

LOUGHS AGENCY OF THE FOYLE CARLINGFORD AND IRISH LIGHTS COMMISSION



# Foyle Area and Tributaries Catchment Status Report 2014

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Conservation and assessment of fish  
populations and aquatic habitats

Art Niven, Mark McCauley & Rachel Scott, Loughs Agency of the Foyle Carlingford and Irish  
Lights Commission  
July 2015



Conservation actions and assessments on fish populations and aquatic habitats are presented for 2014. The status reports have been designed to facilitate quick reference to contemporary information. Additional information can be found in associated publications and in previous status reports available on the Loughs Agency website [www.loughs-agency.org](http://www.loughs-agency.org)

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## 1.0 INTRODUCTION

The Loughs Agency continued to fulfil and develop its broad conservation and protection remit in 2014. The catchment status reports have been designed to provide a mechanism for interested stakeholders to access important facts and figures for quick reference. The key long term data sets collected as part of the “audit point management system” for Atlantic salmon are presented here and include rod catch, returning adult salmon fish counts derived from electronic fish counters, electrofishing surveys on juvenile Atlantic salmon and spawning counts.

Over recent years the monitoring role in support of the conservation and protection functions of the Loughs Agency and other national and international obligations has been developed. The Loughs Agency freshwater fisheries monitoring programme incorporates a variety of important long term monitoring projects. These include ongoing habitat impacts, barriers to fish migration and invasive species surveys, Water Framework Directive fish monitoring, rare fish monitoring, stillwater fish surveys, adult Sea trout monitoring, multi species index tributary monitoring and pre spawning trout monitoring. All of the long term monitoring projects provide evidence for inclusion into dynamic management strategies.

From 2014 information on monitoring projects has been communicated to stakeholders in an increasing number of accessible forms including through social media. Twitter has been used extensively to convey real time survey information from the full spectrum of monitoring projects. You tube has also been utilised to further promote the monitoring projects and to provide a narrative of and context to these. The Loughs Agency appreciates that an important aspect of conservation and protection of our aquatic resources is to promote awareness of these. By using a variety of media ranging from print, video, audio and social media the broadest possible audience can be reached providing stakeholders with important, timely and relevant information. This information can then be utilised in many ways both internally by Loughs Agency staff and externally by stakeholders to deliver sustainable social, economic and environmental development to the local communities of the Foyle and Carlingford areas. For more information contact [art.niven@loughs-agency.org](mailto:art.niven@loughs-agency.org)

## 2.0 ATLANTIC SALMON STOCKS SUMMARY

- There were no net fisheries pursued for Atlantic salmon in the Foyle area in 2014. This is due to the continued failure of the River Finn to meet its conservation limits as outlined under the Foyle Area (Control of Fishing) Regulations 2010. Angling is permitted in the River Finn and River Foyle on a catch and release basis only.
- Total declared Atlantic salmon rod catch for the Foyle and Carlingford area was 1600. Catch and release for the Foyle and Carlingford areas was 48%.
- Returning adult Atlantic salmon counts derived from electronic fish counters in 2014 at Sion Mills on the River Mourne were 3852 salmon/grilse, Killygordon on the River Finn 3748, Campsie Barrage on the River Faughan 2386 and Limavady bypass on the River Roe 3427.
- Spawning redd counts for the Foyle area were 1546 in 2014/15.
- Juvenile electrofishing surveys within the Foyle system at 441 sites recorded an average of 18 salmon fry (Young of Year).

### Loughs Agency Management Strategy for Atlantic salmon

The Loughs Agency uses an audit point management system for monitoring the populations of Atlantic salmon within the Foyle and Carlingford areas. Population estimates and indices are derived for various life history stages including adult counts from electronic fish counters situated at key locations, spawning redd counts, juvenile electrofishing indices, rod catch and commercial net catches.

Numbers of Atlantic salmon stocks particularly grilse (1SW fish) from southern populations of north east Atlantic stocks are currently at a low point. International research has highlighted climate change and marine ecosystem change as potential causes for this observed decline. The Loughs Agency is working with colleagues at regional, national and international levels to understand this decline and to implement best practice conservation actions.



## 2.1 NET FISHERIES

Net fisheries have not been operated in the Foyle area since 2009 (Figure 1). The Foyle Area (Control of Fishing) Regulations 2010 provides various mechanisms for regulating both commercial and rod fisheries for salmon including under Section 3. (1) The Commission shall make a declaration.....if it is satisfied that..... (d) the number of salmon which have migrated upstream of the River Finn fish counter during each of any two of the previous five calendar years has not exceeded 5,410. A declaration under this shall..... (d) in the case of subparagraph (d), suspend netting in the River Foyle, Lough Foyle and seaward of Lough Foyle and restrict angling in the River Finn to angling on a catch and release basis only from the date and time specified in the declaration....The Commission can make the relevant declaration ending the suspension of netting and restriction on angling if it is satisfied that the number of salmon migrating upstream of the relevant counter during each of any four of the previous five calendar years has exceeded the number of salmon for that river.

