

BALLISODARE FISHING CLUB C.L.G.



BALLISODARE

FISHING CLUB

ANNUAL REPORT 2024

www.ballisodarefishingclub.ie

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BOARD MEMBERS AND STAFF



Gerry Merrick
Chairman



David Mehigan
Company Secretary



Jim Ryan
Treasurer



Dermot Golden
Board Member



Tim Lynch
Board Member



Roy Cooper
Board Member



Ricky Fabozzi
Board Member



John Murray
Board Member



Thomas O'Donovan
Board Member



Stuart Price
Fishery Manager

A WORD FROM THE CHAIR

The Board of Directors of BFC was amended by Resolution of the Members passed in December 2023 whereby six new Directors were appointed in place of six former Directors. Three other Directors continued in office subsequent to the EGM in December 2023 ; David O'Connor, Dermot Golden and Thomas O'Donovan. Sadly, due to ill health David O'Connor died in April 2024.

The Board has worked together in close cooperation with each other over the past year. Notwithstanding an extended agenda, I would have to pay tribute to the commitment displayed by all Board Members who have worked tirelessly. As will be demonstrated, a substantial amount of that agenda has been accomplished.

All aspects of the Fishery were carefully considered, and plans were formulated to achieve ambitious new goals for the Fishery to the benefit of the Members.

As we are all aware, in July 2024, The Ballisodare River suffered a major Fish kill of over 1,000 adult migrating Salmon as they made their way from Ballisodare Bay to the fresh water. This catastrophe resulted in the Fishery been closed from the 16th July to 22nd August (by Ministerial Order). Subsequently a catch and release regime was in place for the remainder of the season.

IFI produced a detailed report in September 2024 on this incident and comment is also provided later in this Report together with mitigation proposals for the future.

Due to the decline in migrating Salmon through the fish counter in recent years the allowable catch for 2024 was set at 218. I am indeed pleased to report that the allowable catch for 2025 has been revised upwards to 849 which reflects a positive trajectory for future years.

The spring fish returning in 2024 totalled 398 compared with 269 in 2023. BFC Board implemented a "Catch and Release" policy until 31 May 2024 and this policy will remain in place for 2025 to preserve the run of spring fish.

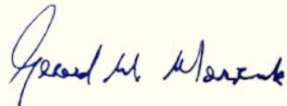
The Board has developed a program for the rejuvenation and reinstatement of spawning beds in the upper waters of the Owenbeg River. In this regard, significant work was carried out in 2024 with approximately 1.5 kilometres of rejuvenation and reinstatement on three sites. A continuation of this work will take place each year for the foreseeable future for the benefit of the Fishery. I would like to extend a welcome to all our members who feel inclined to do so to join in this effort for the Fishery.

A great deal of emphasis has been placed on improving working relationships with various Stake Holders. In particular, a strong relationship has been built with Inland Fisheries Ireland both at local, Senior Executive and Board level. Furthermore, good working relationships have been developed with Sligo Atlantic Technical University, Sligo County Council and LAWPRO, Sligo Bay Catchment Rivers Trust and Lough Arrow Trout Preservation.

The Clubs Website has been redeveloped in 2024 with a facility for "Tourist Anglers" to book fishing on the system. A members' forum is also included for members to post information and create discussion within the membership. Access to a new webcam is also provided for members.

Finally, I wish to thank all of the various organisations and individuals that have been of enormous support to the Board and the Club over the past 12 months. A special word of thanks to the Board and Staff of IFI, Staff of Sligo ATU, Sligo Co. Co, LAWPRO, Sligo Bay Catchment Rivers Trust and Hubert Henry of Astrum Consulting, all of whom have been of great support to our Club during 2024 and we look forward to an even closer collaboration into the future.

A special word of thanks to fellow Board members and Staff and individual club members, who have worked tirelessly to help in our achievements over the past year.


GERRY MERRICK
CHAIRMAN



1. FIVE YEAR PLAN

1.1 OUR MISSION AND VISION

Our ultimate goal is to enhance our fishery club for the betterment of members. To achieve this we aim to protect, develop and, where necessary, promote our fishery. We are committed to providing the optimum, environmental conditions which maximises salmon numbers in our river system. We will achieve our club's aims by implementing

a comprehensive strategy plan which will be regularly reviewed and updated by the elected club Board on behalf of our members.

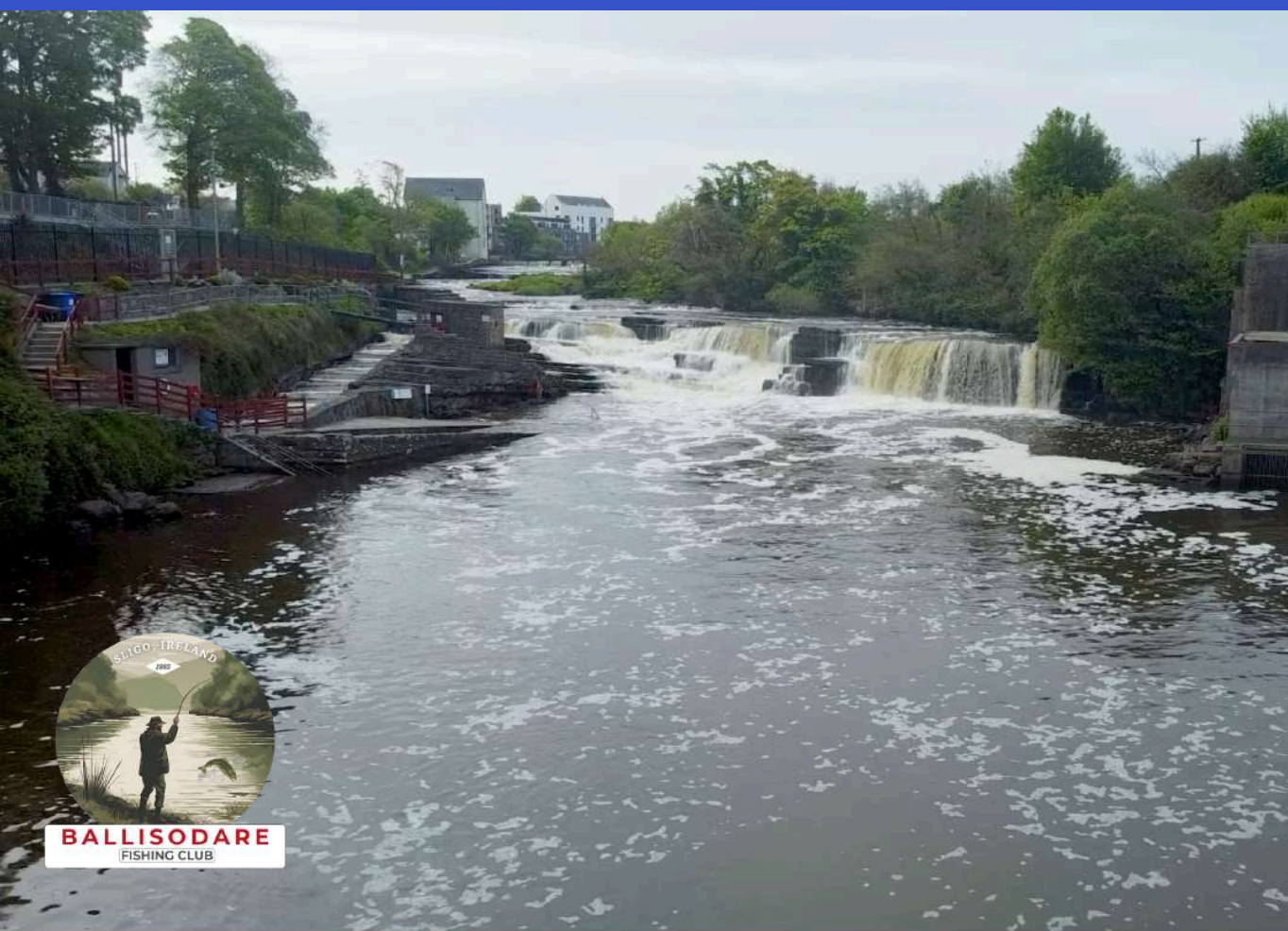
Our mission is to become the Number 1 premier salmon fishery in Ireland in terms of its salmon numbers and fishing opportunity for our members.



1.2 OUR GUIDING PRINCIPLES

We will:

- Restore our salmon fishery to its former glory for the betterment of our members and the Ballisodare area in general.
- Promote our wonderful, unique and diverse river ecosystem for us all.
- Be custodians of our clubs waters and its impressive heritage/history.
- Be the first fishing club in Ireland to be fully environmentally sustainable and externally accredited.
- Commit to provide tourism for our fishery system and the region.



