

Inland Fisheries Ireland Summary Fish Counter Report

2023

IFI/2024/1-4698



Iascach Iníre Éireann
Inland Fisheries Ireland

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Foreword

The National Fish Counter Programme, created by Inland Fisheries Ireland, has brought all the organisation's counters and counter data together. The programme is managed by specialists in the Operations section and are an essential tool for management of our salmon and sea trout resources. This report details various aspects of the fish counter programme, including their types, locations, operational effectiveness, and the accurate reporting of fish migrations into each catchment monitored.

In 2023, IFI sought approval for a capital upgrade programme for fish counter sites including counter upgrades and improved remote telemetry applications to reduce the resource requirements associated with manual downloading. This programme was approved by the IFI Board and will begin in 2024.

Throughout the course of the year, the nationwide network of counters performed effectively, and 2023 proved to be a highly successful year for the programme. Recording equipment and high-definition technologies have been successfully added to 95% of the counter sites. The designated sites for structural modifications have progressed into the planning and environmental assessment phases and will be delivered over the coming years.

IFI ensures that all information collected by its counter programme is accurate and reported on so that stakeholders are provided with all the information to give them confidence in the programme. IFI's fish counter policy sets out the rules regarding the storage, management and sharing of fish counter data to ensure transparency. The ongoing commitment to improving fish counting methodologies will be essential in addressing the challenges posed by environmental change on aquatic ecosystems.

Barry Fox
Head of Operations



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Introduction

Inland Fisheries Ireland have developed the National Fish Counter Programme which has consolidated all counters and counter data within the organisation. In addition, a substantial effort has been made to continually upgrade the counter network and ensure IFI's counter technicians are trained to a high standard and provide the best data collection service available.

IFI allocates time each year to plan and look for current trends and future developments which could be incorporated into the fish counter programme. The future development of the counter network is constantly evolving with issues of compatibility, software and availability of hardware all requiring management as the programme looks to secure its long-term future. Remote access solutions are being investigated to assist in reducing the carbon footprint of the programme while increasing the download capability. These areas have been incorporated into a risk-based assessment plan for the management of the programme into the future.

The national network of counters operated successfully throughout the year and 2023 was a very successful year for the programme. Ninety five percent of the counter sites have been successfully upgraded with high-definition technology and recording equipment. Sites identified in the three-year plan for structural upgrades have advanced into the planning and environmental assessment stage and will be realised over the coming years. Additional smaller structural projects which did not require significant funding or planning were also completed.

IFI have developed a policy, governing data collected by its network of counters. The policy sets out the rules regarding the storage, management and sharing of fish counter data. Several significant challenges lie ahead for the current fish counter programme and IFI will ensure that these are mitigated. IFI recognises that the importance of fish counters cannot be overstated, as they play a vital role in ensuring the health and sustainability of salmon and sea trout resources for future generations. The ongoing commitment to improving fish counting methodologies is essential in addressing the challenges posed by environmental change on aquatic ecosystems.

1 River Fane



Type : Resistivity Counter
Operating: Jan – Dec 2023
Performance: Good
Verified: Yes

1.1 River site and description

The fish counter is sited in Stephenstown, on the Dundalk to Ardee road. It is a Logie, resistivity, counter with two channels covering the width of the river Fane. The counter is managed by IFI staff from the Dundalk District. The data is downloaded and verified on the computer system which is housed in the Dundalk Salmon Anglers hatchery facility near the weir.

1.2 Operation

The counter worked well during the year with maintenance being carried out regularly. The counter on this weir performed well as the connections were upgraded and sealed and so provided good data for 2023. The site has been visited regularly, downloaded, and was reconfigured and tested during the year. Additional works to upgrade the facility from a health and safety perspective are planned as are upgrades to hardware in conjunction with the local angling club. A new camera system is scheduled for installation in 2024.



Table 01: Counter data for the R. Fane

Fish Species	Number
Spring salmon	339
Grilse	116
Late Summer Salmon	37
Sea Trout	0

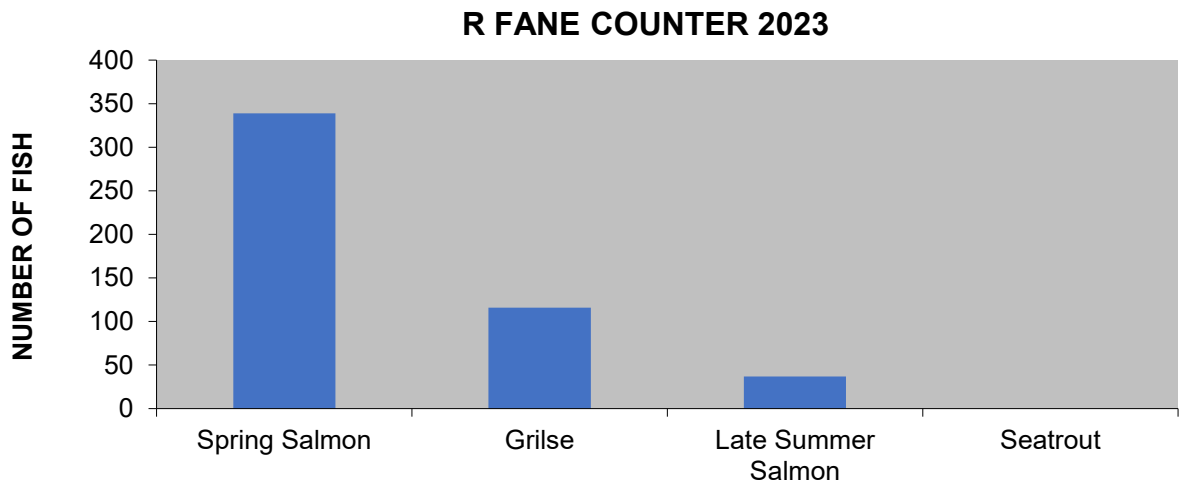
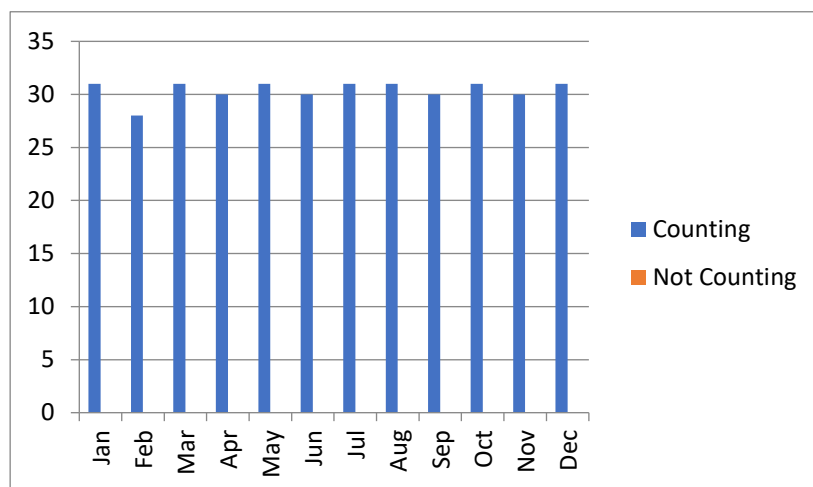


Table 02: Counter Operations

Counter Operational (Days)	Counter not operational (Days)
365	0



2 River Dee



Type : Vaki Optical Counter

Operating: Jan - Dec 2023

Performance: Good

Verified: Yes

2.1 River site and description

The fish counter is sited at Cappogue, on Drumcar Weir, on the Drumcar to Dunleer road, County Louth. It is a Vaki counter and records the fish as they move up and down through the fish pass on the side of the weir. This counter is a partial counter and the percentage of the fish counted depends on weather and water level. This data was uploaded by IFI staff from the Dundalk District. The data is verified on site using the Winari software.

2.2 Operation

A Vaki Riverwatcher has been used installed on this site. The vaki unit purchased in 2020 has had significant issues with the fish counting panels. The display unit has been returned for Iceland for repairs. An alternative counter has been installed in the interim. The runs of fish recorded are in line with expectation and with the national experience for 2023.



Table 03: Counter data for the R. Dee

Fish Species	Number
Spring salmon	37
Grilse	51
Late Summer Salmon	11
Sea Trout	0

DEE COUNTER 2023

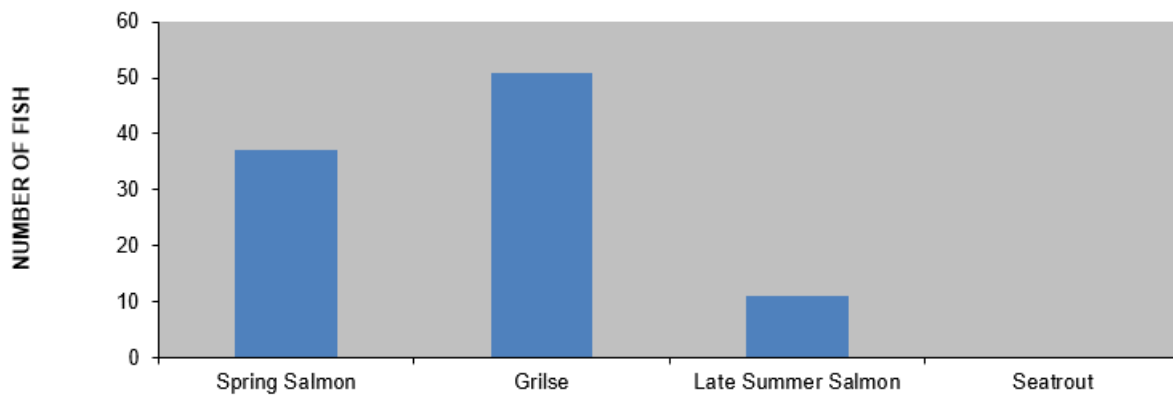
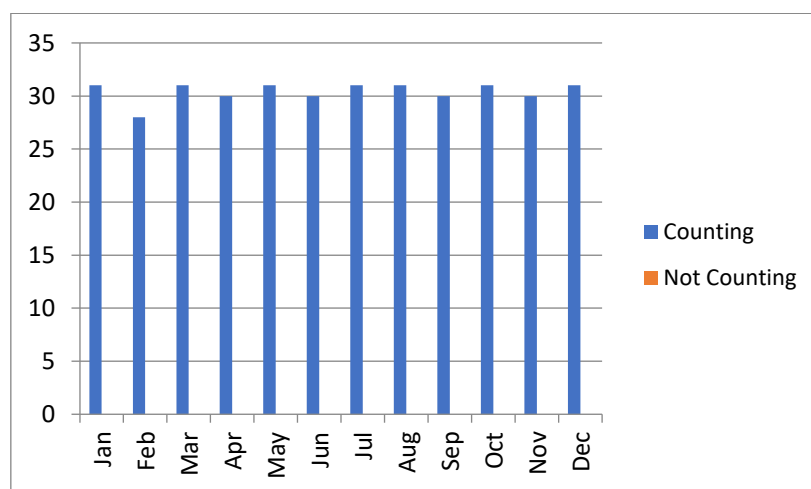


Table 04: Counter Operations

Counter Operational (Days)	Counter not operational (Days)
365	0



3 Boyne Counter



Counter type: Resistivity Counter and Vaki Optical Counter

Operating: Jan – Dec 2023

Performance: Good

Verified: Yes

3.1 River site and description

The Fish counters at Blackcastle in Navan, Co. Meath consist of 6 different channels which count fish travelling up and down the river Boyne system. These are made up of 4 crumps which record fish as they pass over the weir and two Vaki counters that count fish as they pass through two tunnels on either side of the crump weirs. The counters account for approximately 20% of the total width of the channel at Blackcastle. The weir at Blackcastle makes up the remaining 80%.

3.2 Operation

The counters give an accurate total of the fish that travel through them; the number of fish that cross up and down across Blackcastle Weir is unknown. This counter provides a partial count but counts a high percentage of the run of fish. The counter site has had significant upgrades to the counter and camera hardware. A new Logie counter was installed on the site and is working well. The Vaki counters need to be replaced with new units.



Table 05: Counter data for the R. Boyne

Fish Species	Number
Spring salmon	325
Grilse	551
Late Summer Salmon	613
Sea Trout	0

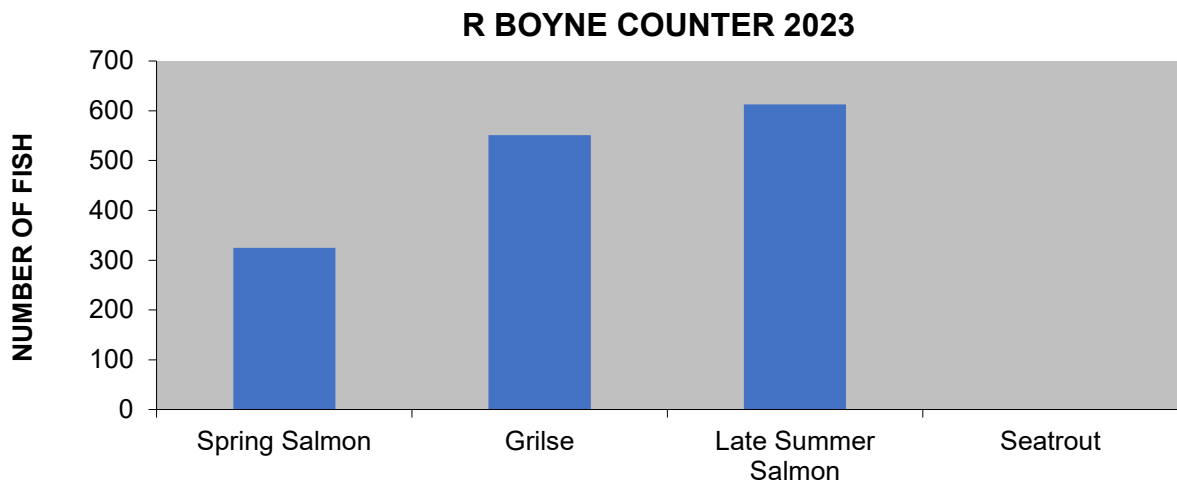
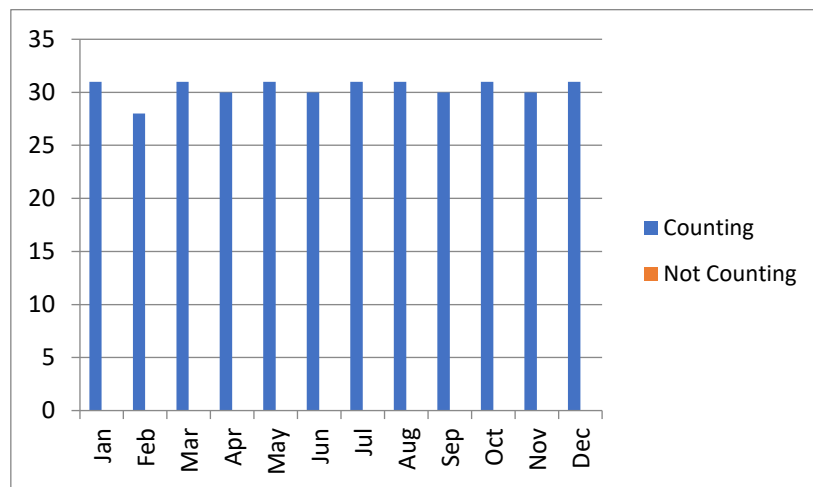


Table 06: Counter Operations

Counter Operational (Days)	Counter not operational (Days)
365	0



4 Liffey (Island Bridge)



Counter Type: Vaki Optical Counter

Operating: Jan – Dec 2023

Performance: V Good

Verified: Yes

4.1 River site and description

The fish counter is at Island bridge, 5km west of Dublin city centre. It is an older Vaki counter and was recently transferred to IFI from the Marine Institute. The data is downloaded and verified locally on the computer system which is housed in a hut beside the weir.

4.2 Operation

The vaki counter was regularly maintained and downloaded. The counts show a lot of activity around the weir with significant number running up and down. All the counts were verified twice to ensure the accuracy of the counts as the level of activity has increased on the counter. This is a partial counter and the percentage of the population of fish counted each year depends on the amount of water in the river.