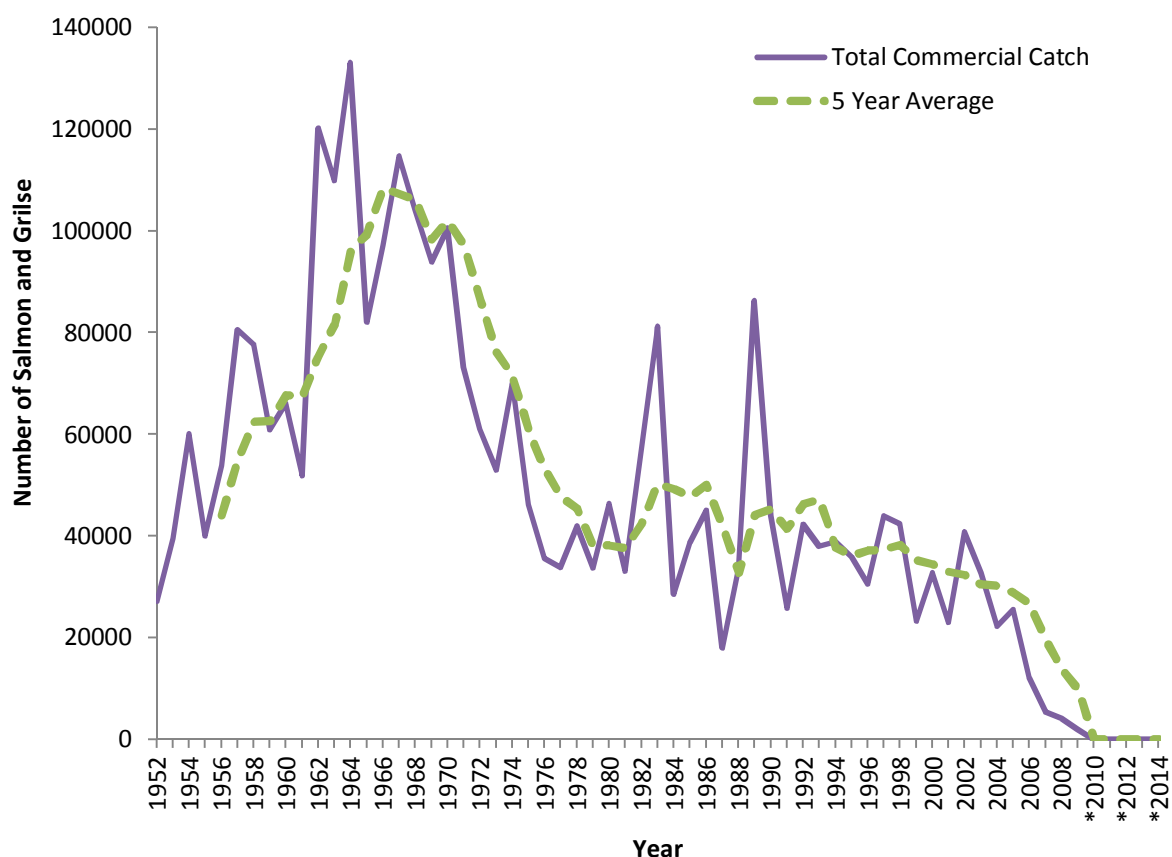


Fig.1 Total commercial catch 1952-2014 and 5 year average total commercial catch.

## 2.2 ROD CATCH

Total rod catch returns were 14% in 2014 (Figure 2). A total of 1600 salmon/grilse were caught in the Foyle and Carlingford areas in 2014 (Figure 2 & 3). 48% of the reported rod catch of salmon and grilse in the Foyle and Carlingford area were caught and released.

### **It is your legal obligation to make an accurate and timely rod catch return.**

There are a number of important reasons for making rod catch returns.

- How many fish were caught in YOUR RIVER OR LAKE?
- What % of fish were caught and released in YOUR RIVER OR LAKE?
- Is catch and release increasing?
- What species were caught?
- Essential for developing sustainable fishery management policy
- Screening of future developments (roads, hydro etc.) against fishery interests.
- An important tool for assessing strength of runs
- Aids with developing access and infrastructure (stiles etc.)
- It is required by law that all rod licence holders make an accurate catch return.
- Facilitates long term trend monitoring.
- Participate in the management of your river (doing your bit).
- At a time of reduced marine survival for Atlantic salmon accurate information is essential for sustainable management.
- Aids in ensuring good decision making so that future generations can enjoy the sport of fishing.
- Ensuring that all species caught are sustainably managed now and in the future.