1.2.1 PROJECTS TO ENABLE OUR PRINCIPLES

PROJECT 1

RESTORE IFI SALMON QUOTA FOR THE SYSTEM TO PREVIOUS NUMBERS

Overview

- Work closely with IFI local, regional and national sections in order to maintain/improve river conditions for migrating salmon.
- Work with IFI to redefine 'wetted area' for Ballisodare catchment which is used to calculate fish kill quotas.

PROJECT 2

RIVER SPAWNING BEDS REDEVELOPMENT AND REPAIR

Overview

River redevelopment and repair (damaged in the winter floods) to improve spawning grounds for migratory fish.

PROJECT 3

WATER QUALITY AND THE GENERAL ENVIRONMENTAL FACTORS IN THE BALLISODARE CATCHMENT

Overview

Liaise with Atlantic Technical University and Sligo Co. Co. to establish the water quality and the general environmental factors making the Ballisodare system one of the most successful migratory salmon productive systems in Europe. Monitor and maintain these conditions.

PROJECT 4

SUSTAINABILITY WALKWAY UPSTREAM FROM BALLISODARE TO COLLOONEY

Overview

Development of a sustainability walkway upstream from the bridge in Ballisodare to Collooney, open up pools 'upstream' for members and tourist rods thereby spreading fishing effort over a larger river area and improving fishing quality for our members.

We have engaged with Sligo Co. Co. on this project to access to funds used to promote such greenway developments.



PROJECT 5

IMPROVED WALKWAY BETWEEN TOWN BRIDGE AND FISHERY OFFICE

Overview

- Development of an improved walkway for tourism, fishery access to provide a conversation hub destination from the exiting office at the falls to the Dun Maeve pool bridge.

We have initiated discussions with Sligo Co. Co. on a possible collaborative project.

PROJECT 6

DEVELOP THE FIRST SUSTAINABLE FISHING CLUB IN IRELAND

Overview

- Preliminary environmental audit
- Aspects assessment and quantification
- Sustainability improvements programme
- Flora/fauna conservation
- Carbon footprint measurements/management
- Green Procurement
- Website upgrade to reflect our sustainability credentials
- Publication of our sustainability policy
- Accreditation of our programme (ISO 14001 for example).

We will explore funding support for this project from LEO, Leader and Sligo Co Co sources.

PROJECT 7

FACILITY/VISITOR CENTRE

Overview

- Public access and signage to the shop, museums and viewing areas.
- Coffee shop facing out on the river and the leaping salmon
- Heritage museum adjacent to the coffee shop to show the fishery history.
- Viewing gallery with seating so the public can see leaping salmon and view the impressive Ballisodare scenery.

We will explore funding support for this project from LEO, Leader and Failte Ireland sources.

PROJECT 8

GENERAL MANAGEMENT ISSUES

Overview

Oversee/Manage the general aspects of the fishery.

Issues such as:

- Legal matters
- Accounting matters
- Constitution refresh
- IT matters (including website overhaul plus drone deployment)
- Governance matters
- Members' matters

2. STATISTICS

YEARLY FIGURES THROUGH THE COUNTER

An examination of the adult salmon returning to the fish counter from 2001 to 2024 can usefully be considered in three phases.

2001 - 2006

In these years the numbers ranged from 1,524 to 2,926 with an average of 2,530. However, in 2003 BFC commissioned a study of the catchment in conjunction with the Central Fisheries Board, which was carried out by Dr Martin O’Grady and his team. As a result, major works were carried out on the spawning areas identified.

2007 - 2018

As a result of the works carried out between 2003 and 2010, there was a marked increase in the numbers of returning salmon for these years. The average numbers through the counter were approximately 10,000.

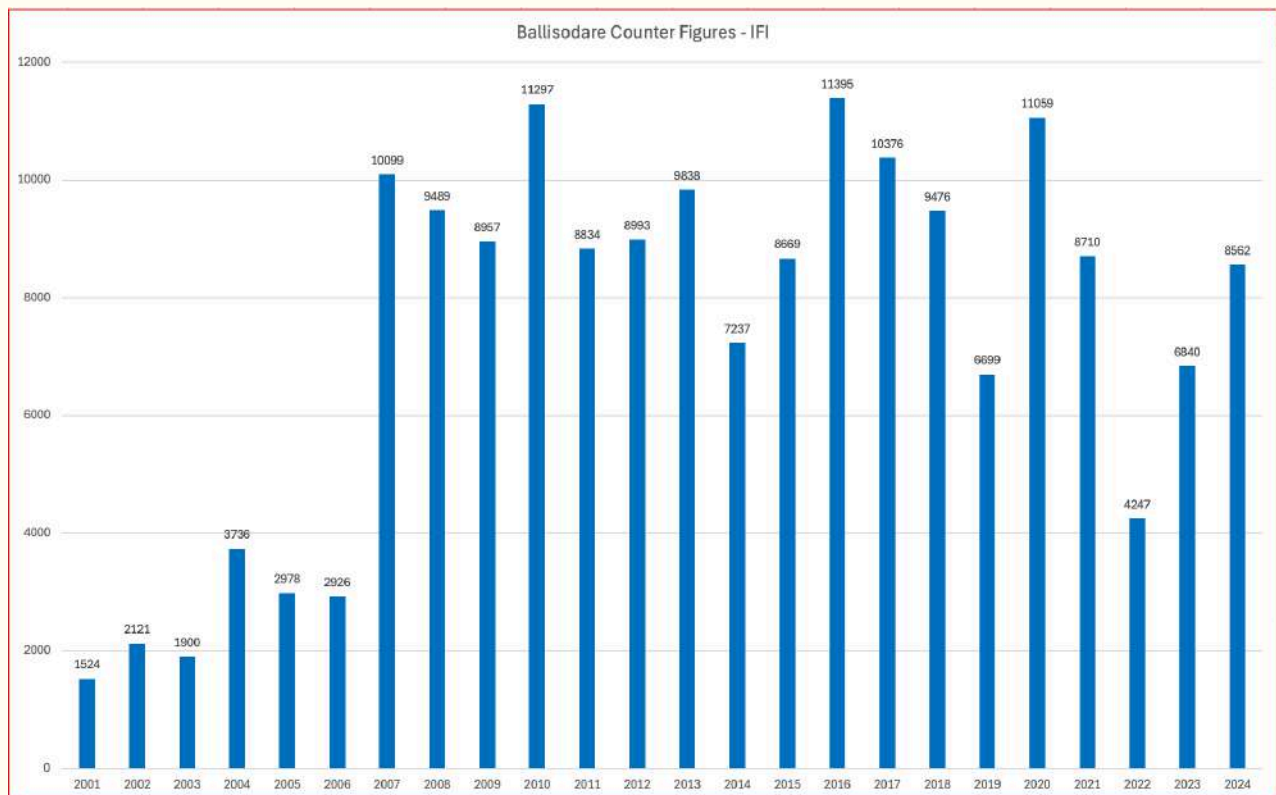
2019-2024

There was a marked decrease in 2019 to 6,700 and in 2022, there was a disturbingly low point of 4,247.

Since 2022 the numbers have recovered slowly such that in 2024 there was over 8,000 returned fish migrating up stream.

One of the contributing factors in 2023 and 2024 was the removal of the obstacle to the fish ladder at Ballisodare Falls.