Table 07: Counter data for the R. Liffey

Fish Species	Number
Spring salmon	44
Grilse	174
Late Summer Salmon	29
Sea Trout	244

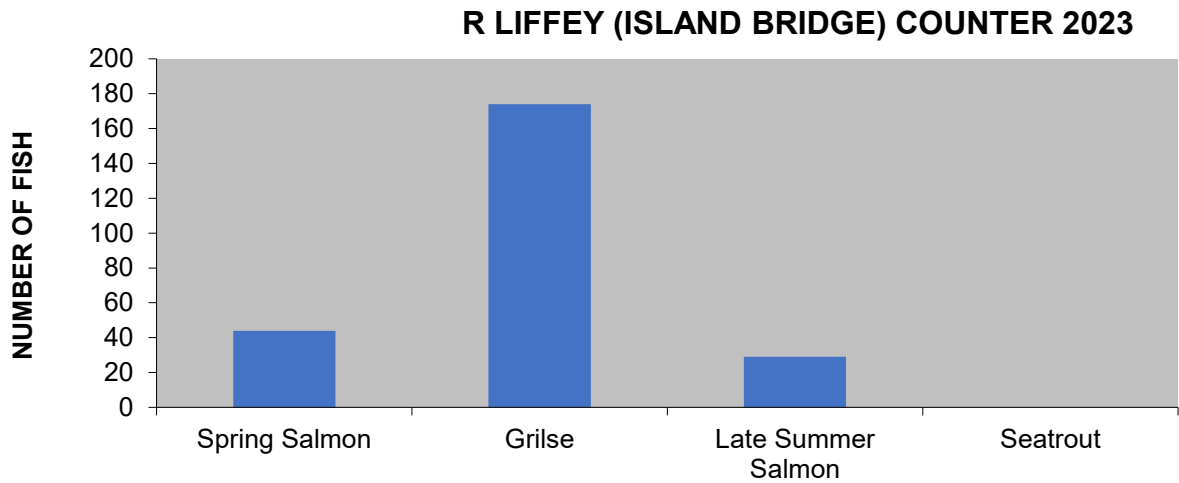
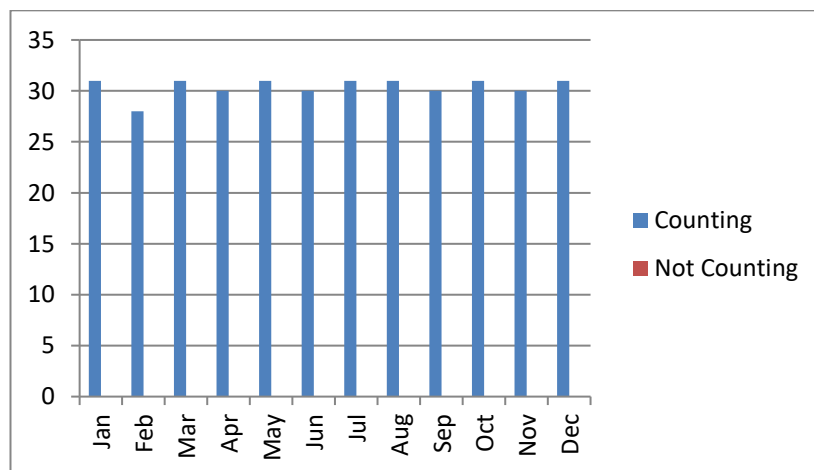


Table 08: Counter Operations

Counter Operational (Days)	Counter not operational (Days)
365	0



5 Kerry Blackwater



Type : Resistivity Counter

Operating: Jan – Dec 2023

Performance: Good

Verified: Yes

5.1 River site and description

The Kerry blackwater counter is located one hundred meters upstream of the estuary. It is a Logie resistivity counter which operates over three channels and gives a total count for the river. The river is currently open for angling on a catch and release basis. The river is sixteen miles long with one small lake and is considered a spate river.

5.2 Operation

The counter operated well during the year. The site has had a substantial upgrade to the cameras and recording equipment. The site now has high-definition cameras on each weir. The counter has been reconfigured and tested several times during the year to ensure it continues to count as accurately as possible. This site was downloaded regularly, and data verified and uploaded. This site has would remote access capability. The site doesn't count many sea trout as it has been configured to count salmon as accurately as possible.



Table 09: Counter data for the Kerry Blackwater River

Fish Species	Number
Spring salmon	69
Grilse	317
Late Summer Salmon	56
Sea Trout	140

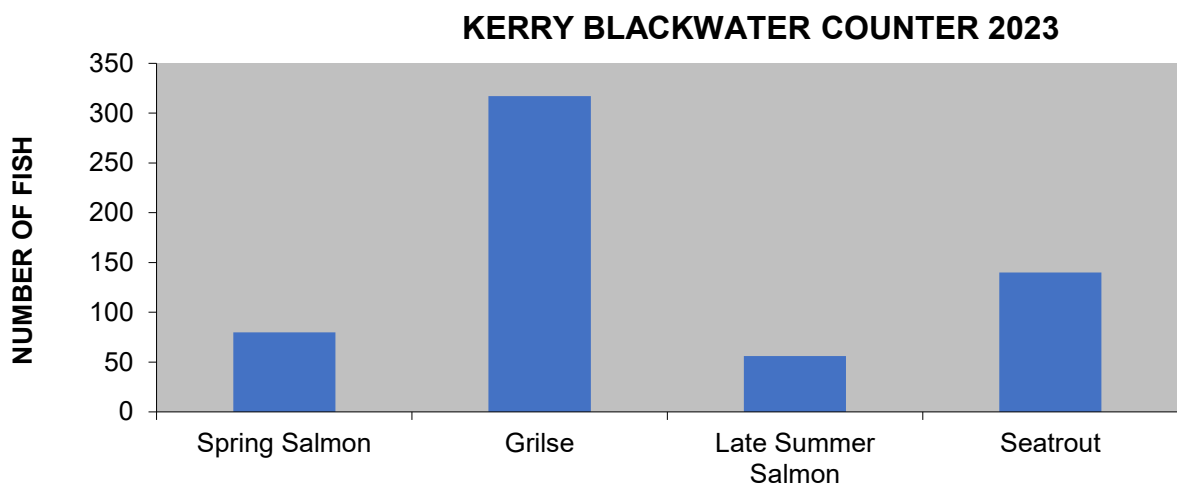
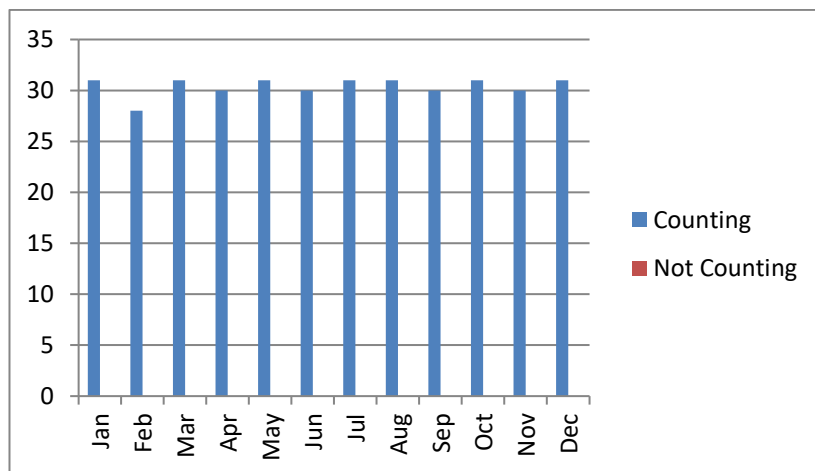


Table 10: Counter Operations

Counter Operational (Days)	Counter not operational (Days)
365	0



6 Waterville



Type : Resistivity Counter

Operating: Jan –Dec 2023

Performance: Poor

Verified: Yes

6.1 River site and description

The Waterville counter is located upstream of the estuary in the estate grounds of Waterville house. The counter is a logie restivity counter which operates four counting crumps giving a total count for the river system. The electrodes are spaced primarily for counting sea trout. The data to date has been verified by CCTV camera.

6.2 Operation

The fish counter hardware is in Waterville House which was closed for a significant period in the first quarter the year. This site has suffered some damage and will require repairs in early 2024. The counter was not working for the primary run of fish and while data for Q1 and Q4 when the counter was reinstated it is incomplete and therefore not presented it this report.

7 River Maine



Type : Resistivity Counter
Operating: Jan–Dec 2023
Performance: Good
Verified: No

7.1 River site and description

The fish counter on the Maine is a logie restivity counter operating four channels which span the river giving a total count. The counter weir is located upstream of “Marshell’s bridge” and was commissioned in late 2009. The counter site is six miles from the sea but only half a mile upstream of the intertidal zone.

7.2 Operation

The counter has operated well for the 2023 season because of the completion of upgrades to the connections. The site has had extensive upgrades to the recording equipment and installation of high-definition cameras. The counter was checked and reconfigured several times during the year to ensure the best count possible was available. Significant debris crossing and getting lodged on the weir has caused an increase in the number of events being recorded. The construction of the weir, which has precast crumps, has significant background noise which affects the accuracy of the counter. The data from this weir has been downgraded to ‘unverified’ due to the level of background noise on the weir.



Table 11: Counter data for the Maine River

Fish Species	Number
Spring salmon	120
Grilse	922
Late Summer Salmon	176
Sea Trout	0

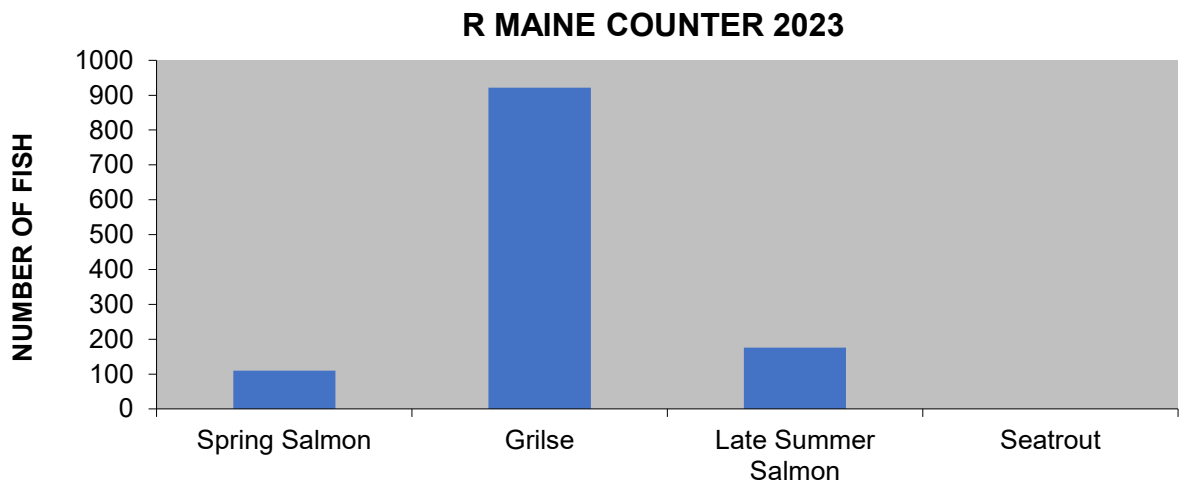
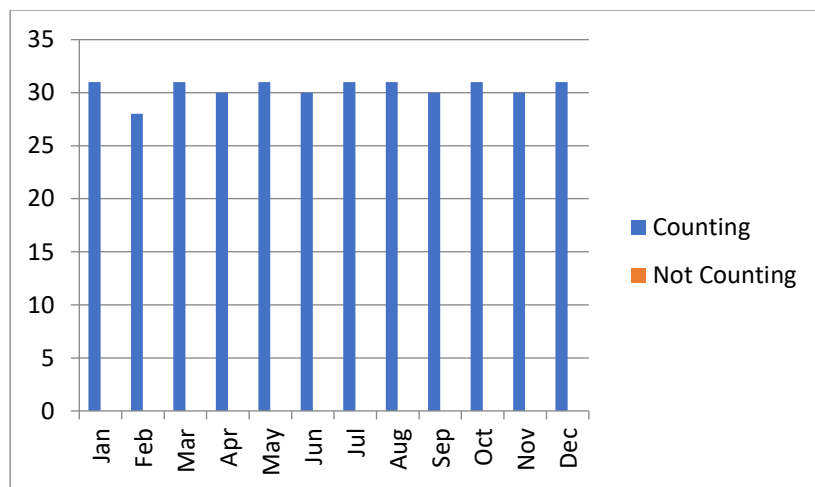


Table 12: Counter Operations

Counter Operational (Days)	Counter not operational (Days)
365	0





08 Feale River



Counter type: Resistivity Counter

Operating: Jan-Dec 2023

Performance: V. Good

Verified: Yes

8.1 River site and description

The river Feale rises in the Mullaghareirk Mountains in County Cork and meanders approximately 74 kilometres before joining with the Galey and Bricks Rivers becoming the Cashen River. The river Feale counter is located approximately 5 kilometres downstream of Listowel Town in the townland of Scartleigh at the Kerry County Council water abstraction plant. The river Feale is above its conservation limit and is therefore open for angling.

8.2 Operation

The counter is a one channel counter operated on a crump which was installed to assist fish over the large weir. The counter operated well over the course of the summer. This counter provides consistently accurate data. The counter site has been upgraded with new recording equipment and cameras.



Table 13: Counter data for the Feale River

Fish Species	Number
Spring salmon	1289
Grilse	2528
Late Summer Salmon	366
Sea Trout	0

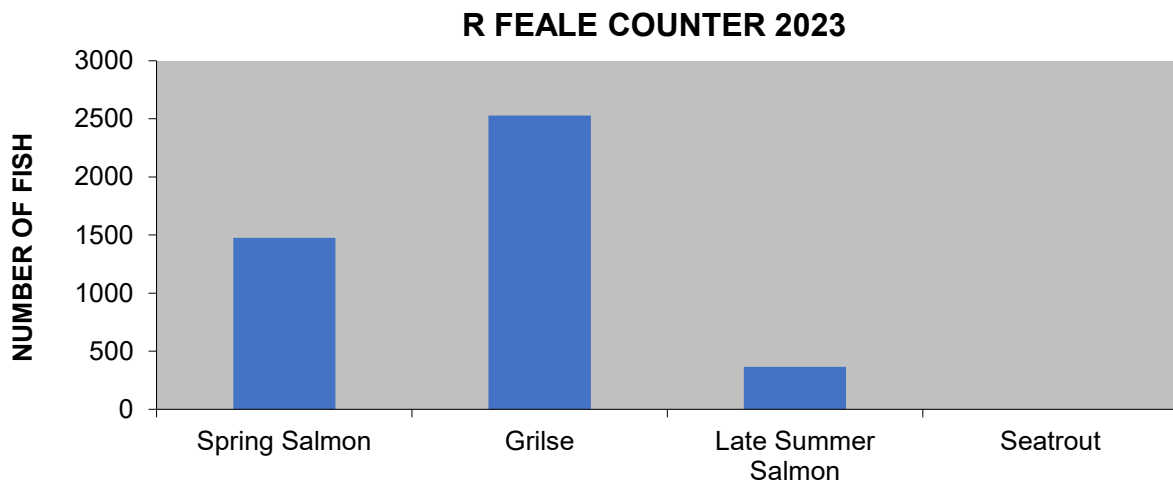
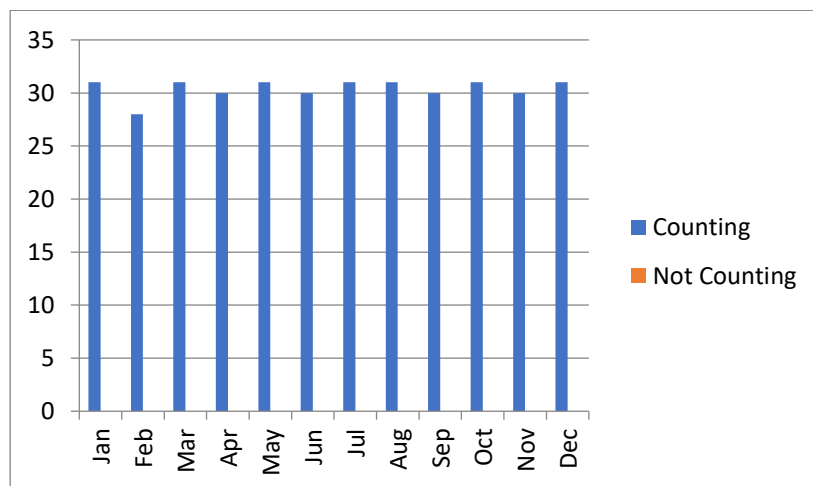


Table 14: Counter Operations

Counter Operational (Days)	Counter not operational (Days)
365	0



09 Maigue River



Counter type: Resistivity Counter

Operation Period: Jan – Dec 2023

Performance: Good

Verified: No

9.1 River site and description

The river Maigue rises at the base of the Ballyhoura and Slievenamuck Mountains in the Galtee Mountain range in south County Limerick. It drains a large catchment area of 1,009km² extending from Ballylanders and Kilfinnane in the Southeast, flowing Northwest through the villages of Croom and Adare then turning north into the Shannon estuary at the Ferry Bridge, not far from Kildimo village. The river Maigue catchment area is characterised predominantly by rich pastureland and forms part of the renowned 'Golden Vale' agricultural area.

9.2 Operation

The Maigue counter is a ten-channel counter. The counter was completed in March 2013 and is a re-engineered crescent shaped weir. The site uses three counters to count all ten channels and therefore requires a greater amount of time to maintain and verify. In 2023 the counter was operational and worked well. The counting weir requires work after each winter to connections and electrodes due to significant debris and velocity of water during flood events. Counting of fish in the winter floods is very limited. A new camera system was installed in 2023.



