	Big Louth River	Ballygoly Br._A	ADEF (Handset)	0.0135	2
NBIRBD	Big Louth River	Ballygoly Southeast_B	TEF (Handset)	0.0000	0
NBIRBD	Big Louth River	Moneycrockroe_Northeast_A	TEF (Handset)	0.0000	0
NBIRBD	Big Louth River	Spellickanee_A	TEF (Handset)	0.0564	1
NWIRBD	Cullies River	Br. nr Kilbrackan House_A	ADEF (Handset)	0.0000	0
NWIRBD	Cullies River	d/s of Garty Lough_A	ADEF (Handset)	0.0176	2
NWIRBD	Cullies River	d/s of Gulladoo Lough_A	TEF (Handset)	0.0000	0
NWIRBD	Cullies River	Drumleevan_A	TEF (Handset)	0.0000	0
NWIRBD	Cullies River	Drumshinny_A	TEF (Handset)	0.0000	0
NWIRBD	Cullies River	Drumyouth Mass Rock_A	TEF (Handset)	0.0000	0
NWIRBD	Cullies River	Fihoragh North_A	TEF (Handset)	0.0000	0
NWIRBD	Cullies River	Leggagh Southwest_A	TEF (Handset)	0.0000	0
NWIRBD	Cullies River	U/s of Bawn Lough_A	ADEF (Handset)	0.0000	0
NWIRBD	Swanlinbar (Altateskin) River	Altateskin_A	TEF (Handset)	0.0000	0
NWIRBD	Swanlinbar (Alteen) River	Gorteennaglogh_A	TEF (Handset)	0.0000	0
NWIRBD	Swanlinbar (Claddagh) River	Tullydermot West_A	TEF (Handset)	0.0000	0
NWIRBD	Swanlinbar (Gortacashel) River	Drumersee_A	TEF (Handset)	0.0231	1
NWIRBD	Swanlinbar (Gortmore) River	Derrynacreeve_A	ADEF (Handset)	0.0000	0
NWIRBD	Swanlinbar (Hawkswood) River	Corranearty_A	TEF (Handset)	0.0000	0
NWIRBD	Swanlinbar (Legnadirk) River	Legnadirk_A	TEF (Handset)	0.0000	0
NWIRBD	Swanlinbar (Owensallagh) River	Altachullion Upper_A	TEF (Handset)	0.0000	0
NWIRBD	Swanlinbar (Owensallagh) River	Corraclassy New Br._A	TEF (Handset)	0.0000	0
NWIRBD	Swanlinbar (Owensallagh) River	Drumcar East_A	TEF (Handset)	0.0000	0
NWIRBD	Swanlinbar River	Altbrean_A	TEF (Handset)	0.0000	0
NWIRBD	Swanlinbar River	Furnaceland_A	TEF (Handset)	0.0000	0
NWIRBD	Swanlinbar River	Swanlinbar Br. (Carpark)_A	ADEF (Handset)	0.0084	3
NWIRBD	Waterfoot River	Letter Br._A	ADEF (Handset)	0.0000	0
SERBD	Ballyroan River	Gloreen Br._D	ADEF (Handset)	0.0000	0
SERBD	Bann (Lask) River	Ballinacoola_A	TEF (Handset)	0.0000	0
SERBD	Bann (Lask) River	Crannford Br._A	TEF (Handset)	0.0000	0

RBD	River Name	River Site	Methodology	Density (no/m <sup>2</sup> )	No. Eels
SERBD	Bann (Lask) River	Knockbrandon Upper_A	TEF (Handset)	0.0199	1
SERBD	Bann (Lask) River	Monaseed_A	TEF (Handset)	0.0000	0
SERBD	Bann (Lask) River	St Brendan's Graveyard_A	TEF (Handset)	0.0439	2
SERBD	Bann River	Glandoran Upper_A	TEF (Handset)	0.0000	0
SERBD	Bann River	Grovemill_A	TEF (Handset)	0.0126	1
SERBD	Bann River	Island Br._A	ADEF (Handset)	0.0000	0
SERBD	Bann River	Kilmichael Br._A	TEF (Handset)	0.0000	0