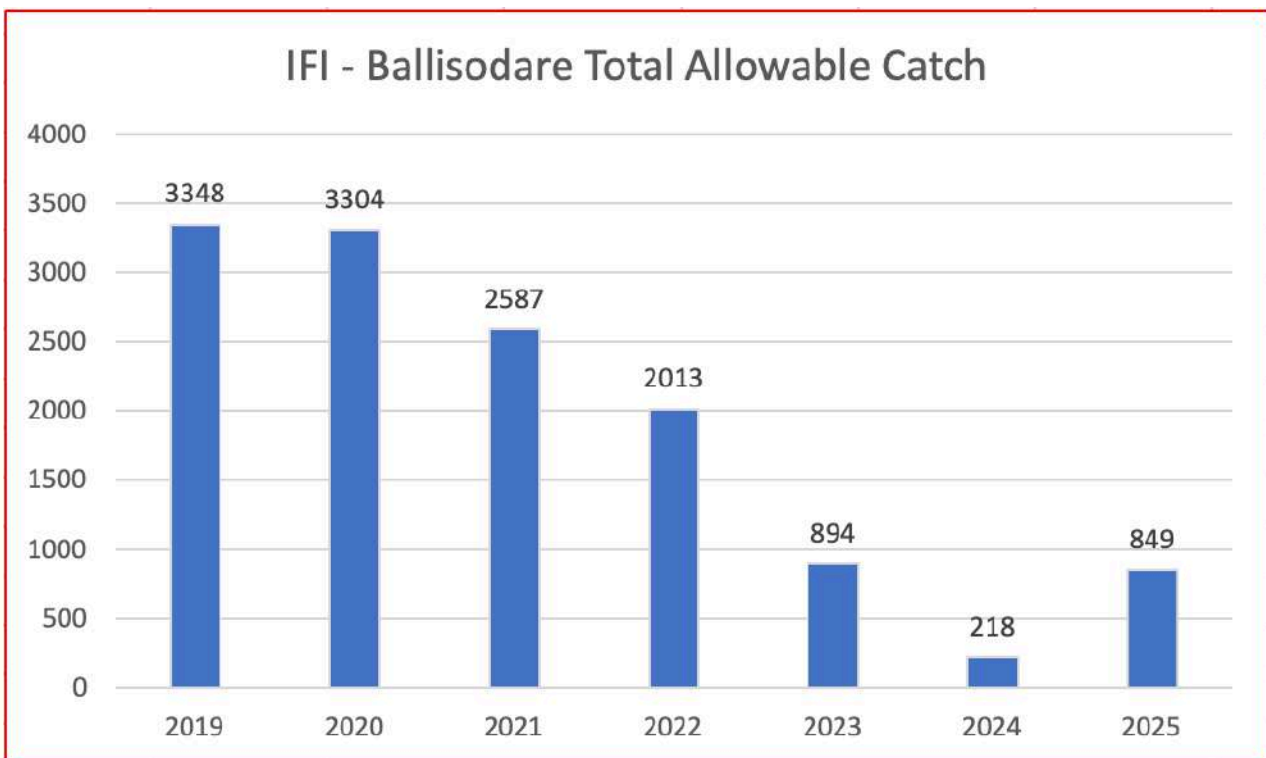
Given the significant works undertaken by the Board in 2024 in the spawning areas, the returning numbers should see much improvement from 2028 onwards.



TOTAL ALLOWABLE CATCH - IFI

The Total Allowable Catch (TAC) had been on a disturbing downward trajectory since 2019 culminating in an allowable catch of just 218 for 2024. Thankfully, this trend has now reversed and the TAC for 2025 is 849.

With the significant works carried out on spawning areas in 2024, the results in numbers returning should see rewards from 2028 onwards.



3. MANAGEMENT REPORT

3.1 FISH KILL

The Fishery experienced a major fish kill of migrating salmon in the three-week period up to 19th July 2024 when a total of 1,079 dead Salmon were recovered.

IFI were informed and the response at the time was to involve the Fish Health Unit of the Marine Institute who attended on the 11th of July 2024.

Six fish with signs of disease were killed and autopsies carried out with appropriate organ tissue taken back in preservative to their laboratory. Visual observations signalled damage to the gills and spleen as well as Saprolegnia. The Marine Institute scientist informed members of our Board that Saprolegnia fungus is a secondary symptom normally associated with stress and not the primary cause of mortalities.

Over the course of the day on site, the fish health scientist observed diseased fish in the sea pools, fish pass and the rapids for approx. 200 meters upstream of the Falls. Based on these observations, she suggested that the fish pass remain open and allow healthy fish into the safety of fresh water upstream as it was clear that fish were already diseased arriving in from the estuary and therefore the source of the problem was in the estuary.

Approximately 50% of diseased fish were strong enough to transcend the fish pass and into Joe's Hole and Harrisons. Very few (less than 30) were strong enough to transcend above Harrisons. All diseased fish eventually became mortalities.

IFI officers arrived in force on 15th July for a two-day period and took control of the fishery. IFI officers including senior executives, observed diseased fish including deaths of fish arriving in from the estuary and dying within minutes and without any signs of Saprolegnia.

On closer examination, gill damage was observed in all such cases. IFI environmentalists took water samples for further analysis from many locations above and below the Falls. Senior personnel from the Marine Institute and Dept. of Agriculture also visited the fishery during this two-day period.

IFI through a Ministerial order closed the catchment to all fishing on 16th July. This was reopened again on 22nd August but on a catch and release basis only until the end of season.

A number of BFC Board members were on site every day from 6th July until 17th July, and observed at first hand the behaviour of diseased fish and mortalities, as well as several thousand healthy salmon migrating upstream into the Mill Pool and onwards into the freshwater upstream of the town bridge in Ballisodare.



Based on these observations and the obvious signs of diseased fish arriving in from the estuary, the Board made a conscious decision to keep the fish pass open while water levels allowed. This policy was confirmed to be correct by the scientist from the Marine Institute and a senior executive from IFI agreed with this strategy while water levels allowed. Water levels eventually became critically low on 13th July and the Board of BFC closed the fish pass at that point. The BFC Board were also conscious that the conditions remained suitable for salmon in the fresh water.

The Board requested the services of a water quality scientist from Sligo ATU who placed an electronic sonde to analyse water quality every 15 minutes in the Mill pool for some days when water levels were at a critical level. The results from this proved water quality was well within limits even when water levels were critically low as outlined below.

Statistic	N	Mean	St. Dev.	Min	Max
Hourly rainfall (mm)	48	0.2	0.4	0.0	1.4
Temperature (deg.C)	190	17.4	0.5	16.3	18.4
Dissolved Oxygen (% saturation)	190	101.0	2.6	97.8	107.4
Conductivity (uS/cm)	190	547.9	52.0	429	587
pH	190	8.3	0.1	8.2	8.5
Ammonia (NH3) mg/l	190	0.01	0.004	0.0	0.01
Ammonium (NH4) mg/l	190	0.1	0.01	0.07	0.13

N = no. of readings/observations

Please see full Sligo ATU Water Quality Report in Appendix 1.



IFI Report

IFI Issued a report on the Fish Kill on 16th September 2024 which is available on IFI's website.

In summary, IFI identified a number of potential factors which may have acted cumulatively to cause the large number of fish mortalities

- There was a huge spike in the occurrence of Chaetoceros or Marine Phytoplankton observed at the Marine Institute's monitoring station in Drumcliff Bay in June 2024. Drumcliff Bay is the opposite side of Sligo Bay from Ballisodare.

Although not monitored or observed in Ballisodare Bay, this outbreak of Phytoplankton may have been a contributing factor in the fish kill. However, there were no other incidences of significant salmon mortalities in wider vicinity of MI phytoplankton site. Phytoplankton is difficult to control and expected to become more prevalent due to global warming and climate change. It is however worth noting that there were no reported fish kills in the Drumcliff River.

The Marine Institute has confirmed that they will monitor levels of Phytoplankton in Ballisodare from 2025 onwards on a weekly basis.

- Low water conditions - a factor difficult to control and expected to become more prevalent due to global warming and climate change
- Large numbers of fish returning to the river - normal occurrence and something that is essential in maintaining fish populations
- Abrasions on underside of salmon facilitating increased susceptibility to infection by Saprolegnia - intervention can help mitigate this factor - mitigation measures to be identified and implemented by BFC with support of IFI to reduce risk of mechanical damage and BFC and IFI's barrier team to assess where fish passage can be improved. BFC has already identified a probable solution in this respect.

Recurrent pattern of ELV breaches for total ammonia from Ballisodare Waste Water Treatment Plant (WWTP) since 2021 - intervention can help mitigate this factor - operation of wastewater treatment works to optimise ammonia removal and upgrade works where required can address this issue. This is particularly important given the amount of new houses that are currently being constructed in Ballisodare which will put added adverse pressure on the existing WWTP.

Many of the fish observed dying in the sea pool during the fish kill, had all of the hallmark symptoms of salmon being poisoned by ammonia and salmon are particularly vulnerable. The results of the Marine Institute's (MI) autopsies indicate severe spleen damage which again is an indication of excessive ammonia levels.

- IFI have written to Uisce Eireann and have also requested notification of any monthly breaches of ELVs at the WWTP. IFI also contacted the EPA and forwarded a copy of the report which is positive in terms of highlighting the ammonia issue.
- In their report, IFI have also acknowledged that their monitoring in mid-July was insufficient to identify primary causes of the substantial fish mortalities in the period end of June to mid-July when mortalities were taking place.

The Board of BFC has been focusing on those areas where intervention can help mitigate potential factors in fish mortalities.

IFI included observations on the ammonia levels from Uisce Eireann's (UE) Waste Water Treatment Plant (WWTP). The outflow from this WWTP is located a short distance below the sea pool. The BFC Board are aware of these breaches for some time as they are publicly available on the EPA website and indicate that prior to the fish kill, the ammonia levels were 450% above the licensed level when checked by EPA.