Table 15: Counter data for the Maigue River

Fish Species	Number
Spring salmon	445
Grilse	552
Late Summer Salmon	31
Sea Trout	63

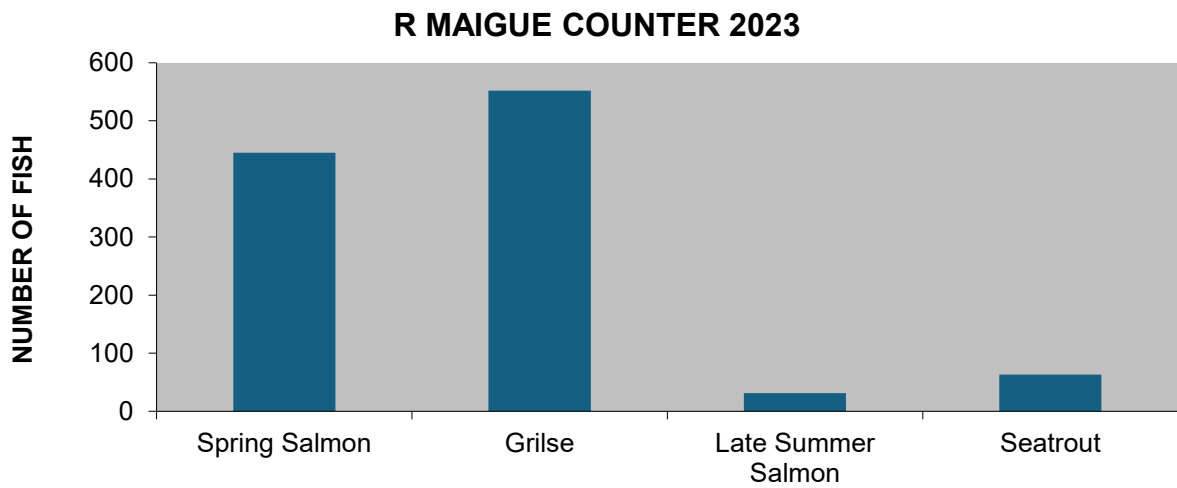
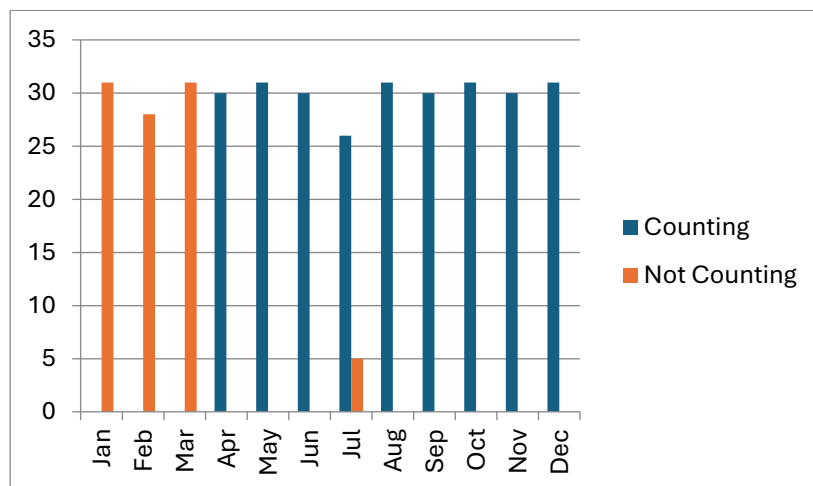


Table 16: Counter Operations

Counter Operational (Days)	Counter not operational (Days)
270	95



10 Mulkear



Counter type: Resistivity Counter
Operating: Jan-Dec 2023
Performance: Good
Verified: Yes

10.1 River site and description

The Mulkear counter is located at Ballyclough on a purpose-built crump weir approximately 3 kilometres upstream from where the mouth of the Mulkear River enters the River Shannon. Due to a large road scheme crossing the Mulkear River in 2004 an agreement was reached with the contractors to install a three-channel crump weir and counter underneath the main bypass bridge located upstream of Annacotty village also included in the plans was a side channel for eel passage.

10.2 Operation

The counter worked well and provided accurate counts for the river. All three crumps were operational and only minimal maintenance was required to keep this counter working. The counter site has been significantly upgraded and now has high-definition cameras on all weirs and new recording hardware. This site was upgraded and vandalised, but these cameras have been replaced and greater security installed. The site has provided verified counts for 2023.



Table 17: Counter data for the Mulkear River

Fish Species	Number
Spring salmon	350
Grilse	2284
Late Summer Salmon	1021
Sea Trout	0

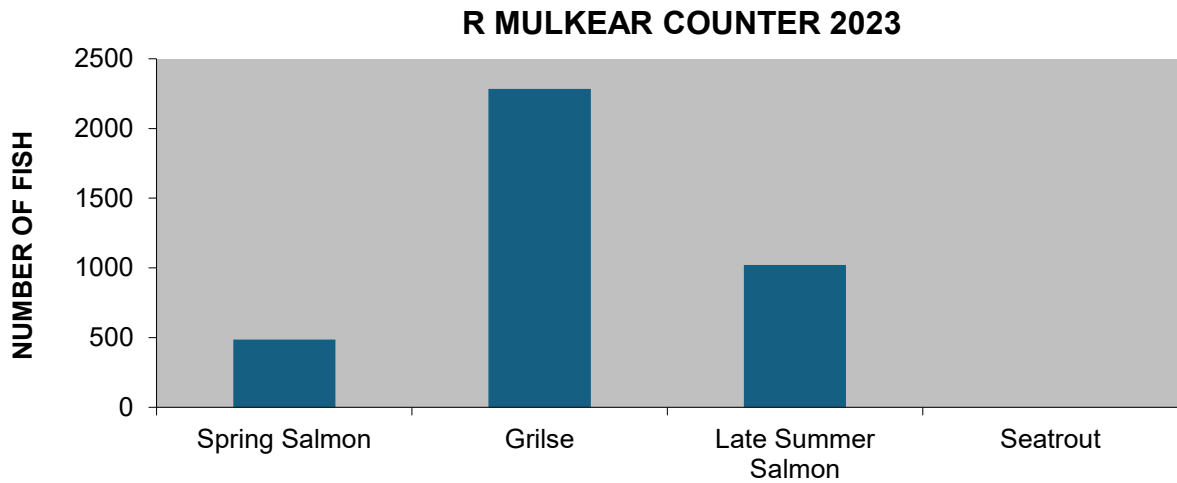
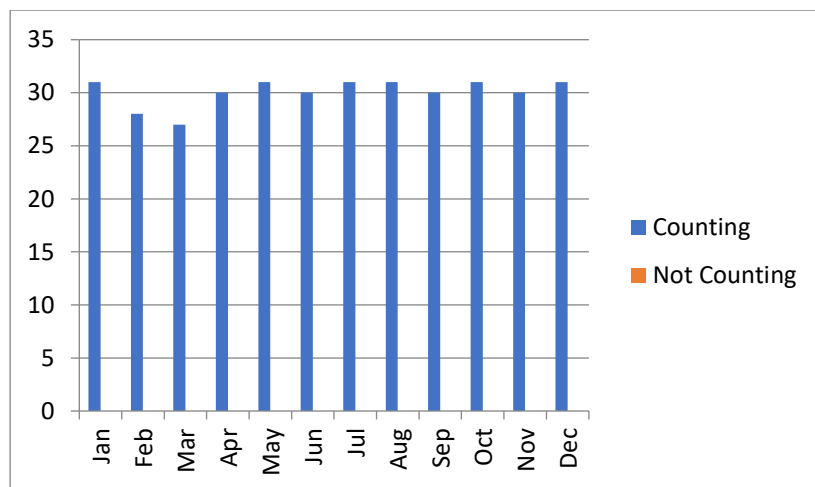


Table 18: Counter Operations

Counter Operational (Days)	Counter not operational (Days)
365	0



11 Fergus River



Counter type: Resistivity Counter

Operating: Jan – Dec 2023

Performance: Good

Verified: Yes

11.1 River site and description

The Fergus fish counter is a recent addition to the IFI fish counter programme. The counter was installed as part of the flood relief works in Ennis. It consists of one channel located at the top of the new fish pass. The design of the fish pass is unique to allow lamprey, elvers and salmonids to migrate upstream past the old structure which is protected.

11.2 Operation

The counter is housed in the Civic building adjacent to the river. This facilitated an upgrade to the site which includes cameras, computer and verification software which has greatly increased the capabilities of the facility. An additional underwater camera has been installed at the site to assist with verification. The civic building is now occupied and access to the building is easy, the counter was checked regularly. The underwater cameras on site need replacing in 2024.



Table 19: Counter data for the Fergus River

Fish Species	Number
Spring salmon	57
Grilse	280
Late Summer Salmon	147
Sea Trout	0

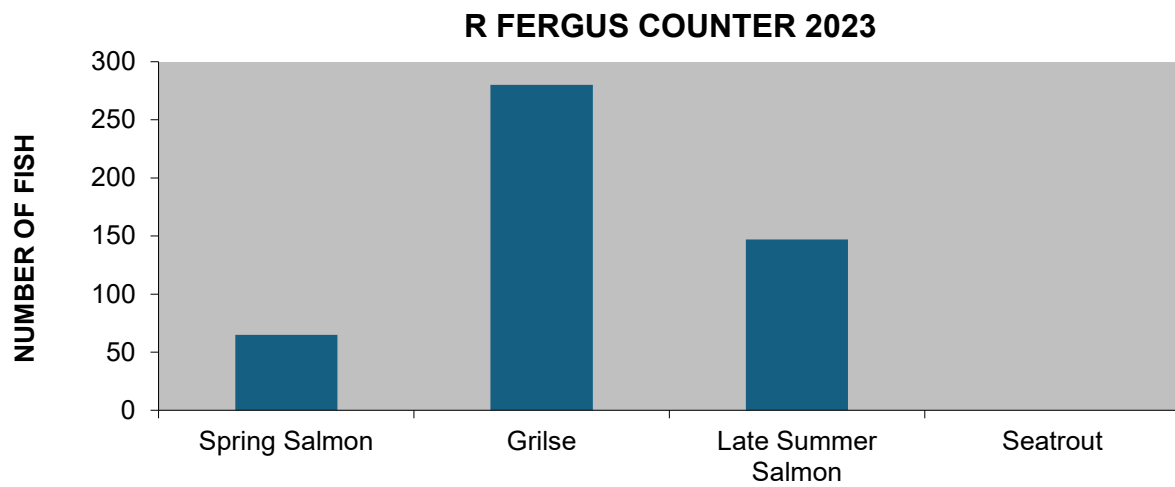
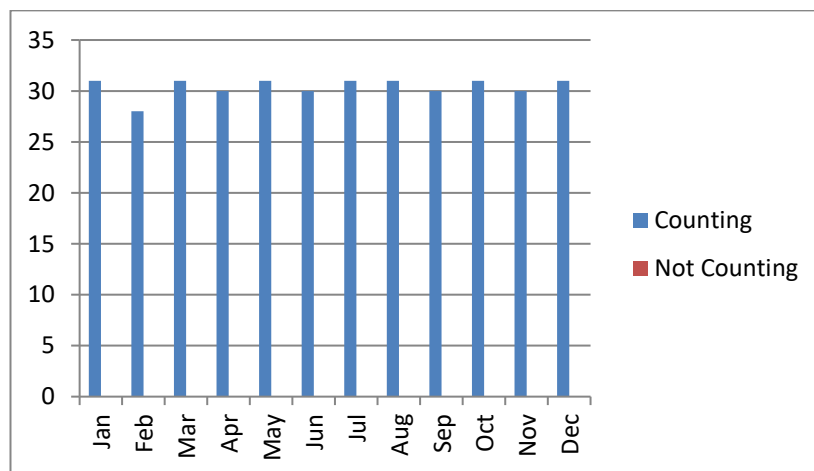


Table 20: Counter Operations

Counter Operational (Days)	Counter not operational (Days)
365	0



12 Inagh River (Ennistymon)



Counter type: Resistivity Counter (Tube)

Operating: Jan – Dec 2023

Performance: Good

Verified: Yes

12.1 River site and description

The tube counter in Ennistymon on the Inagh River has been reinstalled after nearly fifty years. This site at the top of the fish pass was the original site of the fish counter which was also a Logie tube counter. The current installation has CCTV verification since early January. The counter hut is in a new location and is only accessible to IFI staff.

12.2 Operation

The counter was connected in late December 2014. The counter has performed well during the year. The counter functioned well during the year and was checked regularly. Fish counts for the river are up on previous year and the run timings are similar every year. The counter is not scheduled for upgrade until 2024.



Table 21: Counter data for the Inagh (Ennistymon) River

Fish Species	Number
Spring salmon	19
Grilse	08
Late Summer Salmon	38
Sea Trout	15

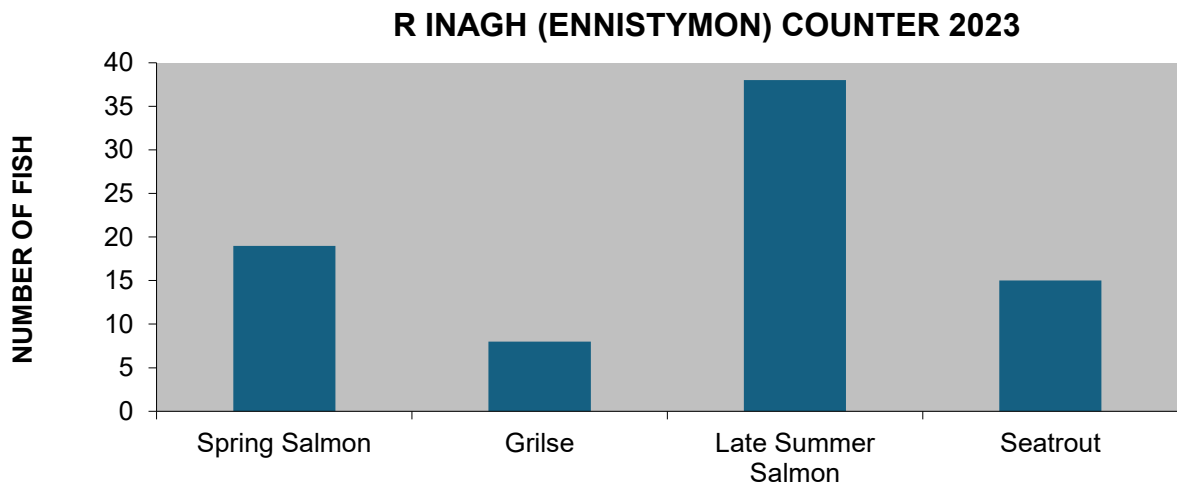
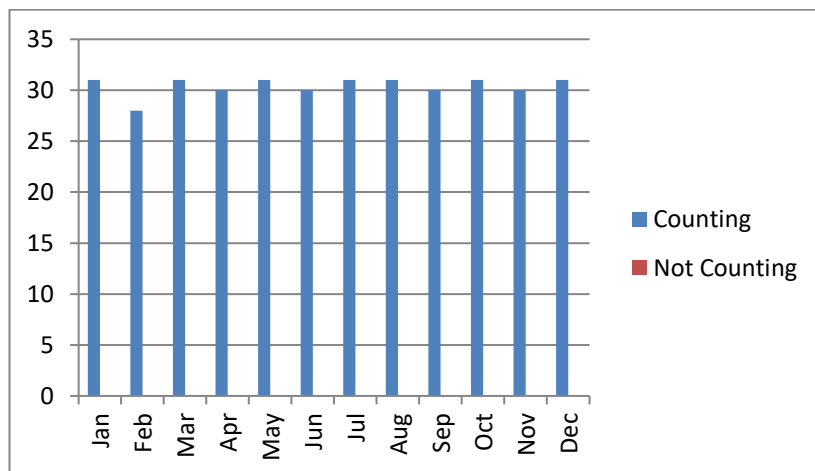


Table 22: Counter Operations

Counter Operational (Days)	Counter not operational (Days)
365	0



13 Dunkellin River



Counter type: Resistivity Counter

Operating: May - Dec 2023

Performance: Good

Verified: Yes

13.1 River site and description

The Dunkellin counter was installed early in 2010 and was commissioned in June of that year. The counter is located upstream of the village of Kilcolgan. The counter is a three-channel counter which operates well in medium and low water. This entire area is subject to extensive flooding this can lead to the weir being inundated for significant periods.

13.2 Operation

The new counter was operational in May 2023. The old counting weir is still in situ but the recording equipment and counter have been moved to the new facility. The new site is located further up the catchment. The counter hut and weir are completed and operational. Inland Fisheries Ireland operates the counter on the dedicated infrastructure provided by the OPW.