SERBD	Bann River	Milltown Br._A	ADEF (Handset)	0.0049	2
SERBD	Bann River	Pallis Br._A	TEF (Handset)	0.0000	0
SERBD	Bann River	Tinnabaum_A	TEF (Handset)	0.0000	0
SERBD	Boro (Aughathlappa) River	Cloughmills_A	TEF (Handset)	0.0275	1
SERBD	Boro (Killeen) River	Garraun Br._A	TEF (Handset)	0.0000	0
SERBD	Boro (Killeen) River	Killeen Br._A	TEF (Handset)	0.0000	0
SERBD	Boro (Templescoby) River	Garr Br._A	TEF (Handset)	0.0000	0
SERBD	Boro (Townamulloge) River	Ballyboro_A	TEF (Handset)	0.0000	0
SERBD	Boro River	Aughnappul Br._A	ADEF (Handset)	0.0024	1
SERBD	Boro River	Garraun Lower_A	TEF (Handset)	0.0000	0
SERBD	Burren River	Ullard Br._A	ADEF (Handset)	0.0000	0
SERBD	Clody River	Ford (Br.) 3km u/s Bunclody_A	TEF (Handset)	0.0000	0
SERBD	Clody River	Kelly's Quarter_A	TEF (Handset)	0.0000	0
SERBD	Colligan (Araglin) River	u/s Coum Br._A	TEF (Handset)	0.0000	0
SERBD	Colligan (Glendermot) River	Bohadoon_A	TEF (Handset)	0.0000	0
SERBD	Colligan (Glendermot) River	Coolnasmear Upper_A	TEF (Handset)	0.0000	0
SERBD	Colligan (Knockanpower) River	Knockanpower Lower_A	TEF (Handset)	0.0316	1
SERBD	Colligan (Reandampaun) River	Lagg Br._A	TEF (Handset)	0.0000	0
SERBD	Colligan (Reandampaun) River	Scart Br._A	TEF (Handset)	0.0000	0
SERBD	Colligan (Skeheens) River	Skeehans Br._A	TEF (Handset)	0.0000	0
SERBD	Colligan River	Br. nr Killadangan_A	ADEF (Handset)	0.0132	14
SERBD	Colligan River	Colliganwood_A	TEF (Handset)	0.0413	4
SERBD	Colligan River	Glennaneane_A	TEF (Handset)	0.0000	0
SERBD	Colligan River	Lackandara Br._A	ADEF (Handset)	0.0040	3
SERBD	Derreen (Clonmore) River	Carrarea_A	TEF (Handset)	0.0000	0
SERBD	Derreen (Clonmore) River	Knockballystine Br._A	TEF (Handset)	0.0000	0
SERBD	Derreen (Douglas) River	Crossnacole_A	TEF (Handset)	0.0000	0
SERBD	Derreen (Douglas) River	Tinnaclash_A	TEF (Handset)	0.0000	0
SERBD	Derreen (Knockananna) River	Scotland Br._A	TEF (Handset)	0.0000	0
SERBD	Derry (Mine) River	Tombreane Br._A	TEF (Handset)	0.0000	0
SERBD	Derry (Rosnastraw) River	Kilcommon Br._A	TEF (Handset)	0.0000	0
SERBD	Derry River	Balisland Br._A	ADEF (Handset)	0.0025	1
SERBD	Derry River	Curranish_A	TEF (Handset)	0.0000	0
SERBD	Dinin River	Dinin Br._A	ADEF (Handset)	0.0100	8
SERBD	Douglas (Kilteagan) River	Borkillbeg_A	TEF (Handset)	0.0000	0
SERBD	Douglas (Kilteagan) River	St Teagan's Hall_A	TEF (Handset)	0.0000	0

RBD	River Name	River Site	Methodology	Density (no/m <sup>2</sup> )	No. Eels
SERBD	Douglas Ballon River	Sragh Br._B	ADEF (Handset)	0.0000	0
SERBD	Duncormick River	(W) Br. nr Duncormick Rly St_B	ADEF (Handset)	0.0000	0
SERBD	Glory River	Br. E of Raheen_B	ADEF (Handset)	0.0032	2