**An unreported fish is a wasted opportunity, for economic development, for conservation, for protection of our fishery resources, for education and for future generations.**

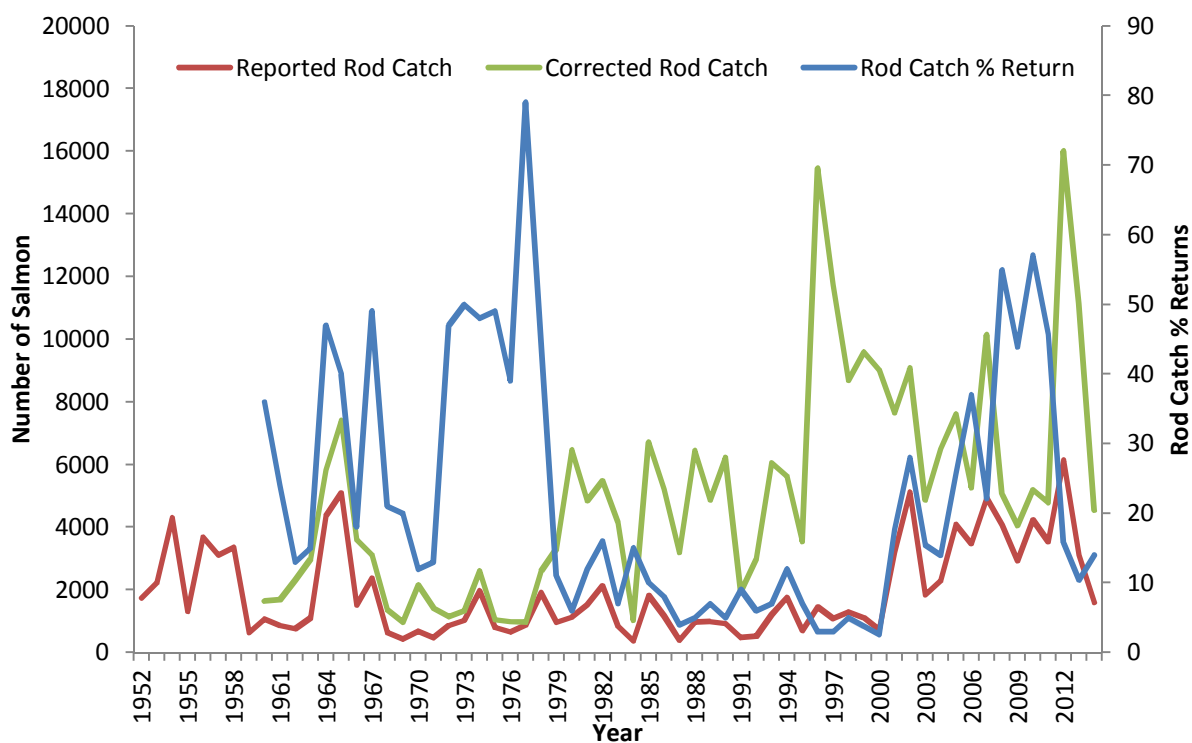


Fig.2 Loughs Agency reported and corrected rod catch with % returns made.