Table 23: Counter data for the Dunkellin River

Fish Species	Number
Spring salmon	15
Grilse	151
Late Summer Salmon	12
Sea Trout	46

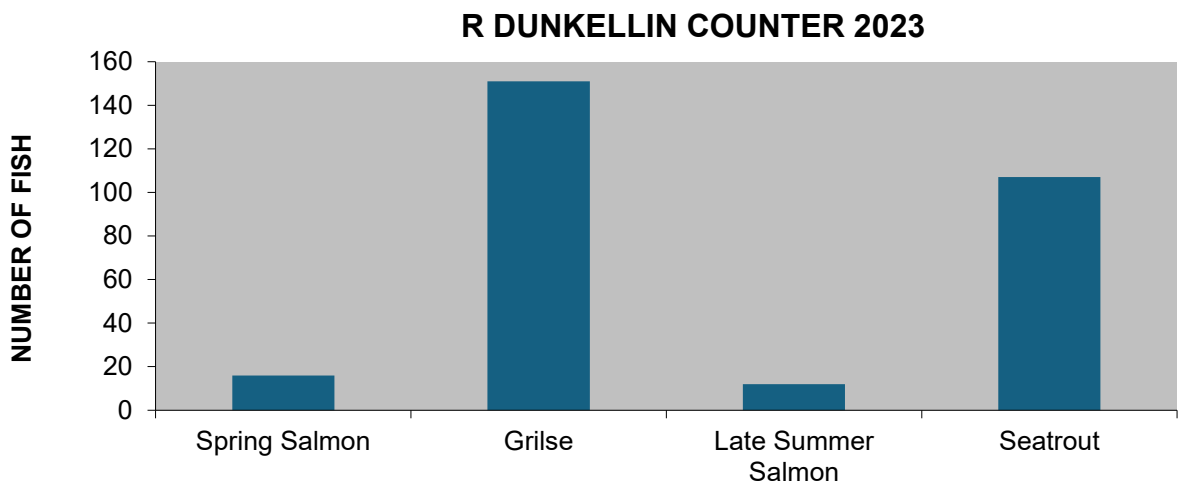
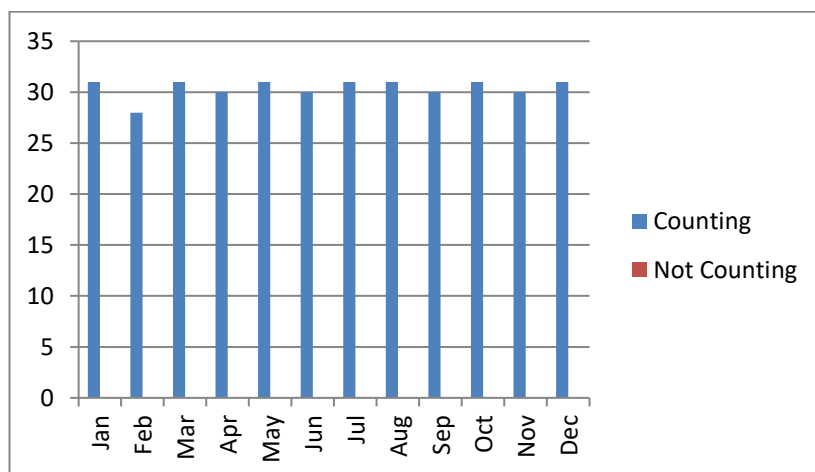


Table 24: Counter Operations

Counter Operational (Days)	Counter not operational (Days)
365	0



14 Corrib Counter



Type : Resistivity Counter (Tube Configuration)

Operating: Jan – Dec 2023

Performance: V.Good

Verified: Yes

14.1 River site and description

The Corrib counter is situated in a fish pass at the Salmon Weir in Galway. The system it uses is a Logie fish counter in conjunction with a tube fish pass that counts salmon which enter the tube on their return to the river from the sea. An underwater surveillance camera is used to verify the fish count recorded on the counter. Water levels invariably have an impact on the number of fish using the pass as salmon may run, in high water, run upstream through opened gates. This is a partial counter as it only counts fish ascending the river through the fish pass.

14.2 Counter operation

The counter operated well during the 2023 season. The counter data has been verified and is accurate. The counter worked well with no interruption. The data has been verified and uploaded to the web site. This is a partial count for the river and the percentage of fish using the fish pass varies from year to year depending on the water level.



Table 25: Counter data for the Corrib River

Fish Species	Number
Spring salmon	399
Grilse	3267
Late Summer Salmon	37
Sea Trout	0

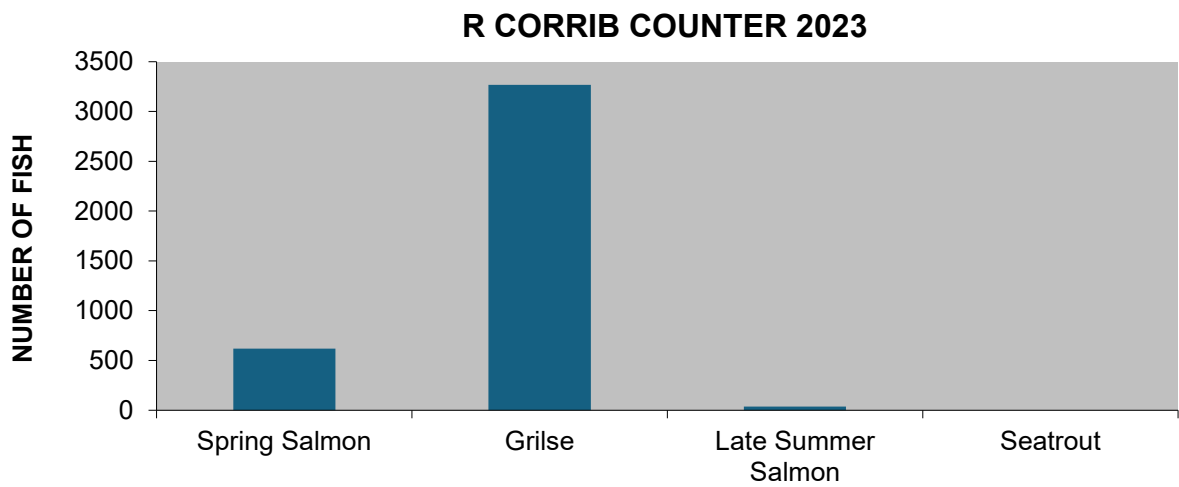
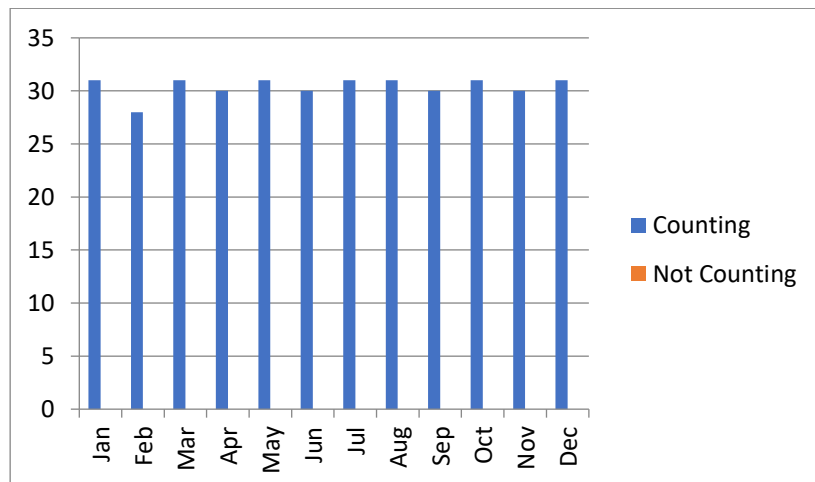


Table 26: Counter Operations

Counter Operational (Days)	Counter not operational (Days)
365	0



15 Owenboliska River



Type : Resistivity Counter

Operating: Jan – Dec 2023

Performance: V.Good

Verified: Yes

15.1 River site and description

The counter is situated downstream of the village of Spiddal. The counter was constructed and commissioned by IFI in 2011 and was funded by the conservation stamp fund. The counter operates on a purpose-built weir with one counting channel. A verification camera system is also in operation.

15.2 Counter operation

The counter has been operational for the entire season with no problems recorded. The counter is affected by the dumping of water from the impounding weir on the upstream lake. Sea trout can run the counter during these events and will not be detected by the counter. The sea trout, counter data is more accurate in years where water levels are low and limited dumping of water from the impounding weir occurs. The site is maintained by Galway district staff and several visits were carried out to reconfigure, download and verify the counter data in 2023.



Table 27: Counter data for the Owenboliska River

Fish Species	Number
Spring salmon	80
Grilse	191
Late Summer Salmon	09
Sea Trout	280

R OWENBOLISKA COUNTER 2023

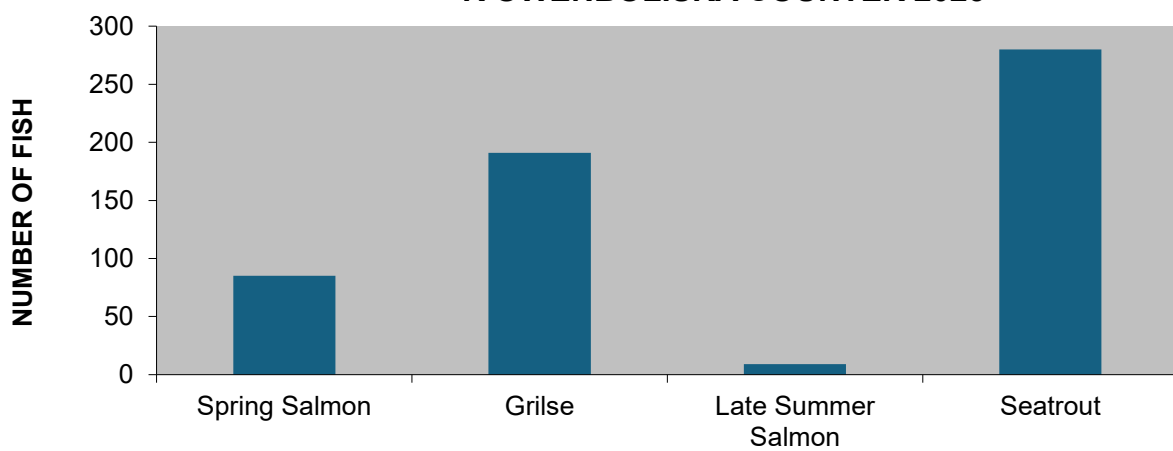
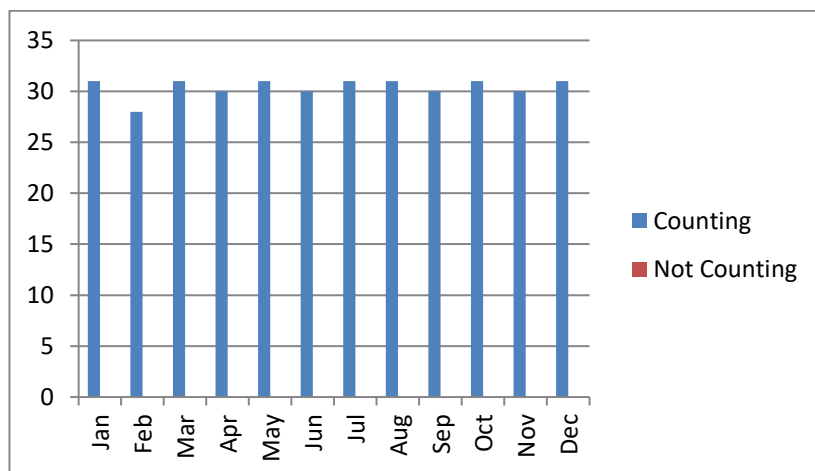


Table 28: Counter Operations

Counter Operational (Days)	Counter not operational (Days)
365	0





16 Casla River



Type : Resistivity Counter
Operating: Jan – Dec 2023
Performance: V.Good
Verified: Yes

16.1 River site and description

The Casla River is privately owned and is the main river of the Costello and Fermoy Fishery. The river is six kilometres in length and drains an area of 83km² which includes 22 lakes – it is a typical sea trout system. The counter is located at a crump weir situated close to the limits of tidal influence. Under most flow conditions fish will run up over the weir.

16.2 Operation

The counter operated very well throughout 2023. The counter hut has been upgraded with the removal of the old pumping equipment and the installation of a new steel door. The counter functioned well during the year. The computer was changed out prior to the upgrades to the hut. The counter has provided accurate counts with no loss of data for the year. Additional upgrades to the weir and hut are planned for 2023.



Table 29: Counter data for the Casla River

Fish Species	Number
Spring salmon	69
Grilse	389
Late Summer Salmon	68
Sea Trout	827

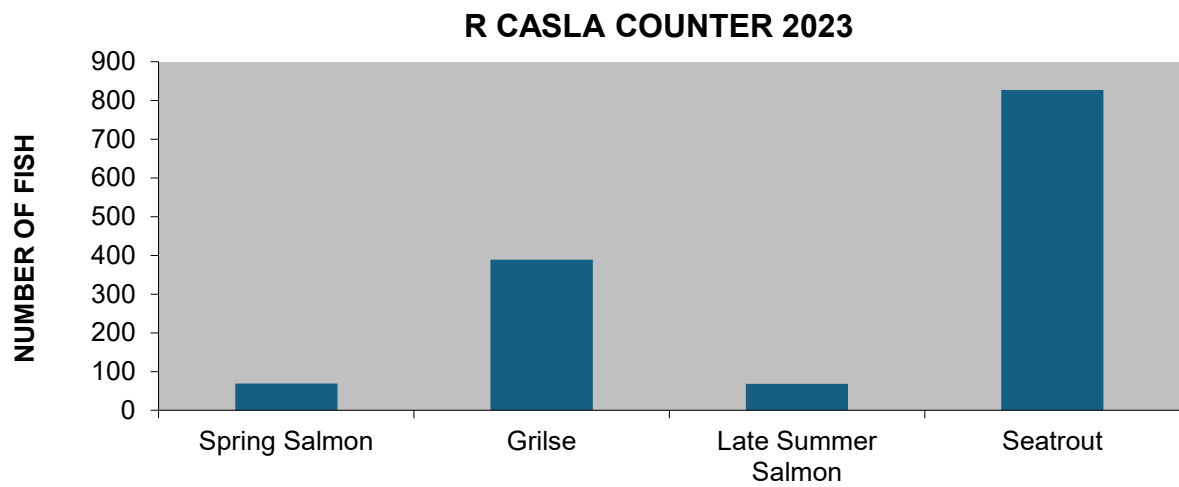
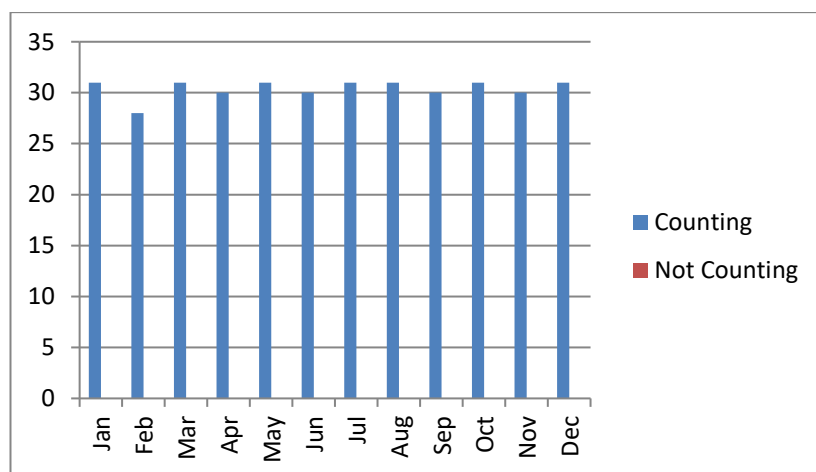


Table 30: Counter Operations

Counter Operational (Days)	Counter not operational (Days)
365	0



17 Owengowla River



Type : Resistivity Counter

Operating: Jan - Dec 2023

Performance: Good

Verified: Yes

17.1 River site and description

The Gowla counter is located at the old trapping facility 100m above the intertidal zone. This is a new counting facility completed in 2013. The site consists of a two-channel weir which is set up to count sea trout. The counter was installed to replace a partial counter and trapping facility.

17.2 Operation

The counter on this site operates on a two-channel weir. The site provides a total count for salmon and sea trout for the river. The site has provided accurate counts for 2023 with no breakdowns or loss of data. Camera data for the river suggest a small run of very large salmon run this system annually however the run of salmon is significantly higher than expected for this small sea trout system.