SERBD	Gowran River	Br. N of Goresbridge (S Channel)_A	ADEF (Handset)	0.0091	2
SERBD	Greese River	Br. NE of Belan House_A	ADEF (Handset)	0.0000	0
SERBD	Lerr River	Prumplestown Br._A	ADEF (Handset)	0.0045	1
SERBD	Mahon River	Seafield House_A	ADEF (Handset)	0.0048	2
SERBD	Nuenna River	Br. d/s Clomantagh_B	ADEF (Handset)	0.0000	0
SERBD	Slaney (Ballingale) River	Tombrack_A	TEF (Handset)	0.0230	1
SERBD	Slaney (Ballycarney) River	Ballycarney Br._A	TEF (Handset)	0.0252	1
SERBD	Slaney (Ballycarney) River	Corah Br._A	TEF (Handset)	0.0000	0
SERBD	Slaney (BoleyCarrigeen) River	Colvinstown_A	TEF (Handset)	0.0000	0
SERBD	Slaney (BoleyCarrigeen) River	Mountneill Br._A	TEF (Handset)	0.0000	0
SERBD	Slaney (Carrig) River	Carrig Mountain_A	TEF (Handset)	0.0000	0
SERBD	Slaney (Corbally) River	Ballincash Br._A	TEF (Handset)	0.0000	0
SERBD	Slaney (Derry) River	Cronyhorn Br._A	TEF (Handset)	0.0000	0
SERBD	Slaney (Derry) River	Muskeagh_A	TEF (Handset)	0.0256	1
SERBD	Slaney (Derry), River	Ballingate Br._A	TEF (Handset)	0.0000	0
SERBD	Slaney (Douglas) River	Lucas Br._A	TEF (Handset)	0.0000	0
SERBD	Slaney (Drumderry) River	Carnew Rd._A	TEF (Handset)	0.2348	5
SERBD	Slaney (Garryfelim) River	Annaghfinn North_A	TEF (Handset)	0.0000	0
SERBD	Slaney (Kidavin) River	Ballyfinvalley_A	TEF (Handset)	0.0000	0
SERBD	Slaney (Little) River	Rostyduff Br._A	TEF (Handset)	0.0000	0
SERBD	Slaney (Pullinstown) River	Ballinure_A	TEF (Handset)	0.0000	0
SERBD	Slaney River	Ballinlea Br_A	ADEF (Handset)	0.0000	0
SERBD	Slaney River	Ballylion Lower_A	TEF (Handset)	0.0457	3
SERBD	Slaney River	Bunclody Golf Course_A	Partial survey (Boat)	0.0011	4
SERBD	Slaney River	Bunclody_A	Partial survey (Boat)	0.0000	0
SERBD	Slaney River	Donard Lower_A	TEF (Handset)	0.0000	0
SERBD	Slaney River	Waterloo Br._A	ADEF (Handset)	0.0039	4
SERBD	Tully Stream	Soomeragh Br._B	ADEF (Handset)	0.0000	0
SERBD	Urrin River	Buck's Br._B	ADEF (Handset)	0.0033	1
SERBD	Urrin River	Mangan Lane_A	ADEF (Handset)	0.0086	3
SERBD	Urrin River	Mocurry Br._A	TEF (Handset)	0.0000	0
SERBD	Urrin River	Verona Br._A	ADEF (Handset)	0.0038	2
SHIRBD	Annagh (Glendine) River	Knockloskeraun Br. S of M_A	ADEF (Handset)	0.0421	9
SHIRBD	Creagh (Glenmore) River	Clonigulane_A	TEF (Handset)	0.0000	0
SHIRBD	Creagh River	Cahermurphy Br._A	TEF (Handset)	0.0000	0
SHIRBD	Creagh River	Clooneenagh_A	TEF (Handset)	0.0445	3
SHIRBD	Creagh River	Cloonwhite Mound_A	TEF (Handset)	0.0000	0
SHIRBD	Creagh River	Cragnashingaun_A	TEF (Handset)	0.0000	0

RBD	River Name	River Site	Methodology	Density (no/m <sup>2</sup> )	No. Eels