The IFI report has highlighted ammonia as a potential factor responsible for fish mortalities which has provided a platform for BFC to contact the relevant authorities. The BFC Board has made contact with the relevant authorities as follows:

- Uisce Eireann (UE) to immediately prioritise the process optimisation of treatment at the Ballisodare WWTP to ensure the adherence to the Emissions Limit Value (ELV) for ammonia.
- Contact UE and request that where process optimisation and changes to the treatment process are insufficient to deliver an effluent meeting the required ELV for ammonia, that upgrading of the Ballisodare WWTP be prioritised in the capital programme to meet the ELV requirement.
- Letter written to EPA requesting that measures are put in place to ensure compliance with the current 10mg/l ELV for ammonia from Ballisodare WWTP discharge as there have been persistent breaches of this ELV in 2021, 2022 and again in 2024 (with less than the required number of discharge samples taken in 2023).
- The Waste Water Discharge Authorisation - License (WWDA) is currently under review by EPA. Currently ammonia is measured and reported in its entirety. However, ammonia is made up of two constituents, NH₃ and NH₄. BFC has requested that EPA include an ELV for both NH₃ and NH₄ in the revised WWDA for Discharge License D0095-01 due to the particular susceptibility of salmonids and other fish species to unionised ammonia (NH₃) and the importance of the river for salmonids. NH₃ is the extremely poisonous aspect of ammonia, whereas NH₄ is harmless.
- EPA has been requested to carry out a thorough investigation of the causes of the discharge of sewage at SWO02 Ballisodare, identify the cause of the discharge and ensure that long term mitigation measures are put in place to minimise the reoccurrence of such a discharge.
- National Parks and Wildlife Service, salmon is a qualifying interest in the Unshin River Special Area of Conservation (SAC) and those salmon must pass through the Ballisodare river to reach the Unshin river. Consequently, high ammonia levels conflicts the SAC.

As outlined in the IFI report, BFC in conjunction with Sligo ATU, intends to install a sonde (suitable for salt water) on a platform adjacent to the outlet from the WWTP next season. Measurements will be taken every 15 minutes and transmitted to a central database. This will provide for alerts to designated mobile phones should there be breaches of parameters, thus providing a very early warning system of toxins in the estuary. Funding for this is being identified at present.

The BFC Board is convinced that a more proactive and scientific approach will be required in the monitoring of Ballisodare Bay and the management of the Ballisodare Fishery going forward.



As previously stated, the Board of BFC has written a robust letter to the EPA with the regard to breaches of the license in Ballisodare WWTP by Uisce Éireann. Since the fish kill, EPA has become very proactive in relation to this

plant, with particular emphasis on Ammonia breaches. The following is a copy of EPA's recent post to its website in relation to Ballisodare WWTP.

EPA Incident Reports on Ballisodare WWTP

17/7/24 EPA notified by sewage plant of a spillage.

Likely cause: SWO design not meeting DoEHLG Criteria (SWO = Storm Water Overflow, DoEHLG = Dept of Environment, Housing, Local Govt and Heritage). Report of Fish Kill in Ballisodare Bay. Impact on the Environment - Fish Kill. Number to be confirmed. Notified Parties - Inland Fisheries Ireland, Department of Agriculture, Food and the Marine.

17/7/24 Site Visit

This EPA site visit to the Ballysadare wastewater collection network was conducted in response to incident notifications regarding storm water overflow at the ball alley (SW002) in the village on the Ballysadare River and having regard to an ongoing investigation by Inland Fisheries Ireland (IFI) into salmon mortalities in the Ballysadare River system.

The EPA Inspector noted visual evidence of pollution immediately downstream of the storm water overflow (SW2) discharge point. The EPA has opened a compliance investigation (Case number. CI002161) in relation to the matter. Uisce Éireann is required to continue to update the EPA on the corrective and preventative measures taken and planned by way of response under CI002161.

The onus is on Uisce Éireann to ensure compliance with the conditions of the wastewater discharge licence at all times. Uisce Éireann is reminded that failure to comply with any condition attaching to a wastewater discharge licence is an offence. The EPA may consider further enforcement action in relation to this matter.

21/8/24 Instruction issued by the EPA (STATUS - CLOSED).

Uisce Éireann is required to take appropriate actions to prevent discharges of polluting matter from SW2 as soon as practicably possible. Please provide an update on the following actions first raised in incident record INCI028143 and the Site Visit SV30285 by 31/08/2024:

- *Clean up operation at the storm water overflow (SW002) discharge point as appropriate*
- *Provision of safe and permanent access to the to the storm water overflow (SW2) discharge point, and periodic inspection of same*
- *Installation of monitoring equipment to monitor the occurrence frequency and volume of overflow events at SW2*
- *Identification and implementation of measures to ensure compliance with the DoE's SWO performance criteria*

Uisce Éireann is to continue to update the incident record INCI028143 with details on actions taken and planned to resolve this issue.

27/8/24 EPA Site Visit (Incident follow up).

Discharges from the Ballysadare wastewater works have been identified as a significant pressure putting the Ballysadare Estuary water body at risk of not achieving its environmental objectives as required under the Water Framework Directive. The EPA has an open Compliance Investigation (ref: CI002161) in relation to discharges to the Ballysadare wastewater works

In addition to the above, the EPA site visit had regard to an ongoing investigation by Inland Fisheries Ireland (IFI) into salmon mortalities in the Ballysadare River system in July, as referred to the EPA report of the site visit to the Ballysadare wastewater collection network on 17/07/2024 (ref. SV30285).

The EPA Inspector noted that remedial works had been carried since the visit on 17/07/2024, regarding to the storm water overflow at the ball alley (SW002) to the Ballysadare River.

Regarding effluent quality and management of the wastewater treatment plant, the EPA notes that while sampling and analysis showed that the effluent complied with the emission limit values on the day of inspection evidence of inadequate monitoring and control of the treatment plant were noted. There were significant breaches of the ammonia emission limit in April and May this year. This matter requires action by Uisce Éireann in order to ensure consistent compliance with the emission limit values particularly the ammonia limit.

1/10/24 Instruction issued by the EPA (STATUS - OPEN).

Having regard to site visit report reference SV30409 and to Condition 4.10 of the wastewater discharge licence, Uisce Éireann is required to:

- Identify and implement operational measures at the WWTP including but not limited to increased effluent quality testing, increased monitoring of the MLSS level and adequate control of desludging practices so as to ensure consistent compliance with the emission limit values particularly the ammonia limit; and*
- Until agreed otherwise, increase the frequency of monitoring of the primary wastewater discharge in 2025 to fortnightly for those parameters identified in Schedule B.1 of the licence as requiring monitoring 12 times per year.*



3.2 SPAWNING REJUVENATION AND REINSTATEMENT

Except for some 600 sq metres of rejuvenation carried out in 2023 on the Ranaghan Beg tributary of the Owenmore River, the spawning areas of the catchment have received little attention for many years.

The works carried out in 2003 on the Owenbeg River have clearly shown significant increase in the number of salmon in 2007 and subsequent years.

A slow decline in numbers is evidenced by the statistics already outlined in Part 1 – Fish Numbers and Statistics. The low point was 2022 when only 4,247 returning salmon were recorded through the counter.

The obstacle that had been installed at the bottom of the fish pass for several years, restricting the amount of fish that could easily transcend the fish pass, was removed in 2023, resulting in the free passage of fish upstream. Interestingly, the numbers of fish through the counter in 2023 increased to 6,840 and the numbers of fish killed below the Falls reduced significantly as a result of fish not being trapped below the falls.

The current Board has a policy of keeping the fish pass open to allow for the free passage of salmon whenever water levels allow.

Great work was carried out on the spawning areas between 2003 and 2010 which paid huge dividends in terms of an enormous increase in numbers of fish returning when other rivers in the country were generally experiencing a steep decline in salmon numbers.