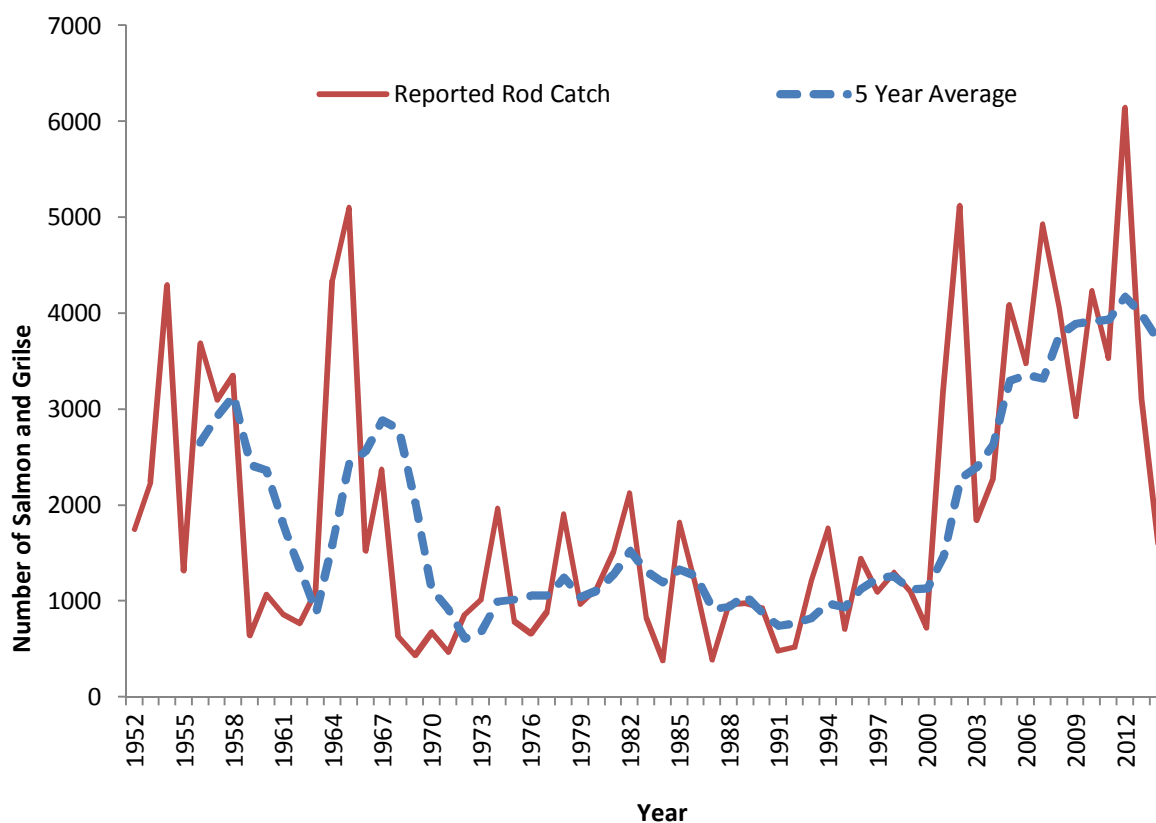


Fig.3 Reported rod catch for salmon/grilse in the Loughs Agency area and 5 year average.

## 2.3 FISH COUNTERS

The Loughs Agency operates a network of electronic fish counters throughout the Foyle and Carlingford areas to monitor the migration of Atlantic salmon into freshwaters. The counters are used to assess the attainment of conservation limits and management targets for key catchments.

In 2014 the key fish counts as recorded by the electronic fish counters on the River Mourne, River Finn, River Faughan and River Roe were; Mourne 3852 with a 5 year average of 2710, the management target for the Mourne is 8000 and the conservation limit is 6400. Finn 3748 with a 5 year average of 2420, the management target for the Finn is 5410 and the conservation limit is 4328. Faughan 2386 with a 5 year average of 1783, the management target for the Faughan is 800 and the conservation limit is 640. Roe 3427 with a 5 year average of 3546, the management target for the Roe is 1833 and the conservation limit is 1466.