Table 31: Counter data for the Owengowla River

Fish Species	Number
Spring salmon	161
Grilse	79
Late Summer Salmon	02
Sea Trout	145

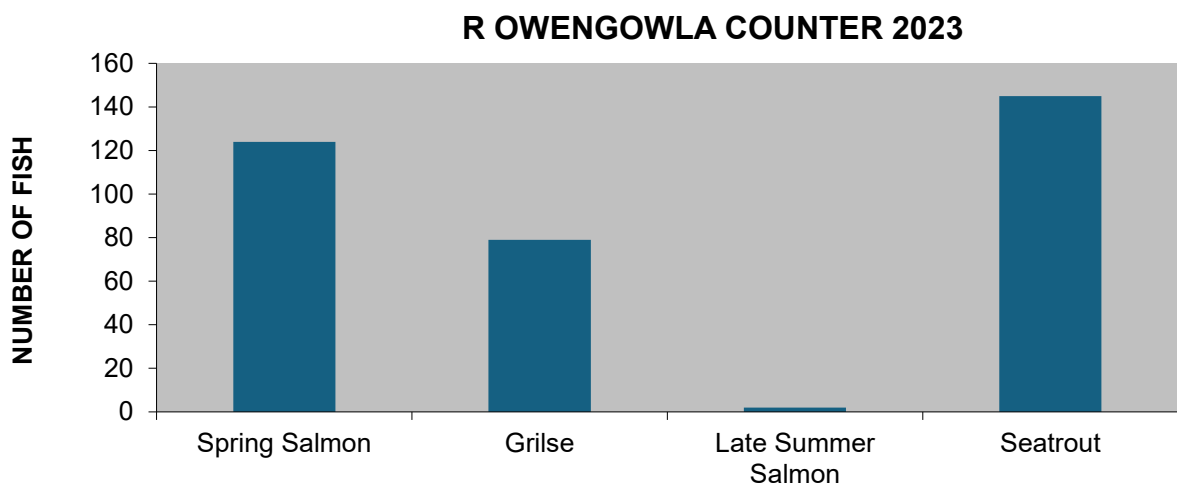
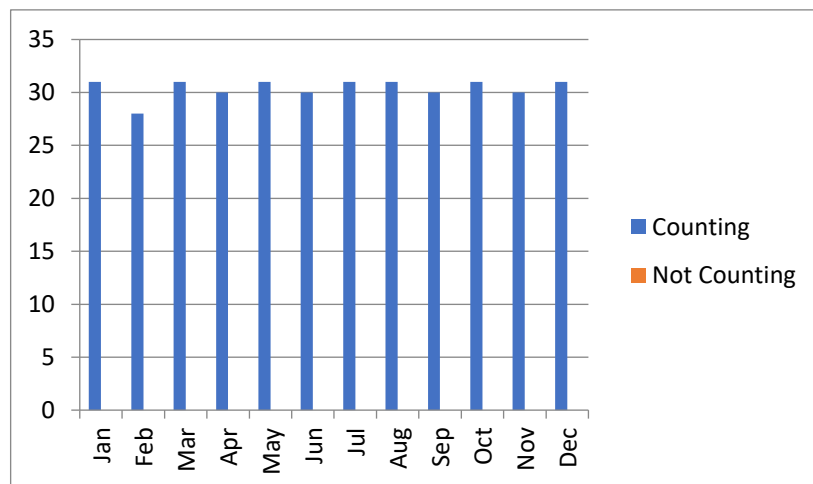


Table 32: Counter Operations

Counter Operational (Days)	Counter not operational (Days)
365	0





18 Inagh River



Type : Resistivity Counter

Operating: Jan – Dec 2023

Performance: V.Good

Verified: Yes

18.1 River site and description

The Inagh counter is located on the Inagh River 40 m above Derryclare Lake. It is the location of the first Logie counter in the country which was installed in the late 1980's. The structure is a purpose-built crump weir with one counting channel to facilitate a Logie counter. The counts are verified by CCTV. The fishing rights are privately owned by a syndicate and managed by Lough Inagh Lodge Hotel.

18.2 Operation

The counter worked well throughout 2023. The low water all summer allowed for accurate verification of the counts for salmon. The counter counts salmon accurately but sea trout can use an alternative channel which is not counted. The hardware on this site has been upgraded to ensure verification was possible on the full data set.



Table 33: Counter data for the Inagh River

Fish Species	Number
Spring salmon	0
Grilse	178
Late Summer Salmon	22
Sea Trout	01

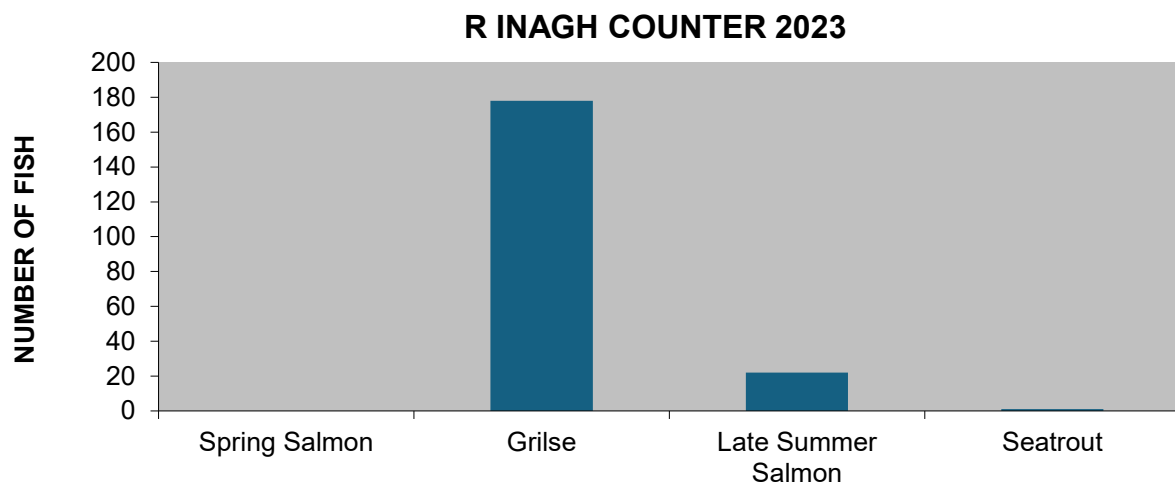
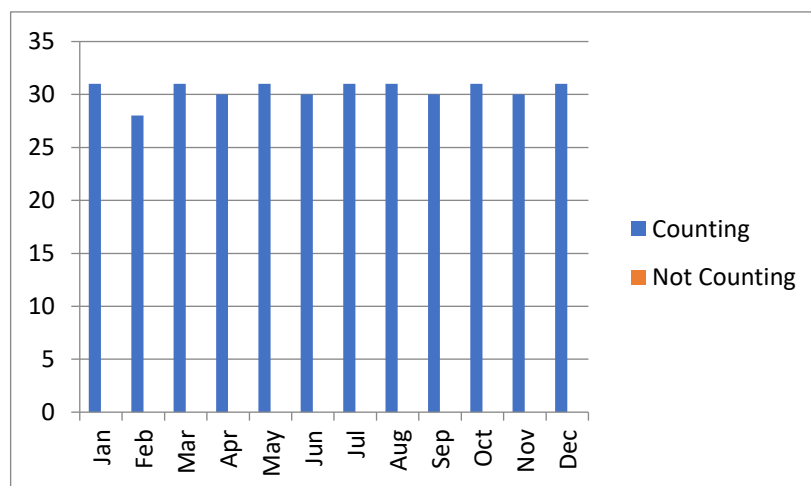


Table 34: Counter Operations

Counter Operational (Days)	Counter not operational (Days)
365	0





19 Owenglin (Clifden River) River



Counter type: Vaki Optical Counter

Operating: Jan – Dec 2023

Performance: V. Good

Verified: Yes

19.1 River site and description

The site of the counter in the Owenglin River is in the existing fish pass just upstream of the estuary. The Vaki counter and camera are particularly suited to this type of site. The counter and camera are housed in a stainless-steel purpose-built frame which allows the counter to activate the camera and provide video and infrared silhouette images of the fish. The fishing rights to the Owenglin River are privately owned by the Clifden Angling Club. The fishing rights include numerous small lakes.

19.2 Operation

The counter has operated well over the course of the year. The Vaki counter operated without any issues. The counts are very accurate, and the river is open with a small surplus. Significant repairs have been carried out to the fish pass in 2023. Data collected over the last three years demonstrates the positive effects of catch and release on the stock in the river.



Table 35: Counter data for the Owenglin River

Fish Species	Number
Spring salmon	25
Grilse	404
Late Summer Salmon	70
Sea Trout	32

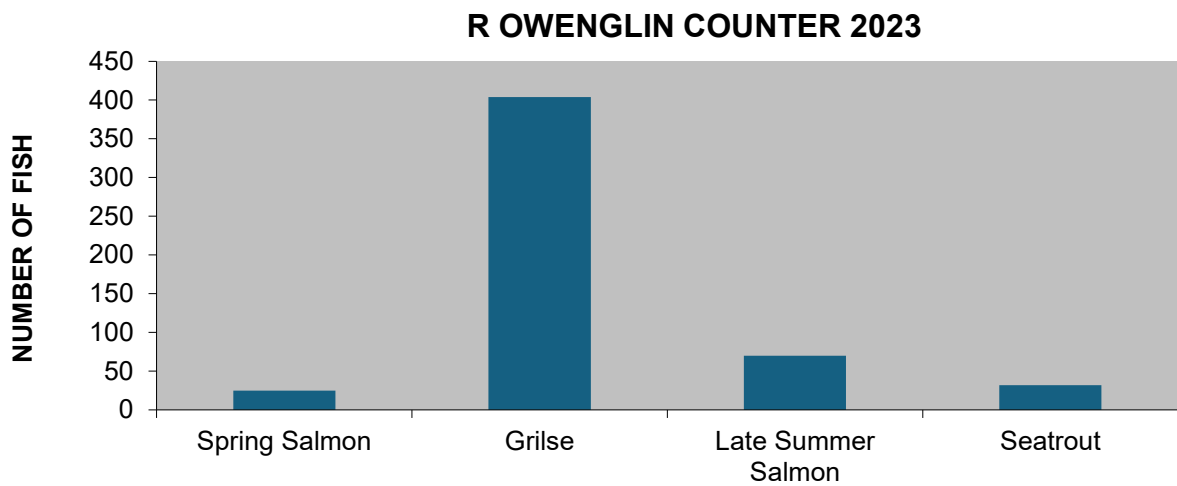
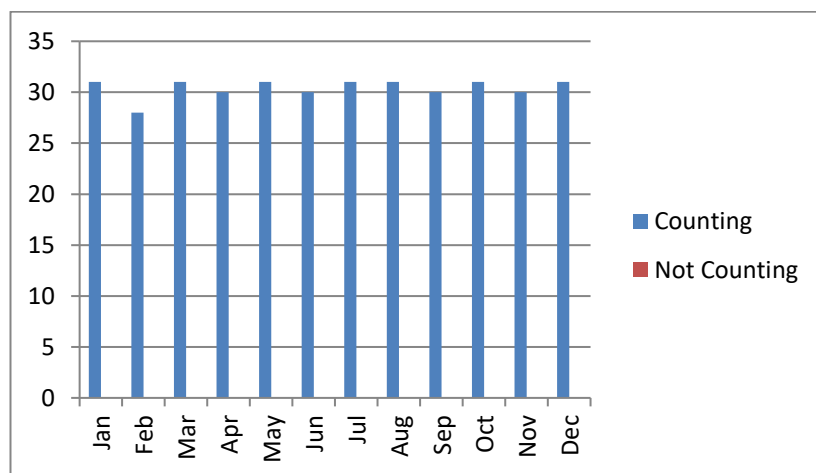


Table 36: Counter Operations

Counter Operational (Days)	Counter not operational (Days)
365	0





20 Dawros (Kylemore) River



Counter type: Resistivity Counter

Operating: Jan – Dec 2023

Performance: V. Good

Verified: Yes

20.1 River site and description

The Dawros is a privately owned river with three groups owning the fishing rights. The river has traditionally enjoyed good salmon and sea trout runs. The system incorporates three lakes (Kylemore Lake, Pollagcapaill, and the Castle Lake) and the Dawros River which enters the sea in Ballinakill Bay.

20.2 Operation

The counter operated well and recorded most of the fish runs for the year. The counter has recorded a slight decrease in the run of salmon into the river which reflects the national trend. The run of sea trout is higher than 2022 but still below the five-year average.



Table 37: Counter data for the Dawros River

Fish Species	Number
Spring salmon	143
Grilse	545
Late Summer Salmon	249
Sea Trout	1145

R DAWROS COUNTER 2023

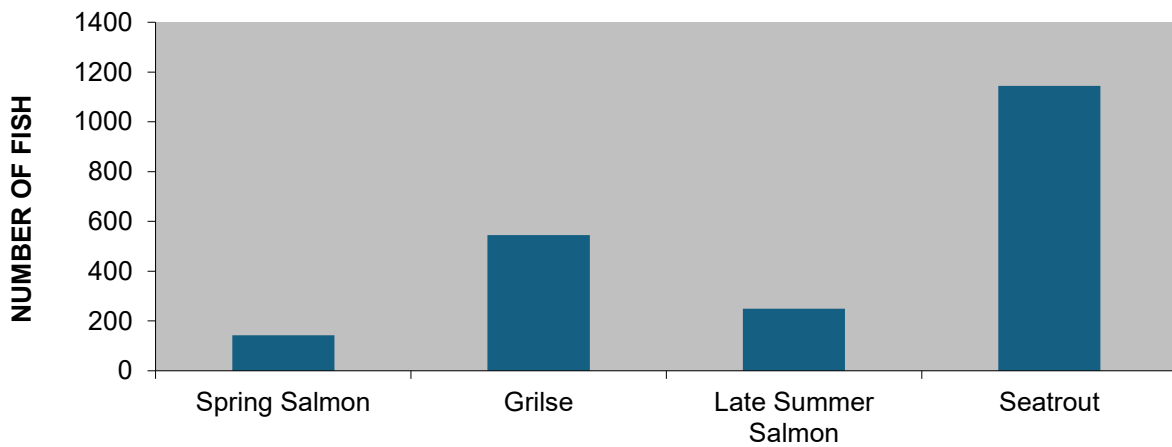
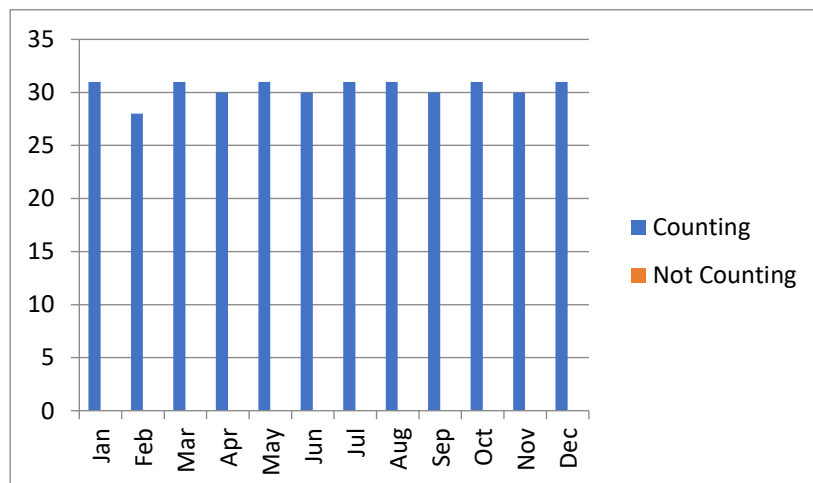


Table 38: Counter Operations

Counter Operational (Days)	Counter not operational (Days)
365	0



21 Culfin River



Counter Type: Resistivity Counter

Operating: Jan – Dec 2023

Performance: V. Good

Verified: Yes

21.1 River site and description

The Culfin counter is in Lettergesh village down-stream of Lettergesh Bridge. The river is open for angling with a surplus of fish. The structure is a purpose-built weir with two counting channels. The counts are verified by CCTV. The fishing rights are privately owned by the Ormsby and Thomson families.

21.2 Operation

The counter has not had any problems and worked consistently throughout the year. The counter has been carefully maintained and has produced accurate verifiable figures. The numbers of fish remain relatively constant each year. IFI will upgrade the hardware on this site when required. The current system is very suitable for this site and works well.



Table 39: Counter data for the Culfin River

Fish Species	Number
Spring salmon	14
Grilse	409
Late Summer Salmon	108
Sea Trout	127

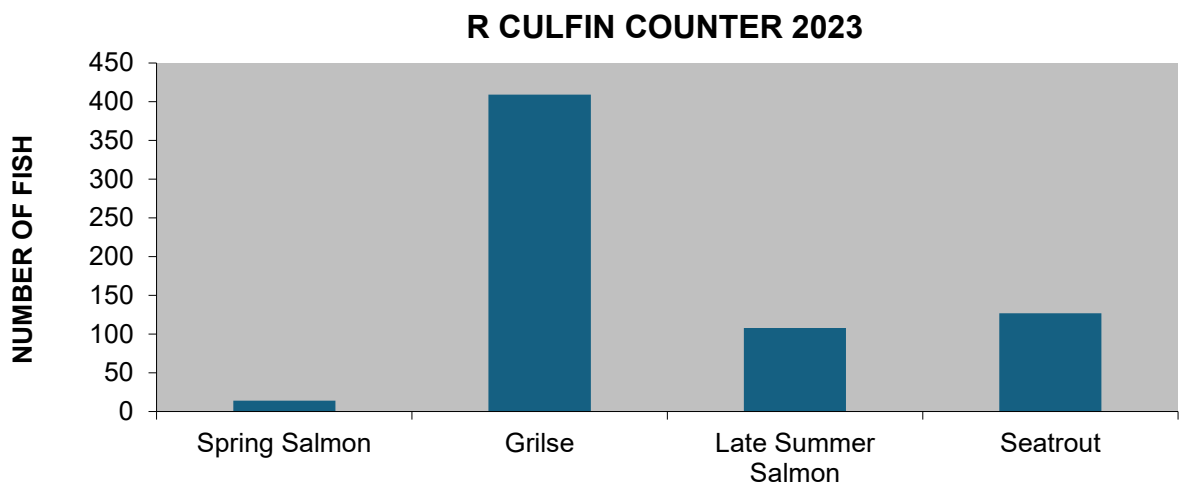
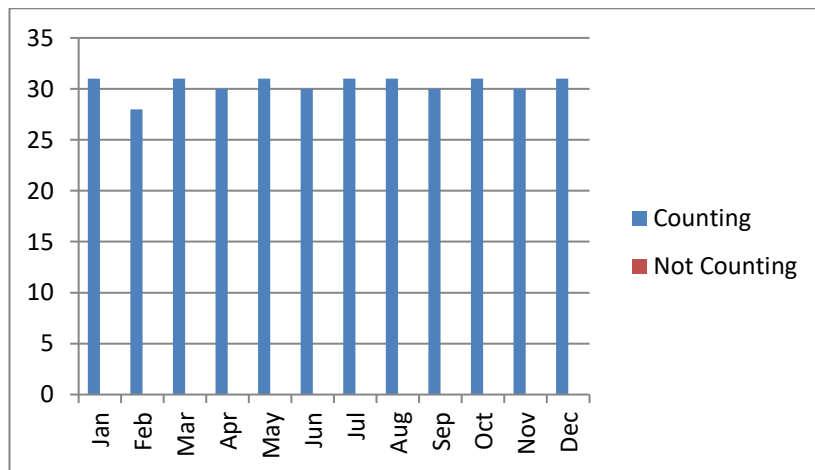


Table 40: Counter Operations

Counter Operational (Days)	Counter not operational (Days)
365	0



22 Erriff River



Counter type: Vaki Optical Counter

Operating: Jan- Dec 2023

Performance: V. Good

Verified: Yes

22.1 River site and description

The Erriff River is The National Salmonid Index Catchment River for IFI. The river has been one of the principal salmon and sea trout fisheries in the West of Ireland. IFI operates a Vaki counter on the river. The location of the counter is at the top of the fish pass which allows migrating fish to pass the famous Aasleagh falls.