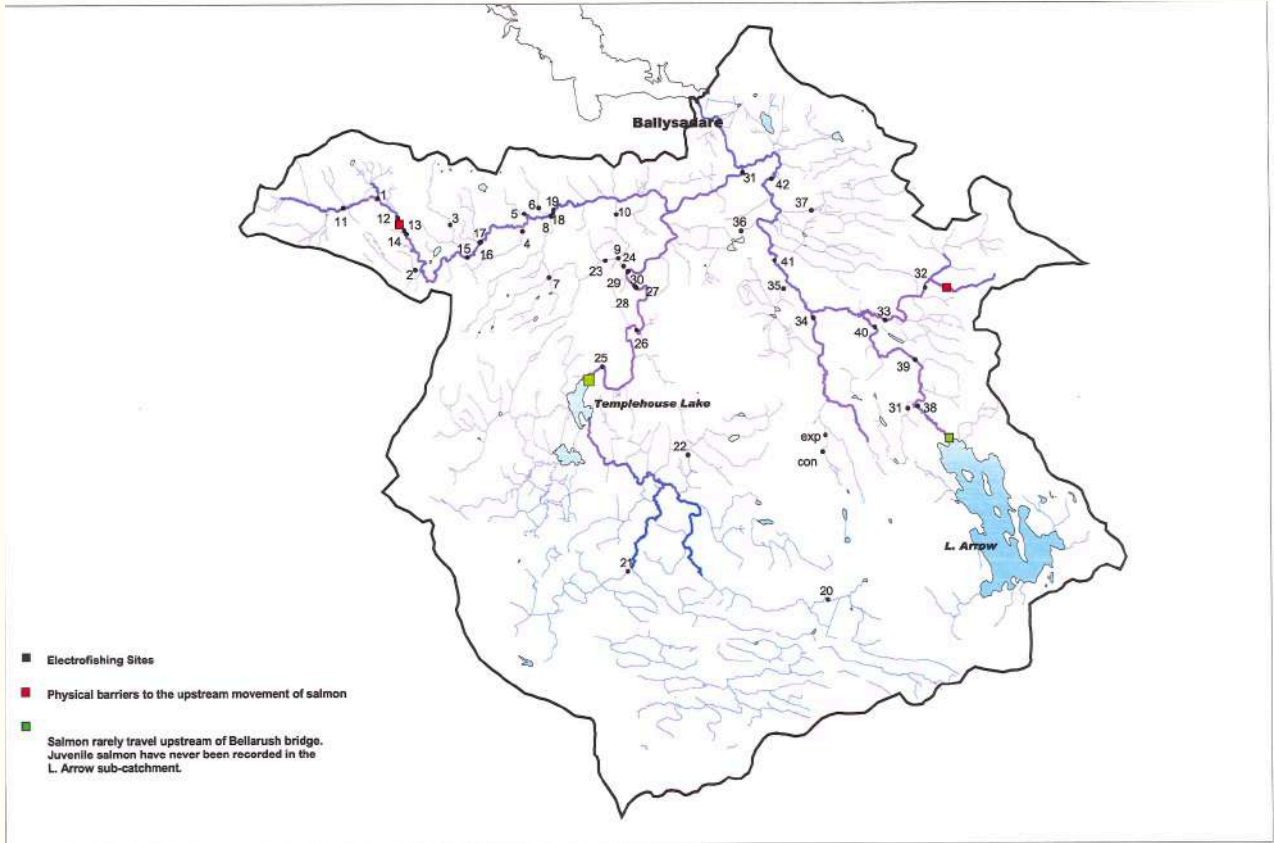
The Board carefully examined The Central Fisheries Board study and report of 2003 by Dr. Martin O’Grady.

Based on this evaluation, it was felt that concentration on carrying out reinstatement works on the spawning areas in the Owenbeg River should be the focus for 2024. The Owenbeg River is the area within the catchment that produced by far the best returns when salmon were introduced to the catchment in the mid 1800’s by the Cooper family. Reinstatement works carried out between 2003 and 2011 that concentrated on the Owenbeg river and its tributaries also proved very successful. The river area upstream of Rockfield / Coolaney towards the Ox mountains is sparsely populated and not subject to intensive farming or waste water treatment plants, and consequently water quality is excellent and the threat from pollution is very low. Ph levels were tested and readings averaged 7.0 with little fluctuation which is also perfect for salmon habitat.

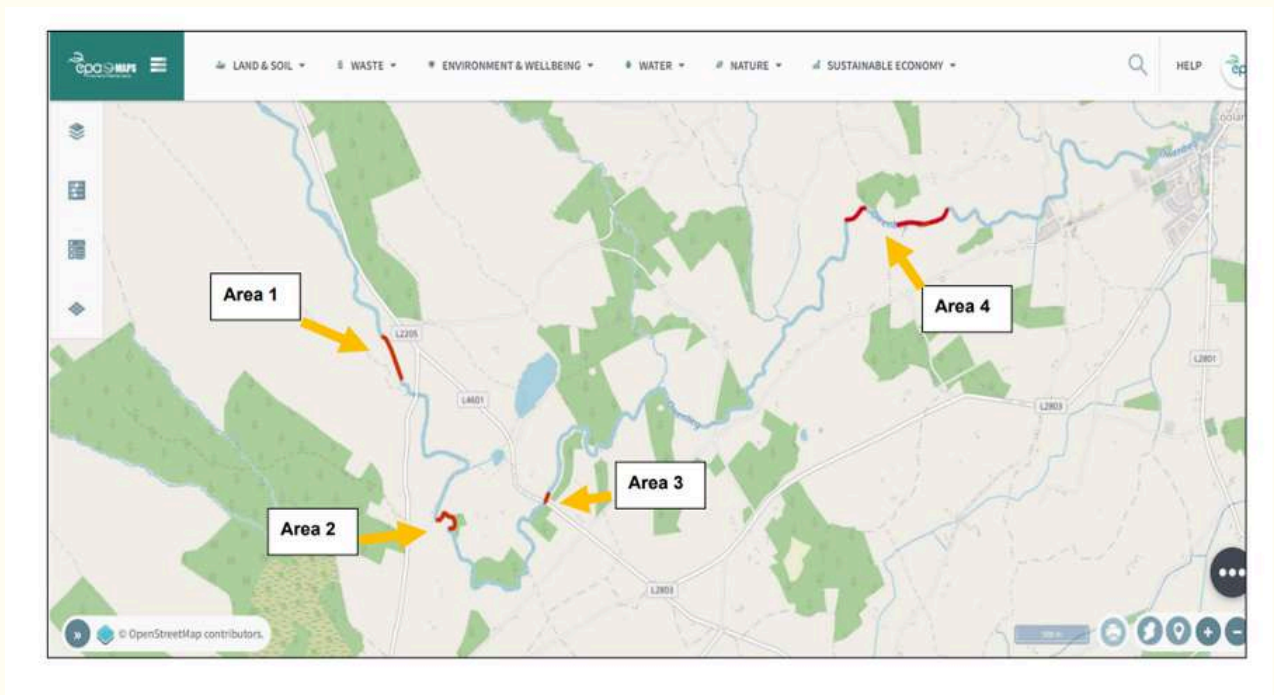
During June and July, the upper reaches of the Owenbeg River were surveyed by members engaging in wading down the system from Ladies Brae Picnic Area to the bridge at Rockfield. Four areas were identified as having great spawning potential but required a significant amount of gravel reinstatement or raking as gravel had either been displaced or was severely compacted over the years. The appropriate environmental assessment was carried out by Woodrow on these areas and submitted to IFI for Section 59 approval.



Ballisodare River Catchment Map



Proposed Working areas (Areas 1-4) in Red Along The Owenbeg River



Works were carried out during the last week of September 2024 as planned. Area 1 as shown on the map required the installation of approximately 300 tons of gravel and 40 tons of rock armour boulders, used to retain the gravel and prevent the washing downstream of the newly installed gravel.

Gravel consisted of 20-50mm Drainage Stone as specified by IFI.

Areas three and four didn't require the installation of new gravel but did require the raking / loosening of existing compacted gravel. Obstacles such as fallen trees in the river were removed during this process.

Approximately 1,100 linear metres of river by approximately 10 metres in width (11,000 square metres) were reinstated.

Much thanks must be attributed to IFI staff who provided the approval for these works to be carried out, to club members who helped with the surveying, to members and staff who helped with the actual work of reinstatement etc.

The Board has a policy of carrying out such reinstatement / rejuvenation of spawning beds throughout the catchment each year into the future as part of the Board's plan going forward.