SHIRBD	Creagh River	Creagh Br._A	TEF (Handset)	0.0000	0
SHIRBD	Creagh River	Drumellihy Br._A	ADEF (Handset)	0.0150	7
SHIRBD	Creagh River	Drumellihy North_A	TEF (Handset)	0.0000	0
SHIRBD	Derreen River	Rathcoyle Br._A	TEF (Handset)	0.0000	0
SHIRBD	Doonbeg (Kilmihil) River	Clooncullin_A	TEF (Handset)	0.0000	0
SHIRBD	Doonbeg River	Gortygeeheen_A	TEF (Handset)	0.1291	3
SHIRBD	Doonbeg River	Knockalough Br._A	TEF (Handset)	0.0000	0
SHIRBD	Doonbeg River	Sorrel Island Br._A	TEF (Handset)	0.0000	0
SHIRBD	Feale (Allaghaun) River	Ballymurragh West_A	TEF (Handset)	0.0000	0
SHIRBD	Feale (Allaghaun) River	Cleanglass East_A	TEF (Handset)	0.0000	0
SHIRBD	Feale (Allaghaun) River	Knocknadiha_A	TEF (Handset)	0.0000	0
SHIRBD	Feale (Allaghaun) River	Rathcahill West_A	TEF (Handset)	0.0000	0
SHIRBD	Feale (Allaghaun) River	Tour Br._A	TEF (Handset)	0.0000	0
SHIRBD	Feale (Allaghaun) River	Tulligoline_A	TEF (Handset)	0.0000	0
SHIRBD	Feale (Oolagh) River	Crataloe_A	TEF (Handset)	0.0000	0
SHIRBD	Feale (Owveg Kerry) River	Glena Br._A	TEF (Handset)	0.0000	0
SHIRBD	Feale (Owveg Kerry) River	Owveg Br._B	ADEF (Handset)	0.0000	0
SHIRBD	Feale (Owveg Kerry) River	Talbots Br._A	TEF (Handset)	0.0000	0
SHIRBD	Feale (Smearlagh) River	Glanaderhig_A	TEF (Handset)	0.0000	0
SHIRBD	Feale (Smearlagh) River	Kennellys Br._B	ADEF (Handset)	0.0091	8
SHIRBD	Feale (Smearlagh) River	Lyracrumpane_A	TEF (Handset)	0.0000	0
SHIRBD	Feale (Smearlagh) River	Reanagowan_A	TEF (Handset)	0.0000	0
SHIRBD	Feale River	Barrys Br._A	TEF (Handset)	0.0196	1
SHIRBD	Feale River	Glashamore Br._A	TEF (Handset)	0.0528	2
SHIRBD	Feale River	Knockaclarig Br._A	ADEF (Handset)	0.0016	1
SHIRBD	Feale River	Knockbrack_A	TEF (Handset)	0.0000	0
SHIRBD	Feale River	Mountcollins_A	TEF (Handset)	0.0000	0
SHIRBD	Feale River	Mt Eagle_A	TEF (Handset)	0.0000	0
SHIRBD	Feale River	Rockchapel_A	TEF (Handset)	0.0000	0
SHIRBD	Feale River	Tooreenfineen_A	TEF (Handset)	0.0000	0
SWRBD	Cullies (Drumsillagh) River	Drumsillagh Gate_A	TEF (Handset)	0.0000	0
SWRBD	Cullies River	Aghamore Lower_A	ADEF (Handset)	0.0000	0
SWRBD	Womanagh River	Br. u/s of Castlemartyr_A	ADEF (Handset)	0.0132	4
WRBD	Glenamoy (Baroosky) River	Sharanaploge_A	TEF (Handset)	0.1738	10
WRBD	Glenamoy (Bellagelly North) River	Bunowna_A	TEF (Handset)	0.2124	6
WRBD	Glenamoy (Bellagelly South) River	Milltown West_A	TEF (Handset)	0.1146	4
WRBD	Glenamoy (Gortleatilla) River	Gorthlettilaun_A	TEF (Handset)	0.0000	0
WRBD	Glenamoy (Leanrevagh East) River	Bunalty_A	TEF (Handset)	0.2237	6
WRBD	Glenamoy (Leanrevagh West) River	Glenamoy Br. Field_A	TEF (Handset)	0.1687	5