22.2 Operation

The counter operated consistently throughout the year. The counter is operated in conjunction with several other recording devices which allows us to establish the accuracy of this type of counter. The counter is very accurate. The run of salmon was a below average run for the river. The data is a net figure for wild fish into the system as tagged ranched salmon are removed from the system at the trap and are not allowed to access the river to spawn.



Table 41: Counter data for the Erriff River

Fish Species	Number
Spring salmon	75
Grilse	986
Late Summer Salmon	337
Sea Trout	844

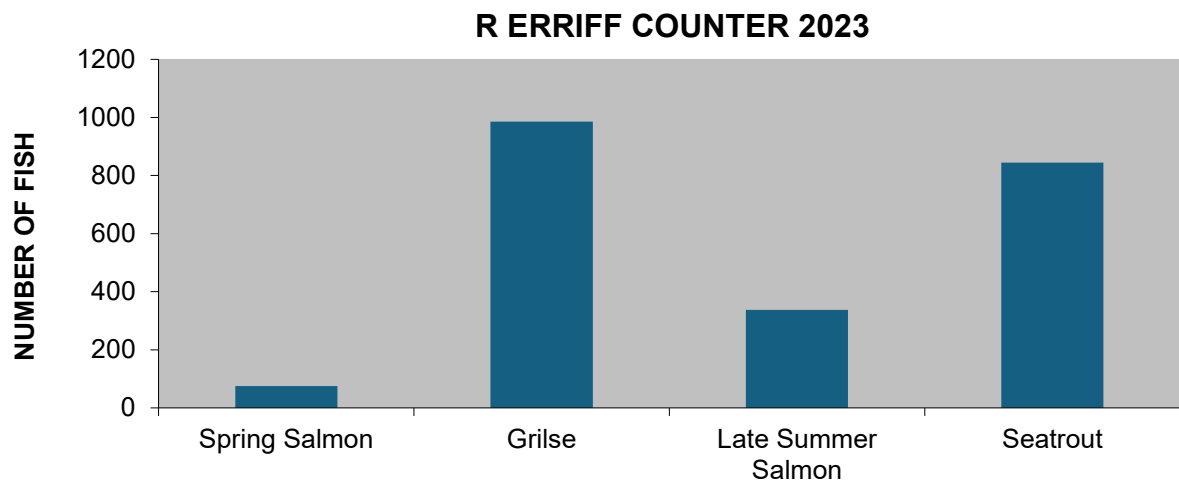
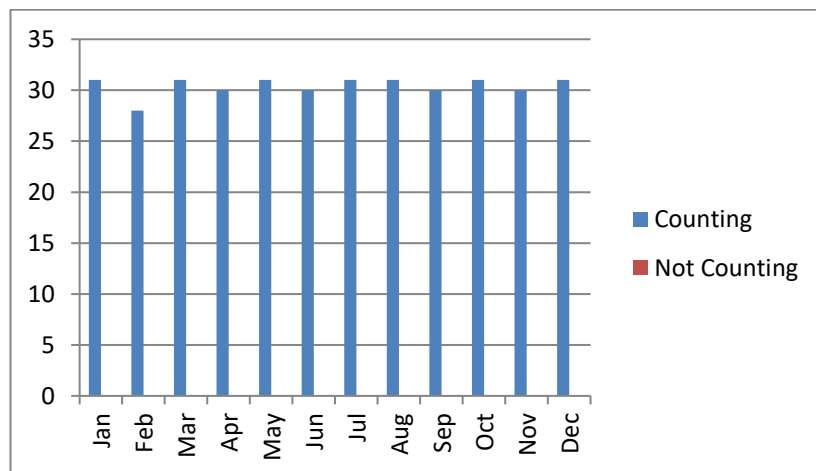


Table 42: Counter Operations

Counter Operational (Days)	Counter not operational (Days)
365	0



23 Bunowen River



Counter type: Resistivity Counter

Operating: Jan-Dec 2023

Performance: V. Good

Verified: Yes

23.1 River site and description

The Bunowen River is partially owned by the state and managed by Inland Fisheries Ireland. There is a small section of the river that is privately owned. The river is 10 kilometres in length and drains an area of 75km squared which includes three lakes. The counter is located beside the IFI store at Ballyhip, Louisburgh, Co. Mayo.

23.2 Operation

The counter has performed well over the year and continues to provide an accurate total count for the river. The location of the counter is well upstream of the confluence with the sea. The counter usually records a late run of fish – this is not due to fish entering the river late in the season but is due to fish resting in the deep pools in the lower section of the river over the summer and only ascending the river to spawn in November and December. It also gives the impression of an early run of spring salmon which is not the case.



Table 43: Counter data for the Bunowen River

Fish Species	Number
Spring salmon	92
Grilse	220
Late Summer Salmon	111
Sea Trout	133

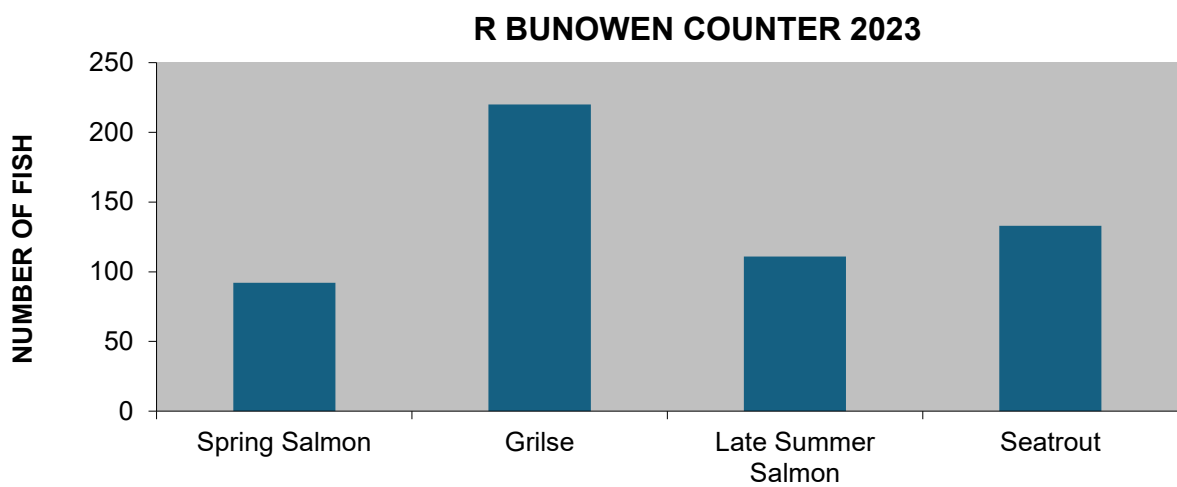
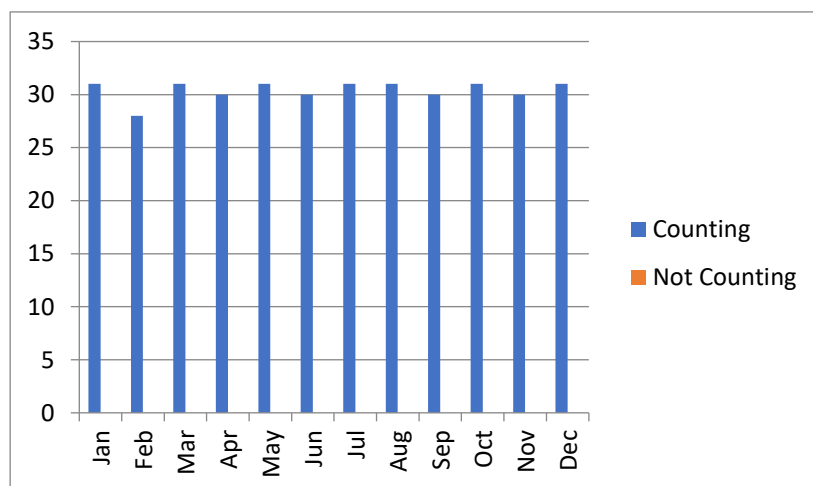


Table 44: Counter Operations

Counter Operational (Days)	Counter not operational (Days)
365	0



24 River Moy Counters



Counter type: Resistivity Counter/Vaki Optical Counters

Operating: Jan- Dec 2023

Performance: V Good

Verified: Yes

24.1 River site and description

The completion of the refurbishment works on the Ballina Salmon Weir allowed for the reintroduction of the counters on the Moy River. Following an upgrade in 2014 there are now two Logie counter crumps and two Vaki counters which were installed in May of 2012. The counters are located on the site of the refurbished weir. The four counters provide a partial count for the river.

24.2 Operation

The counting section of the Moy is two Logie crumps and two Vaki channels. The most significant numbers of fish travelling upstream do so through the queen's gap without being counted. The counts from year to year depend on water level and can vary significantly; the facility only provides a partial count. Counting in the winter months is limited due to the risk of leaving the gates closed and the resulting flood risk to the town.



Table 45: Counter data for the Moy River

Fish Species	Number
Spring salmon	1998
Grilse	4158
Late Summer Salmon	868
Sea Trout	0

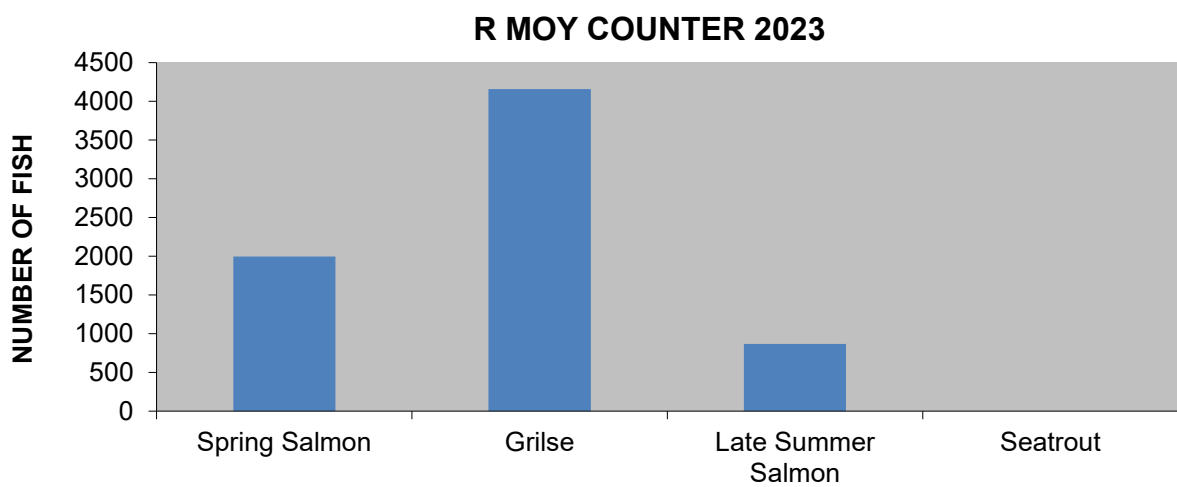
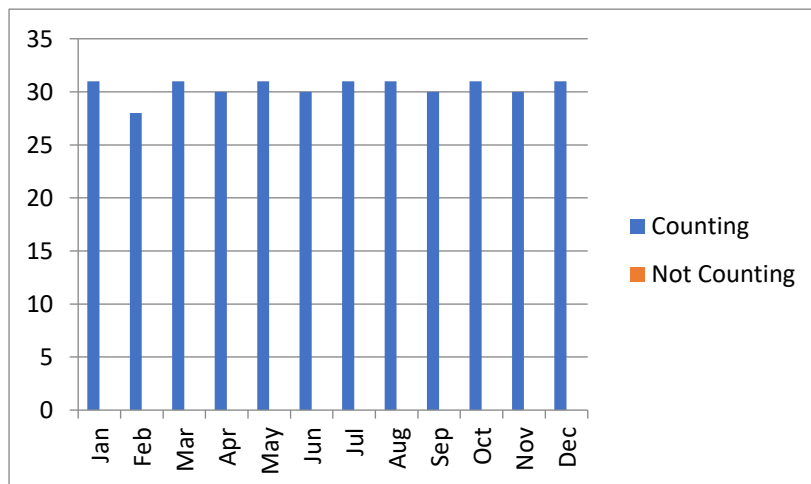


Table 46: Counter Operations

Counter Operational (Days)	Counter not operational (Days)
351	14





25 Eske River



Counter type: Resistivity Counter

Operating: Jan- Dec 2023

Performance: V Good

Verified: Yes

25.1 River Site and Description

The Eske fishery consists of the 5km River Eske, the 900-acre Lough Eske and its tributaries. The fishery has a run of spring salmon, a good run of grilse and late salmon. The counter at this installation is a resistivity (Logie) counter.

25.2 Operation

The counter worked well all year and a full count for the year on all 3 channels was obtained. The counter was downloaded, and all data was verified on a weekly basis giving accurate counts for the river. New camera mounts were installed. The site was well maintained and downloaded regularly with no loss of data.



Table 47: Counter data for the Eske River

Fish Species	Number
Spring salmon	27
Grilse	503
Late Summer Salmon	169
Sea Trout	73

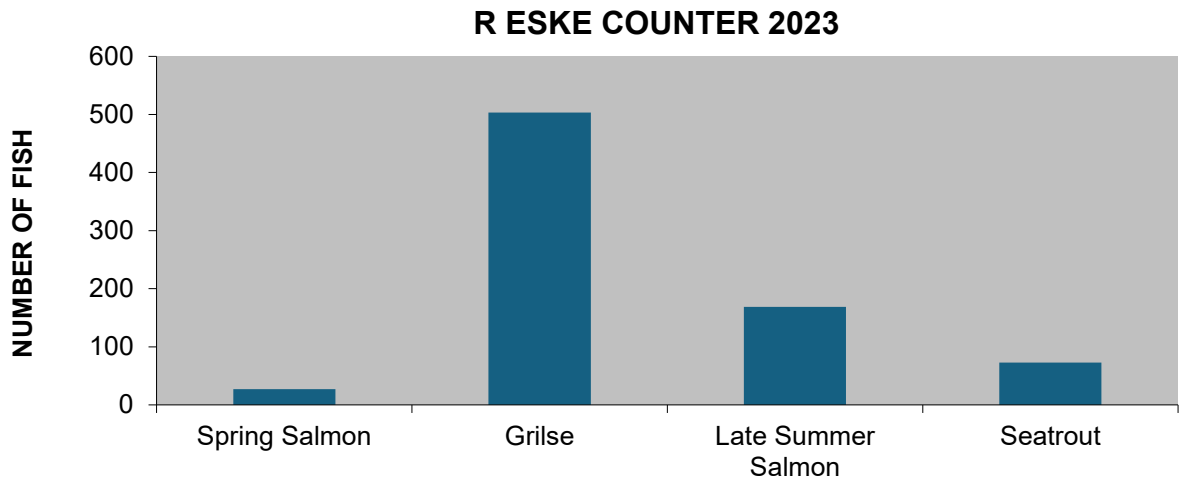
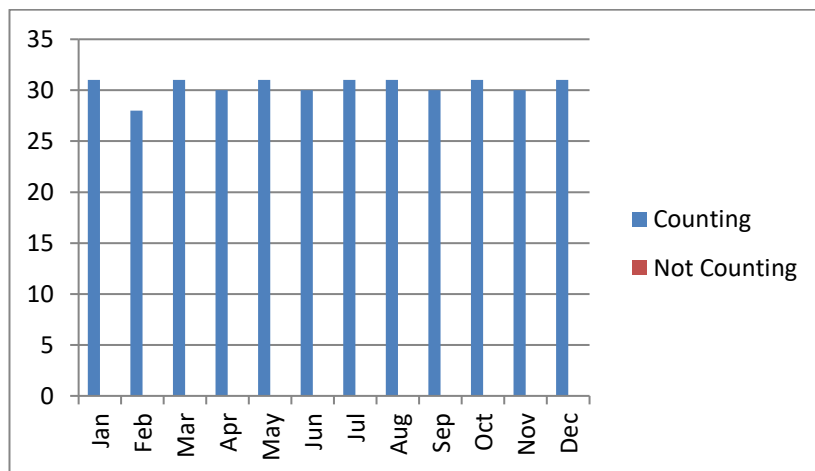


Table 48: Counter Operations

Counter Operational (Days)	Counter not operational (Days)
365	0





26 Eany River



Counter type: Resistivity Counter

Operating: Jan- Dec 2023

Performance: V Good

Verified: Yes

26.1 River site and description

The Eany water fishery is a spate river and forms part of the 125sq km Eany catchment area comprising the Eany water, the lower reaches of the Eanymore and the lower reaches of the Eanybeg. The fish counter is in the lower section of the river just above the tidal area. The fishery has a small run of spring fish but is noted for its midsummer runs of grilse, late runs of summer salmon and for seatrout.