Cost of these works (incl. VAT)

Environmental Assessment

€ 4,000

Works including gravel, rock armour and hire of equipment

€ 10,500

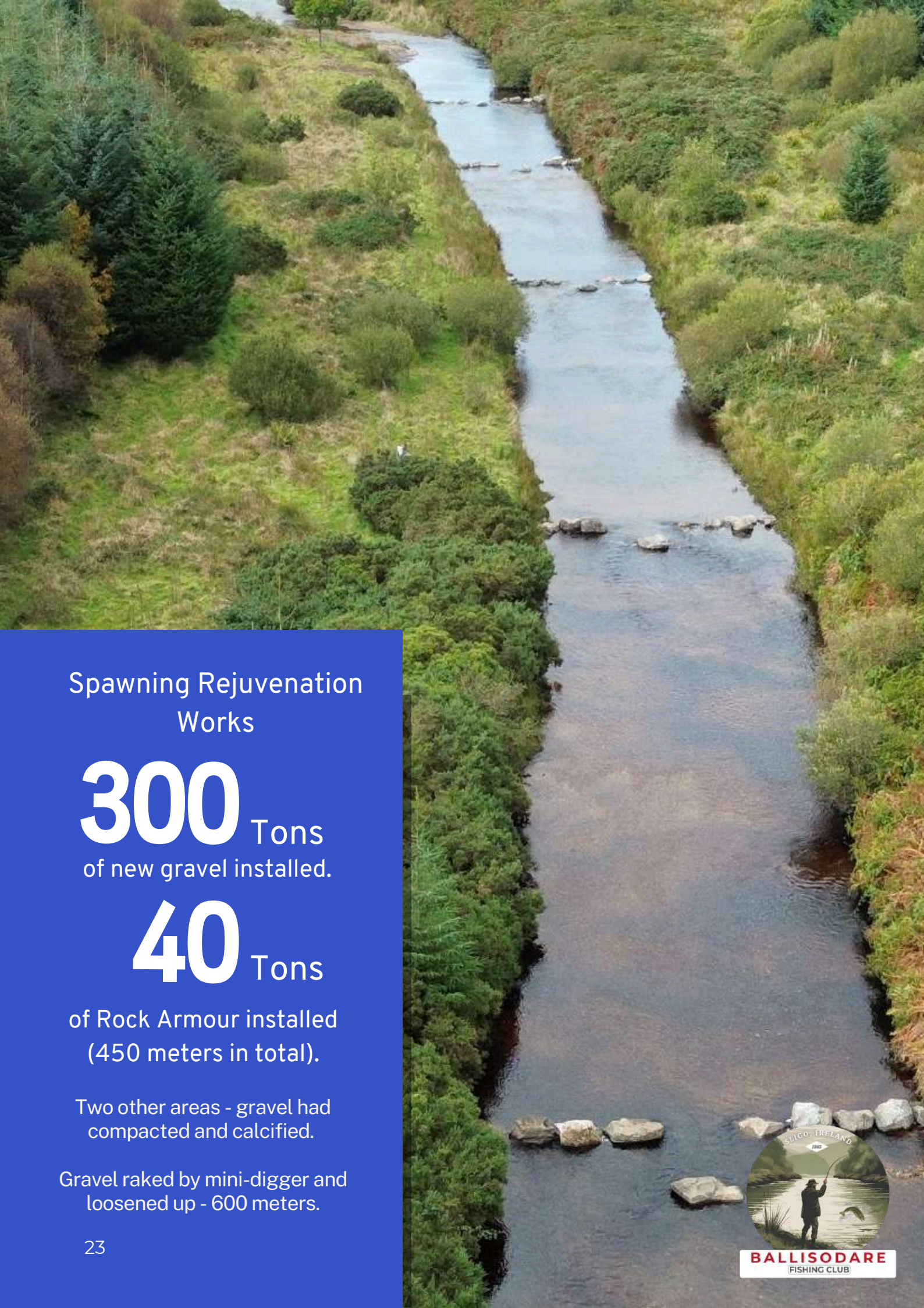
Total

€ 14,500



2024 SPAWNING WORK





Spawning Rejuvenation Works

300 Tons
of new gravel installed.

40 Tons
of Rock Armour installed
(450 meters in total).

Two other areas - gravel had compacted and calcified.

Gravel raked by mini-digger and loosened up - 600 meters.



BALLISODARE
FISHING CLUB

3.3 WATER QUALITY

Good water quality is essential for the health of fish species and salmon in particular. The EPA monitors water quality in the Ballisodare River catchment. In summary, water quality in the Unshin is good, the Owenmore is average and the Owenbeg is good. Salmon don't enter the Owenmore system upstream of Templehouse Lake. Farming in the catchment area generally isn't very intensive when compared with other parts of the country and although there is room for improvement in farming practises, agriculture is unlikely to be a major threat.

There are seven waste water treatment plants in the catchment area and breaches have been reported in three of these in recent years with Ballisodare WWTP being of most concern as outlined earlier in this report.

The Ballisodare Fishing Club Board has engaged and become a member of Sligo Bay Catchment Rivers Trust. A close relationship has also been established with Sligo ATU and their water quality specialists in particular. Great support and collaboration is being extended to BFC from Sligo ATU and Sligo Bay Catchment Rivers Trust.

Ballisodare Fishing Club is also a member of LAWPRO and a close working relationship with LAWPRO has also been established.

During 2024, Sligo ATU installed two water quality sondes belonging to the College in the Unshin at Markree, and in the Owenmore near Ballinacarrow. These sondes comprise of multiple electronic probes that monitor various aspects of water quality especially important for fish health and capture data and report every 15 minutes. One of these was relocated to monitor water quality in the Mill Pool in Ballisodare during the fish kill of July 2024.

The Board of Ballisodare Fishing Club has decided that it should install its own water quality sondes in the system, with one suitable for salt water environment, located adjacent to the outlet from the WWTP in Ballisodare. Ideally three more will be installed in the Unshin, Owenmore and Owenbeg rivers.

The cost associated with these four sondes is just under €50k and an application for grant funding has been recently submitted to LAWPRO. These sondes will send data every 15 minutes electronically to a central database and any breaches in quality parameters will be alarm reported immediately to designated mobile phone devices.

Sligo ATU is very much involved in this project and is providing the technical support required.

Water Quality Sondes

ATU
Ollscoil Teicneolaíochta an Atlántaigh
Atlantic Technological University
Working closely with Sligo Atlantic Technical University

Two sondes installed at present - Unshin and Owenmore

Every **15** minutes
Sondes provides data on Dissolved Oxygen, ph, Amonnia (NH3 & NH4), etc.

In **2025**
another sonde will be placed on a platform in the estuary (Required as a result of the fish kill)



3.4 OTHER MANAGEMENT ATTENTION

3.4.1 FISHING BELOW FALLS

The previous method of issuing tickets to members for fishing below the Falls was disbanded. This decision was made on the basis that, as a result of the restriction being removed at the bottom of the fish pass, migrating salmon are not held up in the sea pool as previously and therefore a smaller amount of fish being available for anglers. Members can book fishing slots on the day in that area.



3.4.2 INVASIVE WEED SPECIES

Ballisodare Fishing Club is working with the environmental section of Sligo Co. Co. to identify and engage in a removal programme to remove these invasive species. Hogweed is a particular problem in the catchment particularly on the Unshin and Ballisodare river.



Giant Hogweed.

3.4.3 COMPUTER AND IT SYSTEMS

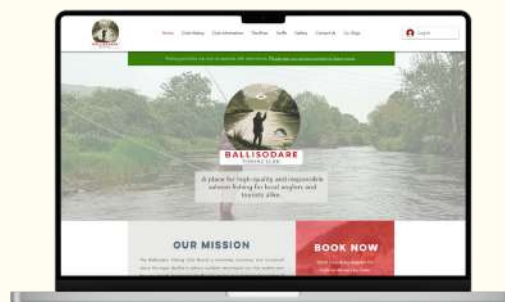
The computer system was found to be old and unsupported and at a high risk of data loss. A new Microsoft Azure cloud based system was installed with a support contract to ensure it is maintained properly in future.