WRBD	Glenamoy (Leanrevagh West) River	Milltown Field_A	TEF (Handset)	0.0607	2
WRBD	Glenamoy (Pollboy) River	Pollboy_A	TEF (Handset)	0.0000	0
WRBD	Glenamoy (Rathavisteen) River	Glencalry Lower_A	TEF (Handset)	0.0000	0
WRBD	Glenamoy River	Glenamoy Village_A	ADEF (Handset)	0.0167	20

<b>RBD</b>	<b>River Name</b>	<b>River Site</b>	<b>Methodology</b>	<b>Density (no/m<sup>2</sup>)</b>	<b>No. Eels</b>
WRBD	Glenamoy River	Glencalry Upper Schoolhouse_A	TEF (Handset)	0.0000	0
WRBD	Glenamoy River	Gorthlettilaun East_A	TEF (Handset)	0.0132	1
WRBD	Glennamong River	Br. u/s Lough Feeagh_B	ADEF (Handset)	0.0082	2
WRBD	Glenree (Black) River	Behy Br._A	ADEF (Handset)	0.0000	0
WRBD	Gowlan River	Track west of Lough Black_B	ADEF (Handset)	0.0040	1
WRBD	Loughnamino Stream	Balla Br. on Castlebar Road_A	ADEF (Handset)	0.0000	0

**Table A6 4 Length frequency data from WFD River Surveys, 2023.**

RBD	River Name	River Site	No. Eels	5-9 cm	10-19 cm	20-29 cm	30-39 cm	40-49 cm	50-59 cm	60-69 cm	70-79 cm	>80 cm
NBIRBD	Big Louth (Garden) River	Piedmont_A	1	0	0	0	0	1	0	0	0	0
NBIRBD	Big Louth (Piedmont) River	Castletowncooley_A	1	0	0	1	0	0	0	0	0	0
NBIRBD	Big Louth River	Ballygoly Br._A	2	0	2	0	0	0	0	0	0	0
NBIRBD	Big Louth River	Spellickanee_A	1	0	0	0	1	0	0	0	0	0
NWIRBD	Cullies River	d/s of Garty Lough_A	2	0	0	0	0	1	0	1	0	0
NWIRBD	Swanlinbar (Gortacashel) River	Drumersee_A	1	0	0	1	0	0	0	0	0	0
NWIRBD	Swanlinbar River	Swanlinbar Br. (Carpark)_A	3	0	0	1	1	1	0	0	0	0
SERBD	Bann (Lask) River	Knockbrandon Upper_A	1	0	1	0	0	0	0	0	0	0
SERBD	Bann (Lask) River	St Brendan's Graveyard_A	2	0	2	0	0	0	0	0	0	0
SERBD	Bann River	Grovemill_A	1	0	0	1	0	0	0	0	0	0
SERBD	Bann River	Milltown Br._A	2	0	1	1	0	0	0	0	0	0
SERBD	Boro (Aughathlappa) River	Cloughmills_A	1	0	0	1	0	0	0	0	0	0
SERBD	Boro River	Aughnappul Br._A	1	0	0	0	1	0	0	0	0	0
SERBD	Colligan (Knockanpower) River	Knockanpower Lower_A	1	0	0	0	0	0	0	1	0	0
SERBD	Colligan River	Br. nr Killadangan_A	14	0	11	3	0	0	0	0	0	0
SERBD	Colligan River	Colliganwood_A	4	0	20	10	4	1	0	1	0	0
SERBD	Colligan River	Lackandara Br._A	3	0	0	0	2	0	1	0	0	0
SERBD	Derry River	Balisland Br._A	1	0	0	1	0	0	0	0	0	0
SERBD	Dinin River	Dinin Br._A	8	0	7	1	0	0	0	0	0	0
SERBD	Glory River	Br. E of Raheen_B	2	0	0	2	0	0	0	0	0	0
SERBD	Gowran River	Br. N of Goresbridge (S Channel)_A	2	0	1	1	0	0	0	0	0	0
SERBD	Lerr River	Prumplestown Br._A	1	0	0	1	0	0	0	0	0	0
SERBD	Mahon River	Seafield House_A	2	0	0	2	0	0	0	0	0	0
SERBD	Slaney (Ballingale) River	Tombrack_A	1	0	1	0	0	0	0	0	0	0
SERBD	Slaney (Ballycarney) River	Ballycarney Br._A	1	0	0	1	0	0	0	0	0	0