26.2 Operation

The Logie counter worked well resulting in a comprehensive count for the year for the river. A small number of maintenance issues were sorted out promptly and this ensured a continuous accurate count. All the data collected by the counter has been verified by CCTV cameras. New cameras and cables have been installed on the site in conjunction with new recording hardware.



Table 49: Counter data for the Eany River

Fish Species	Number
Spring salmon	51
Grilse	366
Late Summer Salmon	126
Sea Trout	51

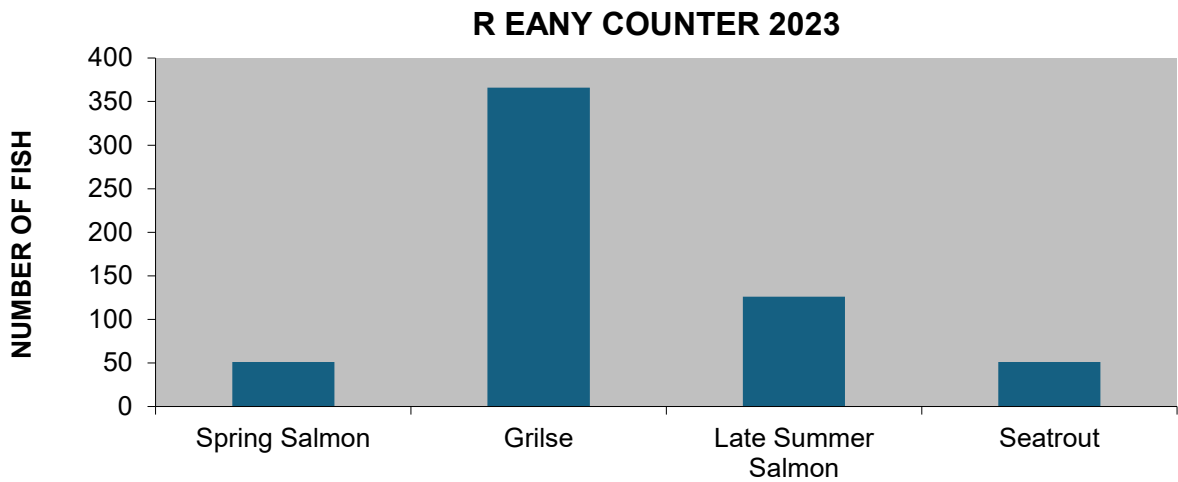
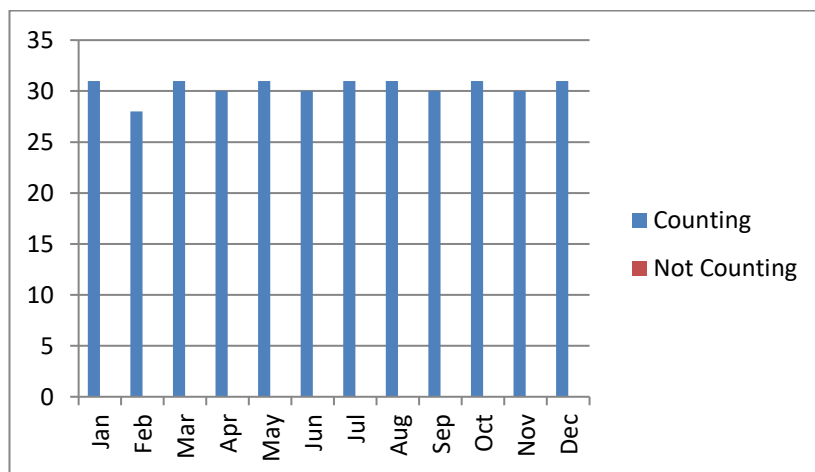


Table 50: Counter Operations

Counter Operational (Days)	Counter not operational (Days)
365	0



27 Lackagh River



Counter type: Resistivity Counter

Operating: Jan–Dec 2023

Performance: Excellent

Verified: Yes

27.1 River site and description

The Lackagh fishery is situated partially within Glenveagh National Park and within an S.A.C. This fishery is one of the few recognized multi-winter sea winter salmon fisheries in the Northwest. This fishery is currently below its conservation limit. The new counter has been built and was commissioned early in 2017. The counter is a three-channel resistivity counter with verification cameras on all three crumps. The counter has been engineered with a walkway to allow for easy access for maintenance and repairs.

27.2 Operation

The counter has been funded by the “Salmon Conservation Fund” and is operated by IFI staff. The counter is visited regularly, and the data verified. All fish movements were verified on the site. This counter has provided accurate data for the river for 2023. Data recorded would suggest a poor run of fish for the river this year.



Table 51: Counter data for the Lackagh River

Fish Species	Number
Spring salmon	62
Grilse	191
Late Summer Salmon	62
Sea Trout	84

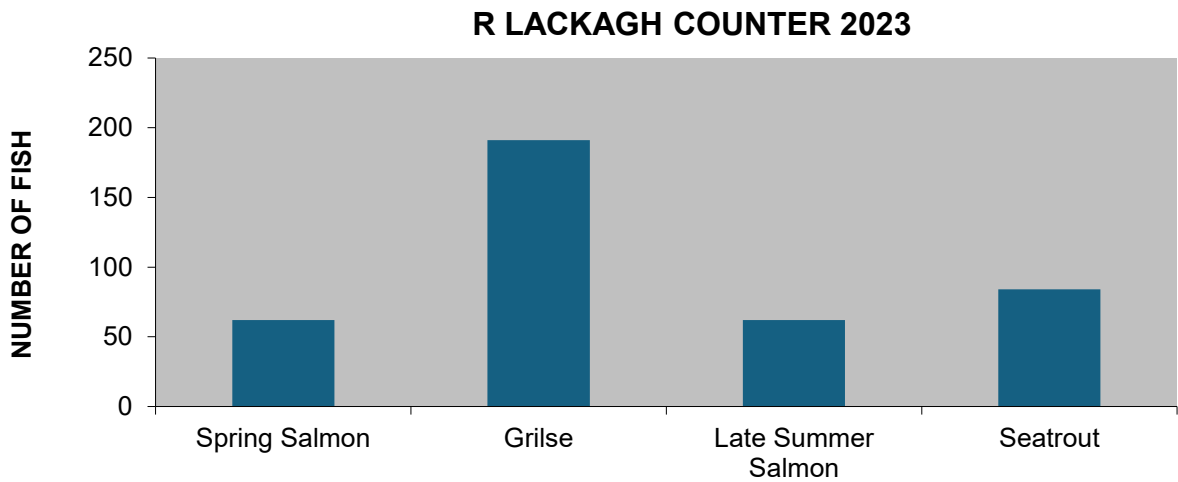
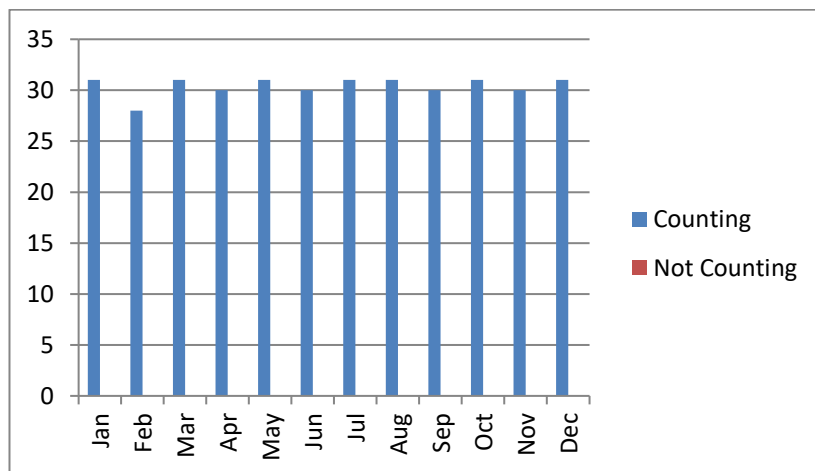


Table 52: Counter Operations

Counter Operational (Days)	Counter not operational (Days)
365	0





ESB Counter Network

In 2022 ESB and Inland fisheries Ireland entered a three-year memorandum of understanding to rejuvenate the fish counters which was being operated by the ESB.

The counters are located on the river Liffey, Erne, Shannon, Clady, and the Lee, on fish passes at ESB operated hydro generating stations. The ESB fish counter programme involves five Vaki counters and one Logie counter.

In some cases, new Vaki Riverwatcher counters were purchased to replace older models and installed by ESB/IFI staff in 2022.

The reinstallation of the counter at Inishcarra weir on the Lee has been completed and remote access is available for this site. Information has also been downloaded manually to ensure counter is working to capacity.

The counters have provided accurate verified data since their reinstallation and will provide important data for the river systems for the foreseeable future.

28 Leixlip Counter



Counter type: Resistivity Counter

Operating: Jan–Dec 2023

Performance: Excellent

Verified: Yes

28.1 River site and description

The fish counter is sited on the upper end of the fish lift at the Leixlip dam on the river Liffey. It is a Logie, resistivity, counter with one channel covering the width of the fish lift chute and provides a full count of salmon that pass up-river past this point of the river. The current configuration includes a desktop computer with Geovision DVR card and two cameras which provides verification for the fish count.

28.2 Operation

The Logie counter has been repaired and reinstalled. The counter is serviced by a desktop computer with a Geovision card installed. The current hardware is very suited to this site. There are two Sony submersible cameras on site. Two cameras at the top of the fish pass allow for verification of the fish ascending the system. This counter has operated well in 2023.



Table 53: Counter data for the Liffey (Leixlip) River

Fish Species	Number
Spring salmon	331
Grilse	67
Late Summer Salmon	92
Sea Trout	56

R LIFFEY (LEIXLIP) COUNTER 2023

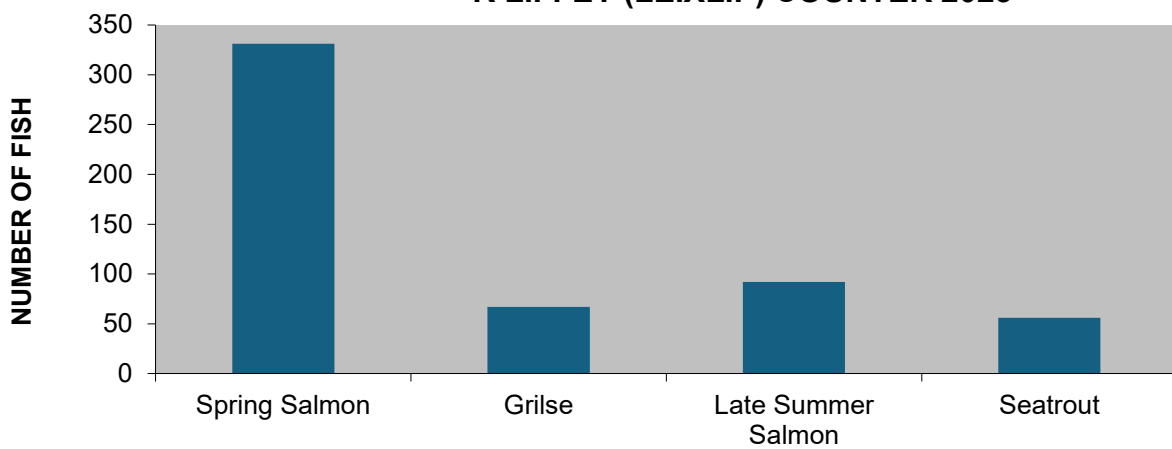
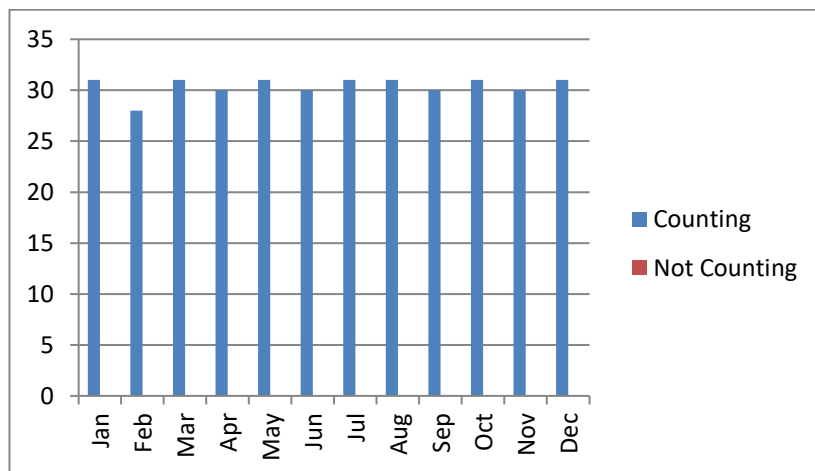


Table 54: Counter Operations

Counter Operational (Days)	Counter not operational (Days)
365	0



29 Cliff Hydro Station



Counter type: Vaki (Windows 10/Minicomputer)

Operating: Jan – Dec 2023

Status: Full count

Verified: Yes

29.1 River site and description

The counter is in the fish pass for the Cliff Hydro Station on the Erne. The fish pass is a series of pools that allow fish to pass the hydro station. The Vaki frame is in one of the pools in the fish pass which allows for a total count of salmon that pass upstream of this point. The display unit is located outside the main building and is housed adjacent to the fish pass in a stainless-steel cabinet. The Vaki counter is a new generation counter which includes a minicomputer with windows 10 operating system.

29.2 Operation

The counter has worked well during the year. The distance between the display unit and the panel has been reduced significantly which has resulted in a more successful counter. The data has been downloaded by IFI staff and the ESB staff locally have carried out upgrades as any works carried out on or in the fish pass requires a "Proof of isolation" lock out order.



Table 55: Counter data for the Erne River

Fish Species	Number
Spring salmon	0
Grilse	86
Late Summer Salmon	101
Sea Trout	0

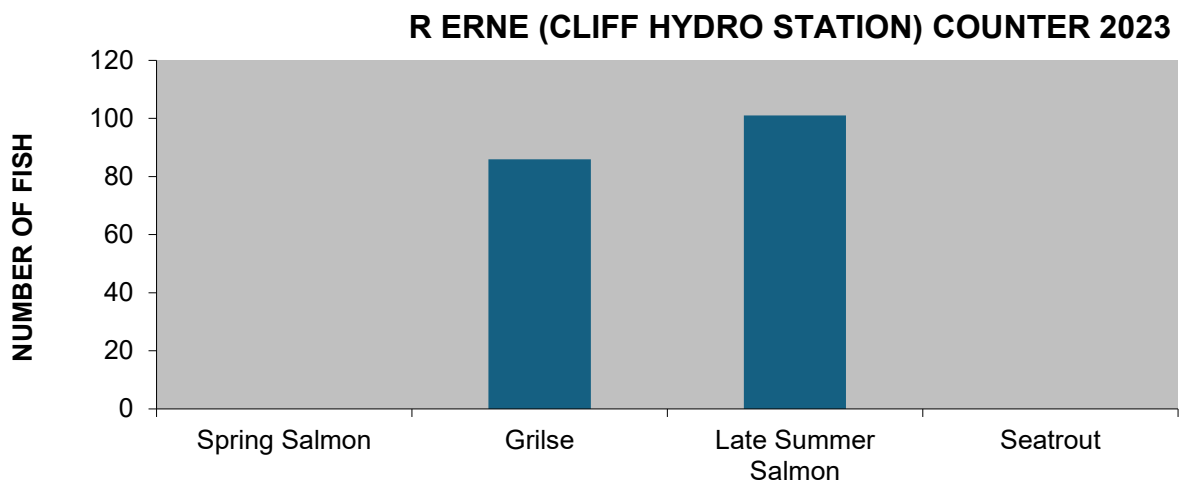
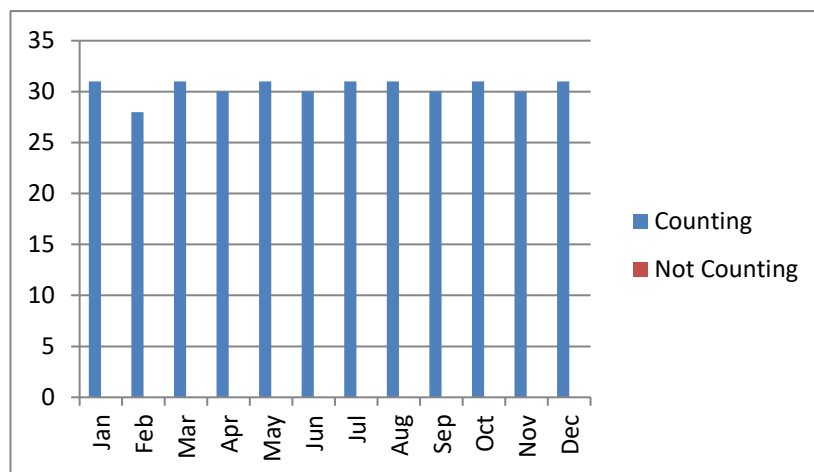


Table 56: Counter Operations

Counter Operational (Days)	Counter not operational (Days)
365	0



30 Ardnacrusha Hydro Station



Counter Type: Vaki Counter

Operating: Jan – Dec 2023

Status: Full count

Verified: Yes

30.1 River site and description

The counter is a Vaki counter located at the upper end of the Borland type fish-lift at the country's largest generating station on the River Shannon. The panels are located at the top of the lift before they enter the flume. The computer and software to interrogate the counter and cameras is in an office in the main building. There is a GSM mobile remote access to the counter on site.