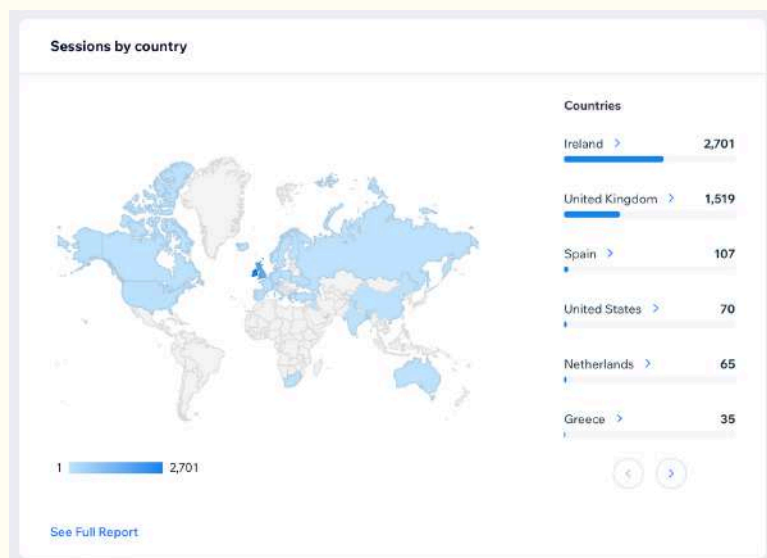
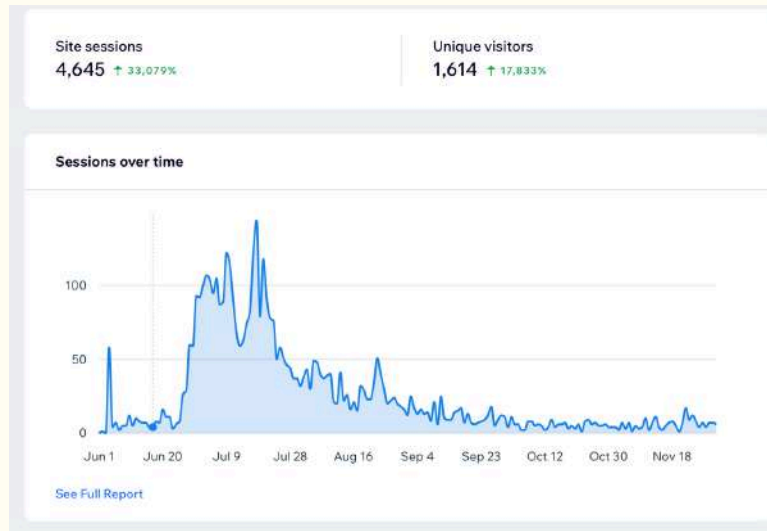
3.4.4 NEW WEBSITE, SOCIAL MEDIA

A new website was designed and developed during 2024. This encompasses a facility for online booking of fishing by non-members. A Members Forum is also available on the new website.

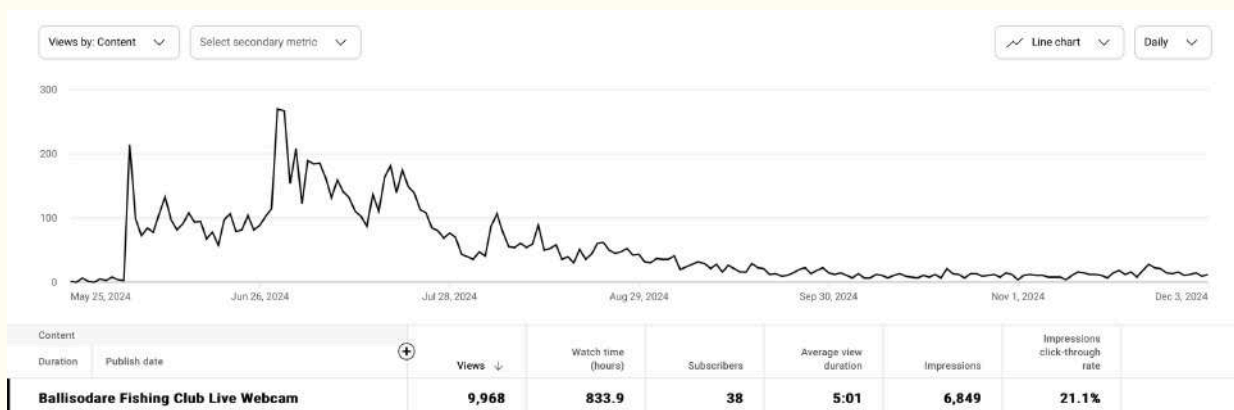
In 2025, emphasis will be placed on the development of social media platforms for the promotion of the Fishery.



Website Traffic



Visitor Count - Video at Harrisons



3.4.5 SECURITY CAMERAS

Additional security cameras were installed at Harrisons including a web-based camera that continuously provides a live feed to the new website.

A special thanks to Rocky Grange (Turbine Company) for allowing BFC to locate these cameras on their property and also for the use of their electricity.



3.4.6 DRONE CAMERA

Ballisodare Fishing Club purchased a drone which is now used by staff for surveillance, protection and surveying purposes on the catchment.

This Drone has the potential to create enormous staff efficiencies when surveying the catchment.



3.4.7 COLLOONEY FISH COUNTER - PROPOSED

Ballisodare Fishing Club have applied to IFI for a grant and associated installation of another fish counter, to be installed at the fish pass in Collooney. If approved, this will provide BFC with very useful data in relation to the numbers of salmon that are migrating through to the Owenmore and subsequently

the Owenbeg system and by default the numbers migrating into the Unshin system. If successful, this data will be very useful to BFC for analysis purposes and in identifying results of spawning reinstatement etc., in addition to other valuable information.



3.4.8 BALLISODARE FISHERY TITLE DEEDS

COLLOONEY BALLISODARE AND DISTRICT ANGLERS ASSOCIATION LIMITED

Collooney Ballisodare is a wholly owned subsidiary of Ballisodare Fishing Club CLG and holds the freehold title to the Ballisodare Fishery and its significant catchment area. This company acquired title to the fishery in 1995 from the Cooper family.

The Cooper Act 1837 passed at Westminster provided Josuha Cooper with rights for the whole catchment area for migratory fish.

As a result of the Cooper Act 1837, the fish pass ladders were constructed which created a unique and successful salmon fishery.

The Board has conducted a detailed examination of the Title documents to the Fishery, which yielded a deeper understanding of the historical significance of the Fishery and an appreciation of the scope of the catchment area. This examination included careful examination of all Title documents back to the original purchase by the Coopers in 1806 of all the fishing rights for all species downstream from the junction of the Owenmore and the Unshin Rivers to the Ballisodare estuary.



4. RIVER HISTORY

Salmon are not native to the Ballisodare fishery as seven metre falls exists as the river enters the estuary and therefore salmon could not naturally migrate upstream past the falls as these were a natural barrier. The Cooper family from Markree Castle explored the possibilities of

introducing salmon to the catchment and very successfully, succeeded in building fish pass ladders, thus allowing salmon to migrate successfully upstream without restriction. The history and timelines are outlined as follows;

- **1806** Ballisodare are including Fishing Rights acquired by the Cooper of Markree Castle from Crofton Family.
- **1837** Cooper Act. Westminster Parliament which provided Joshua Cooper with the rights for the whole catchment area for migratory fish. 1806 transaction referenced. Ballisodare Fishery somewhat unique as no other clubs / ownership involved.
- **1842** Fisheries Act Ireland rescinded all previous Acts but referred to the 1837 Cooper Act. All subsequent Fisheries Acts refer back to the 1842 Act.
- **1851** Christmas Eve - Three pairs of salmon taken from the nearby River Moy plus some eggs, and deposited in the Owenbeg River. Salmon had been previously placed in the Unshin River but returns were disheartening.
- **1852** Ladders open in Ballisodare and Collooney completed - first of their type in Europe.
- **1856** 188 salmon caught personally by Joshua Cooper to his own rod and fly.
- **1859 to 1864** 5,000 to 10,000 netted annually in the bay for export to the London market.
1860's Hatchery introduced in the bay. Eggs also introduced from various rivers, Lough Gill, Tay in Scotland and rivers in Germany but not hugely successful.
- **1995** Ballisodare Fishing Club CLG formed and fishing rights purchased from the Cooper Family.
- **2003** Only 1900 salmon through the fish counter. Dr Martin O'Grady study and report.
- **2004 to 2006** Significant work carried out on spawning areas based on recommendations in O'Grady Report.
- **2007 to 2018** Average 10,000 going through the counter.
- **2014 to 2022** Spawning areas neglected and numbers through the counter reduced to 4,247 in 2022.
- **2024** 8,000+



5. FINANCIAL REPORT

In accordance with established practice the Annual Accounts were prepared by the auditors, Gilroy Gannon, and presented to the BFC Board for review.

In that review the Board made enquiries in relation to River Improvements with a written down value on 31st December 2022 of €230,832. This referred to works carried out in the years 2003 to 2009 amounting to €355,131. This expenditure was held as a Capital Asset and depreciated by €17,757 but only from the year 2016, which means that this amount would not be fully depreciated until 2036.

Given that the work was carried out over 15 years ago, the Board considered that a pragmatic approach would be write down this asset (which carries no intrinsic value) over the three years commencing in 2023. Combined with amortisation of Capital Grants received for the River Improvements will result in an increased Depreciation charge of €30,000 per annum for three years. This Depreciation charge has no impact on the Cash Resources of the Company.