SERBD	Slaney (Derry) River	Muskeagh_A	1	0	0	1	0	0	0	0	0	0
SERBD	Slaney (Drumderry) River	Carnew Rd._A	5	0	4	1	0	0	0	0	0	0

RBD	River Name	River Site	No. Eels	5-9 cm	10-19 cm	20-29 cm	30-39 cm	40-49 cm	50-59 cm	60-69 cm	70-79 cm	>80 cm
SERBD	Slaney River	Ballylion Lower_A	3	0	0	3	0	0	0	0	0	0
SERBD	Slaney River	Bunclody Golf Course_A	4	0	2	1	0	0	1	0	0	0
SERBD	Slaney River	Waterloo Br._A	4	0	3	1	0	0	0	0	0	0
SERBD	Urrin River	Buck's Br._B	1	0	0	0	1	0	0	0	0	0
SERBD	Urrin River	Mangan Lane_A	3	0	2	1	0	0	0	0	0	0
SERBD	Urrin River	Verona Br._A	2	0	1	1	0	0	0	0	0	0
SHIRBD	Annagh (Glendine) River	Knockloskeraun Br. S of M_A	9	0	2	5	2	0	0	0	0	0
SHIRBD	Creegh River	Clooneenagh_A	3	0	2	0	1	0	0	0	0	0
SHIRBD	Creegh River	Drumellihy Br._A	7	1	2	2	2	0	0	0	0	0
SHIRBD	Doonbeg River	Gortygeeheen_A	3	0	2	1	0	0	0	0	0	0
SHIRBD	Feale (Smearlagh) River	Kennellys Br._B	8	0	3	5	0	0	0	0	0	0
SHIRBD	Feale River	Barrys Br._A	1	0	0	0	1	0	0	0	0	0
SHIRBD	Feale River	Glashamore Br._A	2	0	1	1	0	0	0	0	0	0
SHIRBD	Feale River	Knockaclarig Br._A	1	0	0	1	0	0	0	0	0	0
SWRBD	Womanagh River	Br. u/s of Castlemartyr_A	4	0	1	3	0	0	0	0	0	0
WRBD	Glenamoy (Baroosky) River	Sharanaploge_A	10	0	3	7	0	0	0	0	0	0
WRBD	Glenamoy (Bellagelly North) River	Bunowna_A	6	1	5	0	0	0	0	0	0	0
WRBD	Glenamoy (Bellagelly South) River	Milltown West_A	4	3	1	0	0	0	0	0	0	0
WRBD	Glenamoy (Leanrevagh East) River	Bunalty_A	6	1	2	3	0	0	0	0	0	0
WRBD	Glenamoy (Leanrevagh West) River	Glenamoy Br. Field_A	5	1	2	2	0	0	0	0	0	0
WRBD	Glenamoy (Leanrevagh West) River	Milltown Field_A	2	0	0	2	0	0	0	0	0	0
WRBD	Glenamoy River	Glenamoy Village_A	20	5	12	3	0	0	0	0	0	0
WRBD	Glenamoy River	Gorthlettilaun East_A	1	0	0	1	0	0	0	0	0	0
WRBD	Glennamong River	Br. u/s Lough Feeagh_B	2	0	2	0	0	0	0	0	0	0
WRBD	Gowlan River	Track west of Lough Black_B	1	0	0	0	1	0	0	0	0	0

**Table A6 5 Summary length and weight data from WFD Rivers Surveys, 2023.**

RBD	River Name	River Site	No. Eels	Average Length (cm)	Min Length (cm)	Max Length (cm)	Average Weight (kg)	Min Weight (kg)	Max Weight (kg)	Total Weight (kg)
NBIRBD	Big Louth (Garden) River	Piedmont_A	1	45.4	45.4	45.4	n.a.	n.a.	n.a.	n.a.
NBIRBD	Big Louth (Piedmont) River	Castletowncooley_A	1	27.2	27.2	27.2	n.a.	n.a.	n.a.	n.a.
NBIRBD	Big Louth River	Ballygoly Br._A	2	13.5	10.0	17.0	n.a.	n.a.	n.a.	n.a.
NBIRBD	Big Louth River	Spellickanee_A	1	33.5	33.5	33.5	n.a.	n.a.	n.a.	n.a.
NWIRBD	Cullies River	d/s of Garty Lough_A	2	54.0	48.0	60.0	n.a.	n.a.	n.a.	n.a.
NWIRBD	Swanlinbar (Gortacashel) River	Drumersee_A	1	27.0	27.0	27.0	n.a.	n.a.	n.a.	n.a.