30.2 Operation

The counter is operational using an older type of DU which has proved very successful for this site. The panels are located at the top of the lift which is a stable site and produces accurate results. The fish counter operated successfully throughout the year.



Table 57: Counter data for the Shannon River

Fish Species	Number
Spring salmon	14
Grilse	24
Late Summer Salmon	37
Sea Trout	0

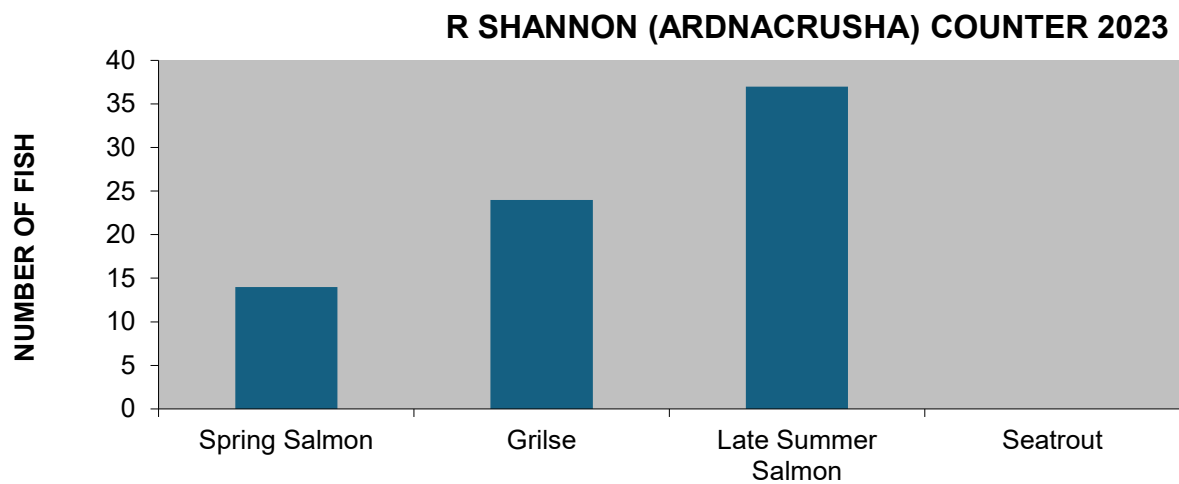
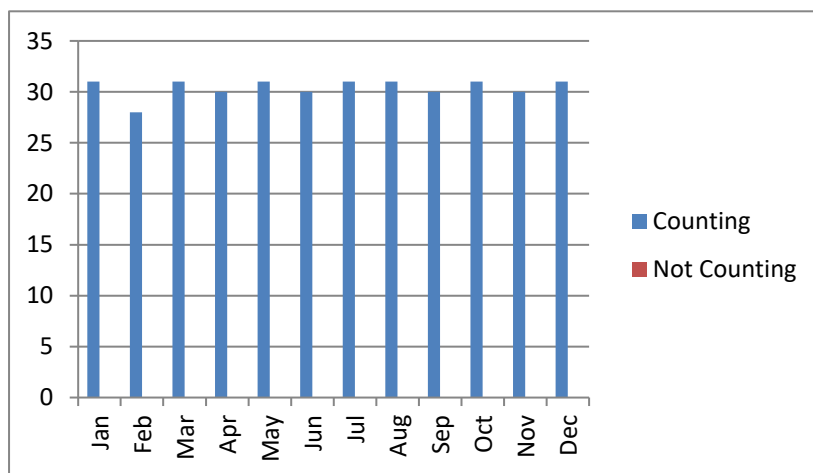


Table 58: Counter Operations

Counter Operational (Days)	Counter not operational (Days)
365	0



31 Parteen Impounding Weir



Counter Type: Vaki

Operating: Jan – Dec 2023

Status: Full count

Verified: Yes

31.1 River site and description

This site is located on the weir at the lower end of the Shannon, and it regulates the water for the main Ardnacrusha Hydroelectric station. The counter is a standard Vaki counter with a digital display unit located in the hatchery building and the panels in the fish pass. The fish pass is a ladder type fish pass which is maintained by the hatchery staff.

31.2 Operation

The counter is a new Vaki counter system which was purchased and installed in 2023. The counter works well, and remote access is available on this site. The counter has recorded a significant run of salmon since its reinstatement.



Table 59: Counter data for the Shannon River

Fish Species	Number
Spring salmon	92
Grilse	198
Late Summer Salmon	81
Sea Trout	0

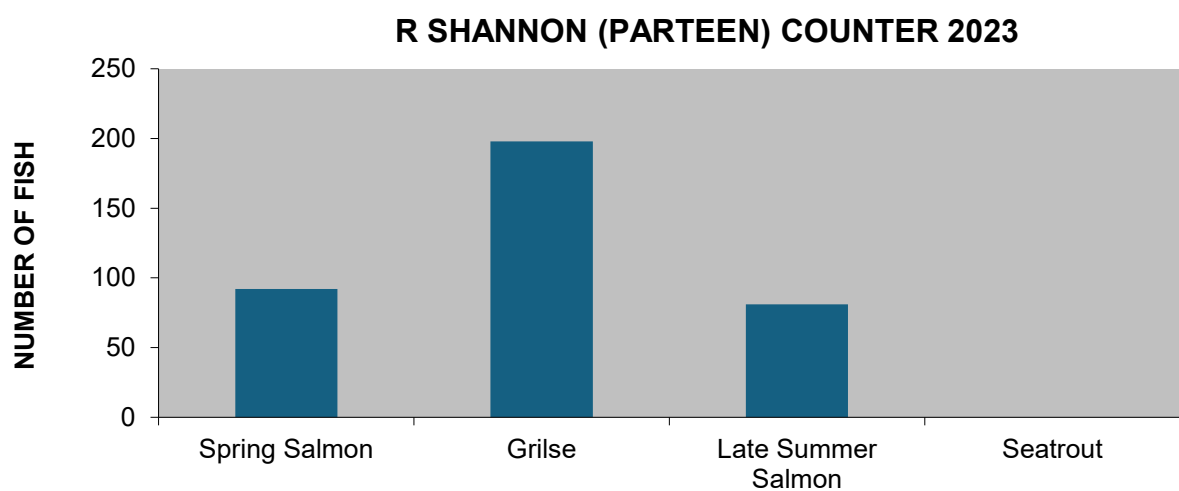
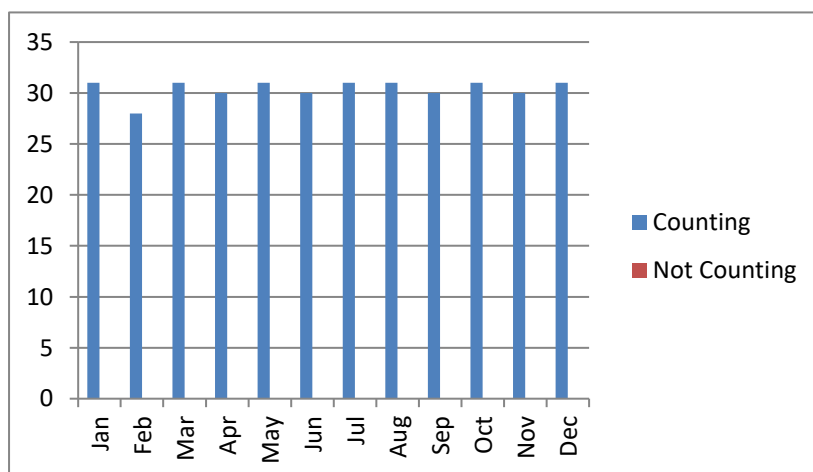


Table 60: Counter Operations

Counter Operational (Days)	Counter not operational (Days)
365	0





32 Inishcarra Hydro Station



Counter Type : Vaki

Operating: May to Dec 2023

Status: Full count

Verified: Yes

32.1 River site and description

The fish counter is in a fish lift in the Inishcarra dam which was built in 1953 on the River Lee in Co Cork. The Vaki counter is a standard configuration which requires a laptop and connection to download on-site and verification off-site. All physical works need to be completed by staff on site. The Vaki panels are held in place by a special metal frame on the upper end of the lift.

32.2 Operation

The counter is currently operational and a new Vaki optical counter was installed in May 2023. The cradle has been replaced on the weir to hold the panels and the counter is working well. This counter has remote access capability.



Table 61: Counter data for the Lee River

Fish Species	Number
Spring salmon	0
Grilse	08
Late Summer Salmon	39
Sea Trout	0

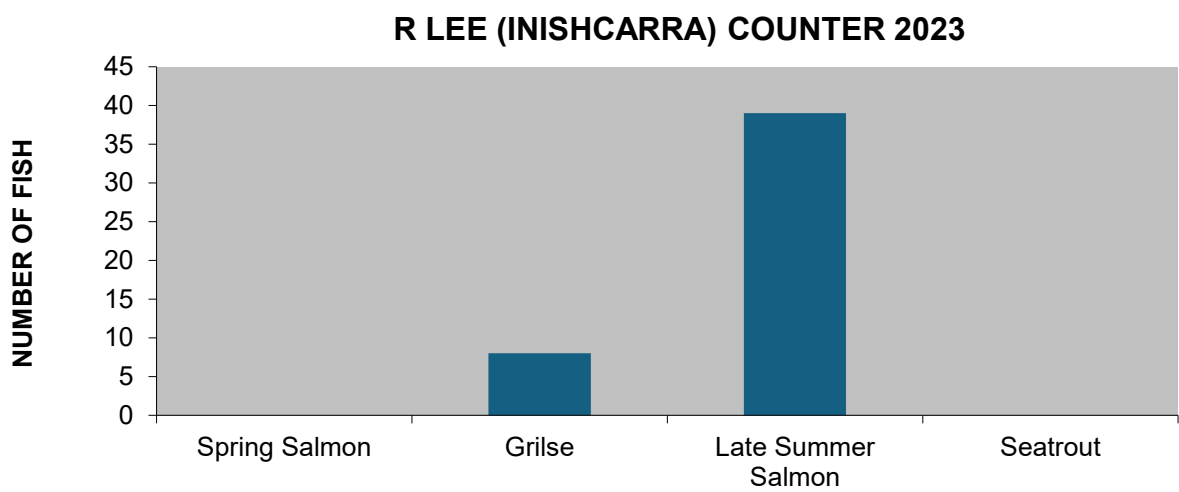
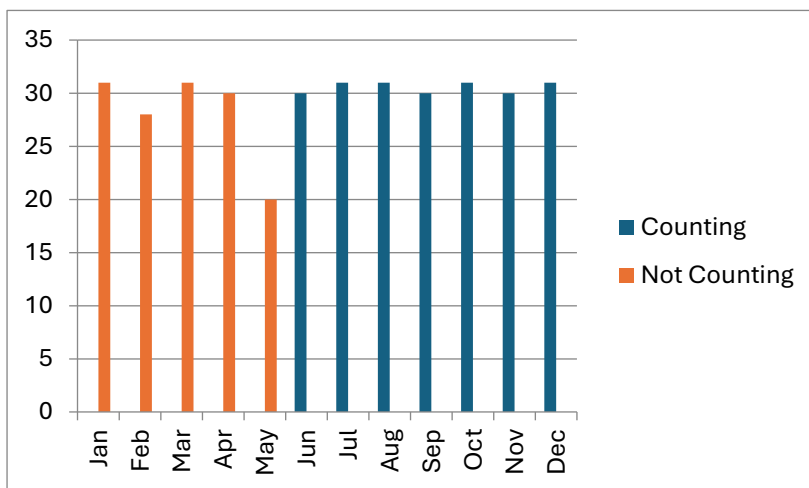


Table 62: Counter Operations

Counter Operational (Days)	Counter not operational (Days)
214	140



33 Clady River



Counter type: Vaki

Operating: May – Dec 2023

Performance: Good

Verified: Yes

33.1 River site and description

The Clady River flows through wild moorland for around 9 kms draining Lough Nacung at Gweedore and flowing through Bunbeg to join the Crolly River estuary. The Clady gets a good run of grilse with the odd autumn salmon. The river flow is controlled by a hydroelectric power station at the head of the river. The counter is located well up the system with significant spawning occurring below the census facility. Therefore, it provides limited census data for the full Clady catchment.

33.2 Operation

The new Vaki counter is an upgraded base model to replace the older Vaki that was on this site. This site is operated by the ESB with operator assistance from IFI. IFI staff download and verify the data and the site maintenance is carried out by the ESB. This counter site has remote access capability.



Table 63: Counter data for the Clady River

Fish Species	Number
Spring salmon	07
Grilse	37
Late Summer Salmon	0
Sea Trout	56

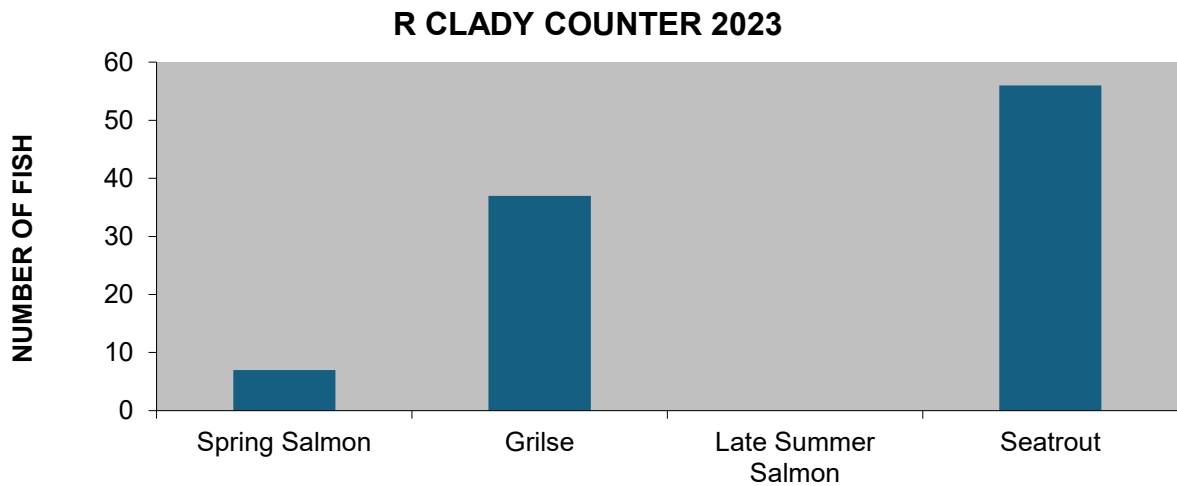
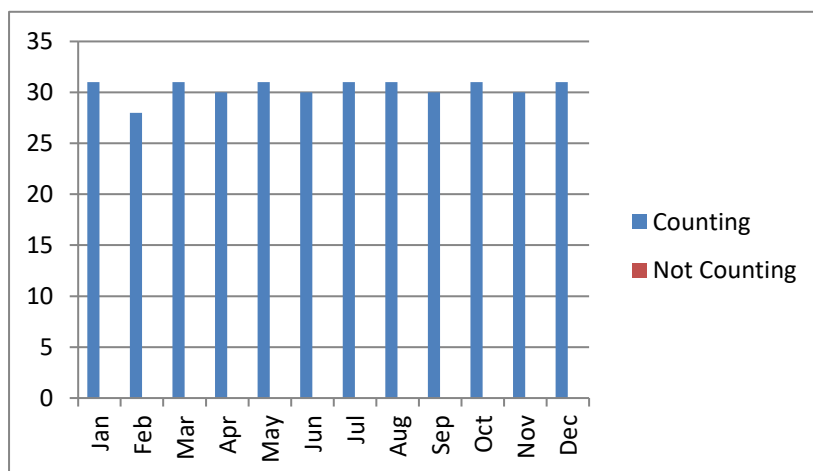


Table 64: Counter Operations

Counter Operational (Days)	Counter not operational (Days)
365	0





Conclusion

The fish counter programme has operated successfully with almost all the counters' sites providing accurate verified data for the year. Significant work has taken place to upgrade recording equipment and cameras on sites around the country. The three-year upgrade plan has been successfully completed. Additional research to provide remote access is ongoing. This will increase our download capability and frequency. These are currently in available at several sites. It will not be possible to have all sites due online due to the remote nature of the fish counters and lack of broadband facilities. Assessments are being carried to enable the counters to download live to a central server which would protect the data in the event of a malfunction at the river site.

New hardware to support high-definition cameras which are compatible with the resistivity counters had been identified in 2019 and we were able to complete the upgrade plan. A small number of sites remain with the older recording equipment as it suits these locations better.

Plans for 2024 include the continued upgrade of hardware, if necessary, on the outstanding sites and further research into broadband/GSM and remote access which will contribute to the reduction of the carbon footprint of the organisation.

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