Ballisodare Fishing Club Company Limited by Guarantee

Income and Expenditure Account Financial year ended 31st December 2023

	Note	2023 €	2022 €
Income	4	108,670	109,503
Expenses		(132,709)	(113,002)
(Deficit) on operating activities		<u>(24,039)</u>	<u>(3,499)</u>
Other Income		-	(10,494)
(Deficit) before depreciation		<u>(24,039)</u>	<u>(13,993)</u>
Depreciation (net)		(46,225)	(16,846)
(Deficit) before taxation	5	<u>(70,264)</u>	<u>(30,839)</u>
Taxation	7	-	1,962
(Deficit) for the financial year		<u><u>(70,264)</u></u>	<u><u>(28,877)</u></u>



Balance Sheet					
As at 31st December 2023					
	Note	2023		2022	
		€	€	€	€
Fixed assets					
Tangible assets	6	280,489		368,619	
Financial assets	7	397,409		397,409	
			677,898		766,028
Current assets					
Stocks		-		443	
Debtors	8	13,191		19,666	
Cash at bank		115,124		138,964	
			128,315		159,073
Creditors: due within one year	9	(57,061)		(62,200)	
Net current assets			71,254		96,873
Total assets less current liabilities			749,152		862,901
Deferred income	10		(110,689)		(154,174)
Net assets			638,463		708,727
Capital and reserves					
Membership contributions			403,777		403,777
Membership capital contribution			135,150		135,150
Income and expenditure account	5		99,536		169,800
Members equity			638,463		708,727

The above figures must be considered as draft until approved by the Board's Annual General Meeting.

6. APPENDIX 1

6.1 Ballisodare Fishery Water Quality Monitoring

The sensor was deployed upstream of the Fishery in July 2024 to monitor dissolved oxygen levels in the Ballisodare river following a large number of fish mortalities at the river mouth, with deployment details in Table 1.

Sensor	Aquaread AP-2000
Location deployed	Above fish pass in Mill Pool,
Monitoring interval	Ballisodare river 15 minutes
Date & time deployed	17/07/2024 13:00
Date and time removed	19/07/2024 12:19
Total deployment time	47 h 40 mins
Deployed by	Lisa Cronin, ATU

Table 1: Deployment details for AP-2000 sensor in Ballisodare river



Figure 1: Deployment location of AP2000 water quality sonde in Mill Pool, Ballisodare River.

Antecedent weather conditions were dry and warm with no rainfall for two days prior to the sensor deployment. The rainfall data from Met Eireann at Markree Castle weather station is plotted with the water quality data (<https://www.met.ie/climate/available-data/daily-data>).

Data gathered by the AP-2000 sensor show suitable water quality conditions for salmonids over the deployment period with summary statistics in Table 2.

Statistic	N	Mean	St. Dev.	Min	Max
Hourly rainfall (mm)	48	0.2	0.4	0.0	1.4
Temperature (deg.C)	190	17.4	0.5	16.3	18.4
Dissolved Oxygen (% saturation)	190	101.0	2.6	97.8	107.4
Conductivity (uS/cm)	190	547.9	52.0	429	587
pH	190	8.3	0.1	8.2	8.5
Ammonia (NH3) mg/l	190	0.01	0.004	0.0	0.01
Ammonium (NH4) mg/l	190	0.1	0.01	0.07	0.13

N = no. of readings/observations

Rainfall

Over the deployment period, rainfall commenced in the late afternoon on 17/07/2024 peaking at an hourly rainfall of 1.4mm at 21:00 with rainfall ceasing by 11:00 on 18/07/2024.

Dissolved Oxygen

The amount of dissolved oxygen present in water is dependent on temperature with warmer waters holding less dissolved oxygen than colder waters. The dissolved oxygen levels over the deployment period remained greater than the 80% saturation preferred by salmonids although levels as low as 70% can be tolerated without adverse effects.

Dissolved oxygen values over 100% air saturation can be a common occurrence and were measured over the deployment period. This can be caused by photosynthetically active species (plants, algae, etc.) adding additional dissolved oxygen to the water and also due to agitation over the rocky substrate in fast flows.

Temperature

Water temperature ranged between 16.3 and 18.4 oC, well below the upper limit of 21.5oC for salmonids outside of the reproduction season.

pH

pH varied little over the deployment period with values ranging between 8.2 and 8.5, which is within the pH range for salmonids of ≥pH 6 and ≤pH 9ii.

Conductivity

Conductivity in Irish freshwaters varies from 10 μ S/cm to 1000mS/cm and in unpolluted waters reflects the type of soils and bedrock over which the water flows, dissolving ions which is measured as conductivity iii. Conductivity values were in the mid range, ranging from 429 to 587 μ S/cm, with higher values during the dry weather when initially deployed, and decreasing then due to dilution after the rainfall.

Ammonia

Ammonia occurs in freshwater in two forms, n-ionised and ionised. Un-ionised ammonia (NH₃) is the most toxic to fish with more NH₃ forming at higher pH. Ammonia affects the gills of fish by destroying the mucous layer but sub lethal concentrations of ammonia can also impair immune system leading to increased susceptibility to disease.

Concentrations of ammonia (NH₃) were below the recommended level of ≤ 0.02 mg/litre NH₃ for salmonids and ammonium (NH₄) was also below the ammonium limit of ≤ 1 mg/litre NH₄.



—
Lisa Cronin

25/07/2024

¹ (Kelly *et al.*2007)

¹ (Irish Statute Book (eISB),1988)

¹ (EPA Catchments Unit, 2016)

6. APPENDIX 2

6.2 BFC Share Trading Protocol

BFC SHARE TRADING PROTOCOL

BUYERS:

- A register will be kept of any buyers that are interested in buying a share.
- The register of members interested in selling will be presented at every Board meeting.
- Any individual that approaches the club looking to buy a share will be processed at the next Board meeting for approval.
- They shall sign an application form in order to obtain the list of sellers and their contact details. The form shall include a confidentiality clause.
- The potential buyer will be furnished with the Sellers Register and their contact details. They will be at liberty to contact the sellers and negotiate a deal.
- Their interest will be kept “live” unless they express otherwise. If they wish to withdraw their interest they will be removed from the register and the information destroyed.

SELLERS:

- A register will be kept of any members that are interested in selling a share.
 - The register of members interested in selling will be presented at every Board meeting.
 - Sellers will sign a waiver allowing the club to disclose their interest and details to potential buyers. The form shall include a confidentiality clause.
 - Sellers will be provided with a list of potential buyers and their contact details. They will be at liberty to contact the buyers and negotiate a deal.
 - Their interest to sell will be kept “live” until a deal is done, or they withdraw their interest to sell.
-
- Upon completion of a transaction the share transfer process will be executed by the Board in a timely fashion.
 - Members will be reminded annually of this protocol when the accounts are issued.

6. APPENDIX 2

BFC SHARE ACQUISITION FORM

Ballisodare Fishing Club Membership Application Form

Name of Applicant: _____

Address of Applicant: _____

Contact Number: _____

Email Address: _____

Dear Club Secretary,

I am interested in purchasing a share in Ballisodare Fishing Club (BFC). I am happy for my details above to be made available to current members who are interested in selling a member's share so that they can contact me directly.

I understand that I will be furnished with a list of members interested in selling a share in BFC along with their contact details and I agree to keep all this information confidential.

If I am no longer interested in purchasing a share, I will inform the Secretary of BFC, and my details can be removed from the current list of interested buyers. I will destroy any information I have received from BFC regarding members interested in selling a share in line with GDPR rules.

I

Yours sincerely,

_____ Date: / /

Forms can be scanned and emailed to info@ballisodarefishingclub.ie or posted to:

Company Secretary
Ballisodare Fishing Club
The Falls
Ballisodare
Co. Sligo F91 YV90



6. APPENDIX 2

BFC SHARE SALE FORM

Ballisodare Fishing Club Membership Form – Share Sale

Name of Member: _____

Membership Number: _____

Address of Member: _____

Contact Number: _____

Email Address: _____

Dear Club Secretary,

I am interested in selling my share in Ballisodare Fishing Club (BFC). I am happy for my details above to be made available to current applicants who are interested in buying a member's share so that they can contact me directly.

I also understand that I will be furnished with a list of applicants interested in buying a share in BFC along with their contact details and I agree to keep all this information confidential.

Upon a successful negotiation of a share sale, I will inform the Company Secretary of same, along with all the necessary information to affect the transfer. I accept that the Club bears no responsibility in relation to the transfer of consideration for the share sale.

If I am no longer interested in selling my share, I will inform the Secretary of BFC and my details can be removed from the current list of interested sellers. I will destroy any information I have received from BFC regarding potential applicants in line with GDPR rules.

Yours sincerely,

_____ Date: / /

Forms can be scanned and emailed to info@ballisodarefishingclub.ie or posted to:

Company Secretary,
Ballisodare Fishing Club
The Falls
Ballisodare
Co. Sligo F91 YV90





BALLISODARE

FISHING CLUB

BALLISODARE FISHING CLUB C.L.G.

www.ballisodarefishingclub.ie