NWIRBD	Swanlinbar River	Swanlinbar Br. (Carpark)_A	3	34.7	21.0	45.0	n.a.	n.a.	n.a.	n.a.
SERBD	Bann (Lask) River	Knockbrandon Upper_A	1	13.5	13.5	13.5	n.a.	n.a.	n.a.	n.a.
SERBD	Bann (Lask) River	St Brendan's Graveyard_A	2	15.5	14.0	17.0	n.a.	n.a.	n.a.	n.a.
SERBD	Bann River	Grovemill_A	1	25.0	25.0	25.0	n.a.	n.a.	n.a.	n.a.
SERBD	Bann River	Milltown Br._A	2	22.0	18.0	26.0	n.a.	n.a.	n.a.	n.a.
SERBD	Boro (Aughathlappa) River	Cloughmills_A	1	23.0	23.0	23.0	n.a.	n.a.	n.a.	n.a.
SERBD	Boro River	Aughnappul Br._A	1	35.0	35.0	35.0	n.a.	n.a.	n.a.	n.a.
SERBD	Colligan (Knockanpower) River	Knockanpower Lower_A	1	61.0	61.0	61.0	n.a.	n.a.	n.a.	n.a.
SERBD	Colligan River	Br. nr Killadangan_A	14	16.0	10.5	25.0	n.a.	n.a.	n.a.	n.a.
SERBD	Colligan River	Colliganwood_A	4	24.3	11.2	33.0	n.a.	n.a.	n.a.	n.a.
SERBD	Colligan River	Lackandara Br._A	3	39.3	31.0	55.0	n.a.	n.a.	n.a.	n.a.
SERBD	Derry River	Balisland Br._A	1	23.0	23.0	23.0	n.a.	n.a.	n.a.	n.a.
SERBD	Dinin River	Dinin Br._A	8	17.0	13.0	20.0	n.a.	n.a.	n.a.	n.a.
SERBD	Glory River	Br. E of Raheen_B	2	27.0	25.0	29.0	n.a.	n.a.	n.a.	n.a.
SERBD	Gowran River	Br. N of Goresbridge (S Channel)_A	2	18.0	15.0	21.0	n.a.	n.a.	n.a.	n.a.
SERBD	Lerr River	Prumplestown Br._A	1	24.0	24.0	24.0	n.a.	n.a.	n.a.	n.a.
SERBD	Mahon River	Seafield House_A	2	23.2	20.8	25.5	n.a.	n.a.	n.a.	n.a.
SERBD	Slaney (Ballingale) River	Tombrack_A	1	17.0	17.0	17.0	n.a.	n.a.	n.a.	n.a.
SERBD	Slaney (Ballycarney) River	Ballycarney Br._A	1	25.0	25.0	25.0	n.a.	n.a.	n.a.	n.a.
SERBD	Slaney (Derry) River	Muskeagh_A	1	20.0	20.0	20.0	n.a.	n.a.	n.a.	n.a.

RBD	River Name	River Site	No. Eels	Average Length (cm)	Min Length (cm)	Max Length (cm)	Average Weight (kg)	Min Weight (kg)	Max Weight (kg)	Total Weight (kg)
SERBD	Slaney (Drumderry) River	Carnew Rd._A	5	17.0	13.0	27.0	n.a.	n.a.	n.a.	n.a.
SERBD	Slaney River	Ballylion Lower_A	3	23.8	21.0	28.0	n.a.	n.a.	n.a.	n.a.
SERBD	Slaney River	Bunclody Golf Course_A	4	27.5	15.0	55.0	n.a.	n.a.	n.a.	n.a.
SERBD	Slaney River	Waterloo Br._A	4	18.4	13.6	28.0	n.a.	n.a.	n.a.	n.a.
SERBD	Urrin River	Buck's Br._B	1	36.0	36.0	36.0	n.a.	n.a.	n.a.	n.a.
SERBD	Urrin River	Mangan Lane_A	3	17.3	11.0	24.0	n.a.	n.a.	n.a.	n.a.
SERBD	Urrin River	Verona Br._A	2	19.0	15.0	23.0	n.a.	n.a.	n.a.	n.a.
SHIRBD	Annagh (Glendine) River	Knockloskeraun Br. S of M_A	9	22.6	13.1	34.0	n.a.	n.a.	n.a.	n.a.
SHIRBD	Creegh River	Clooneenagh_A	3	20.8	13.5	33.0	n.a.	n.a.	n.a.	n.a.
SHIRBD	Creegh River	Drumellihy Br._A	7	20.9	8.0	34.0	n.a.	n.a.	n.a.	n.a.
SHIRBD	Doonbeg River	Gortygeeheen_A	3	19.3	13.0	26.0	n.a.	n.a.	n.a.	n.a.
SHIRBD	Feale (Smearlagh) River	Kennellys Br._B	8	20.9	13.0	27.0	n.a.	n.a.	n.a.	n.a.
SHIRBD	Feale River	Barrys Br._A	1	33.0	33.0	33.0	n.a.	n.a.	n.a.	n.a.
SHIRBD	Feale River	Glashamore Br._A	2	20.8	18.5	23.0	n.a.	n.a.	n.a.	n.a.
SHIRBD	Feale River	Knockaclarig Br._A	1	27.0	27.0	27.0	n.a.	n.a.	n.a.	n.a.
SWRBD	Womanagh River	Br. u/s of Castlemartyr_A	4	21.1	16.0	25.0	n.a.	n.a.	n.a.	n.a.
WRBD	Glenamoy (Baroosky) River	Sharanaploge_A	10	20.1	11.0	25.5	n.a.	n.a.	n.a.	n.a.
WRBD	Glenamoy (Bellagelly North) River	Bunowna_A	6	10.6	8.0	13.0	n.a.	n.a.	n.a.	n.a.
WRBD	Glenamoy (Bellagelly South) River	Milltown West_A	4	9.1	8.0	10.5	n.a.	n.a.	n.a.	n.a.
WRBD	Glenamoy (Leanrevagh East) River	Bunalty_A	6	18.0	9.0	26.0	n.a.	n.a.	n.a.	n.a.
WRBD	Glenamoy (Leanrevagh West) River	Glenamoy Br. Field_A	5	16.7	9.5	25.5	n.a.	n.a.	n.a.	n.a.
WRBD	Glenamoy (Leanrevagh West) River	Milltown Field_A	2	25.8	25.5	26.0	n.a.	n.a.	n.a.	n.a.
WRBD	Glenamoy River	Glenamoy Village_A	20	13.8	7.0	25.0	n.a.	n.a.	n.a.	n.a.
WRBD	Glenamoy River	Gorthlettilaun East_A	1	23.5	23.5	23.5	n.a.	n.a.	n.a.	n.a.
WRBD	Glennamong River	Br. u/s Lough Feeagh_B	2	11.6	10.8	12.4	n.a.	n.a.	n.a.	n.a.
WRBD	Gowlan River	Track west of Lough Black_B	1	31.0	31.0	31.0	n.a.	n.a.	n.a.	n.a.

**Table A6 6 Summary data from WFD Transitional Waters Surveys, 2023.**

RBD	Transitional Water	No. Nights	No. Nets	No. Eels	CPUE	Average Length (cm)	Min Length (cm)	Max Length (cm)
ERBD	Avoca Estuary	1	12	4	0.333	29.3	26.0	32.0
NWRBD	Erne Estuary	1	12	3	0.250	68.0	57.0	80.0
WRBD	Camus Bay	1	24	2	0.083	40.0	31.0	49.0
WRBD	Kinvara Bay	1	12	0	n.a.	n.a.	n.a.	n.a.
WRBD	tSaile, Loch an (North of Camus Bay)	1	12	16	1.333	47.2	31.0	69.0

**Table A6 7 Length frequency data from WFD Transitional Waters Surveys, 2023.**

RBD	Transitional Water	No. Eels	5-9 cm	10-19 cm	20-29 cm	39-39 cm	40-49 cm	50-59 cm	60-69 cm	70-79 cm	>80 cm
ERBD	Avoca Estuary	4	0	0	2	2	0	0	0	0	0
NWRBD	Erne Estuary	3	0	0	0	0	0	1	1	0	1
WRBD	Camus Bay	2	0	0	0	1	1	0	0	0	0
WRBD	Kinvara Bay	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
WRBD	tSaile, Loch an (North of Camus Bay)	16	0	0	0	3	9	2	2	0	0