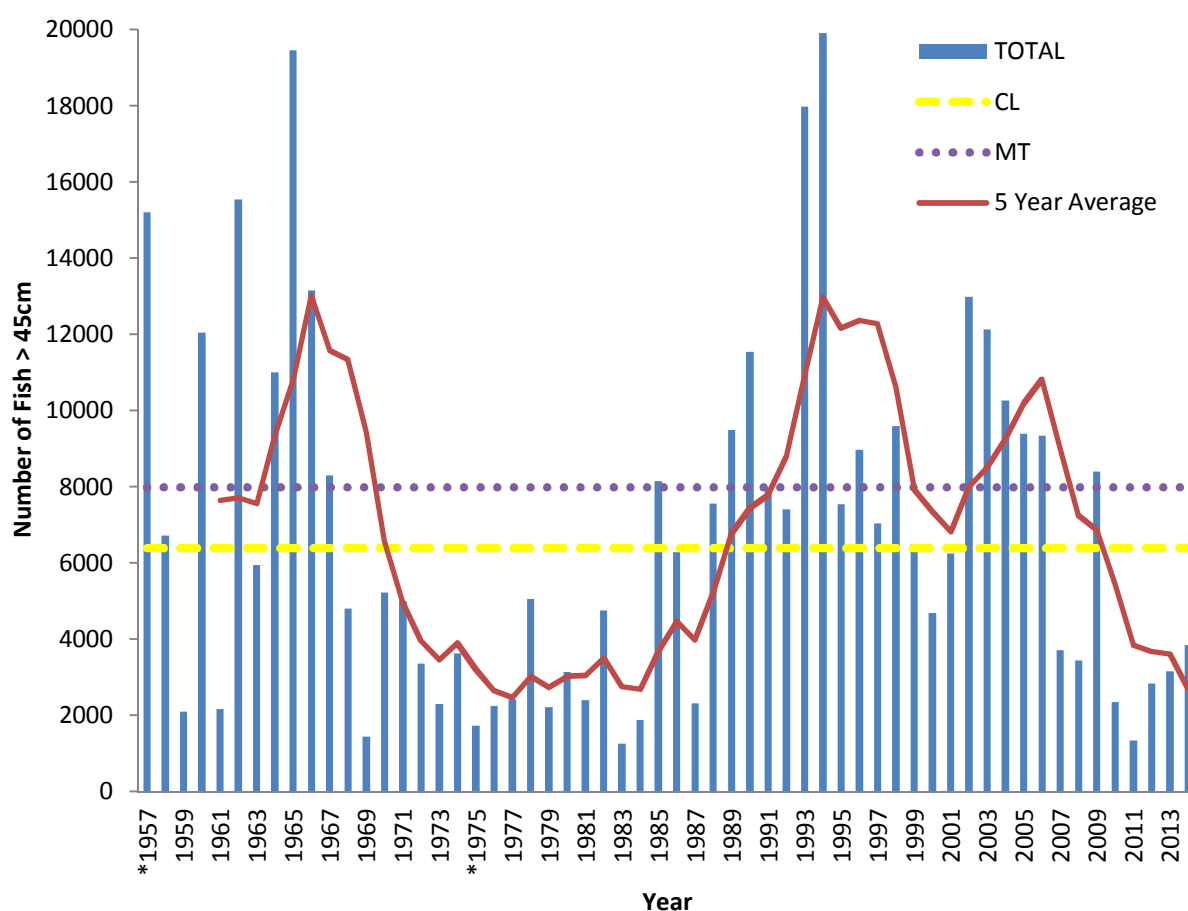


Fig.4 River Mourne annual fish counts with 5 year average, management target and conservation limit

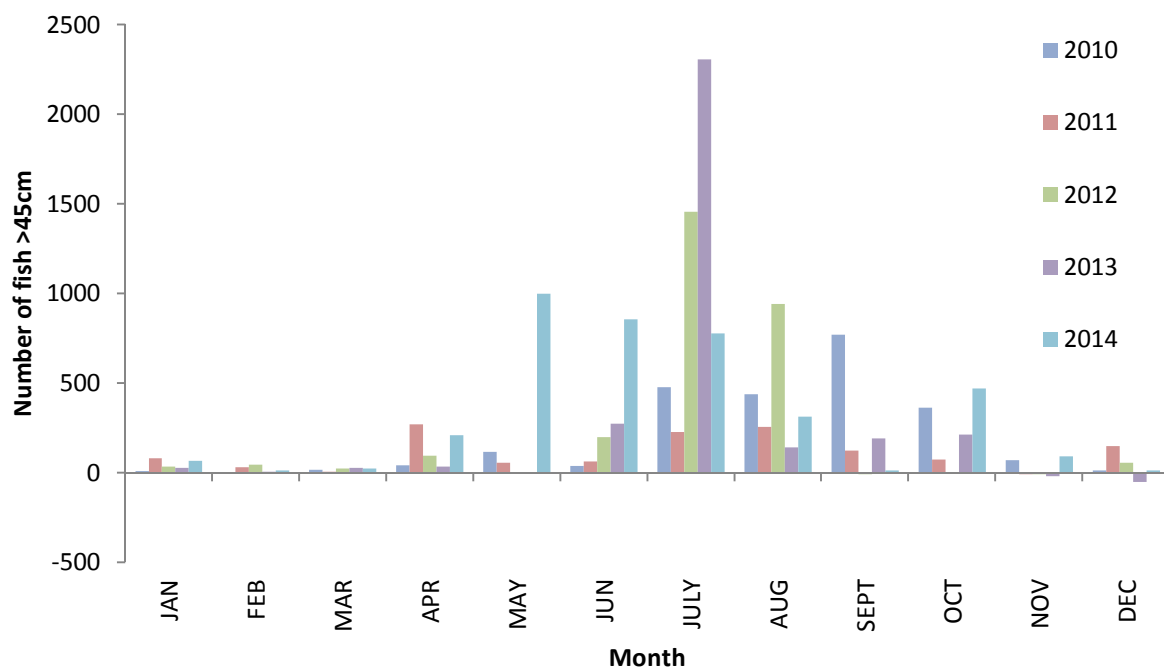


Fig.5 River Mourne monthly fish counts. Negative counts represent kelts moving downstream.

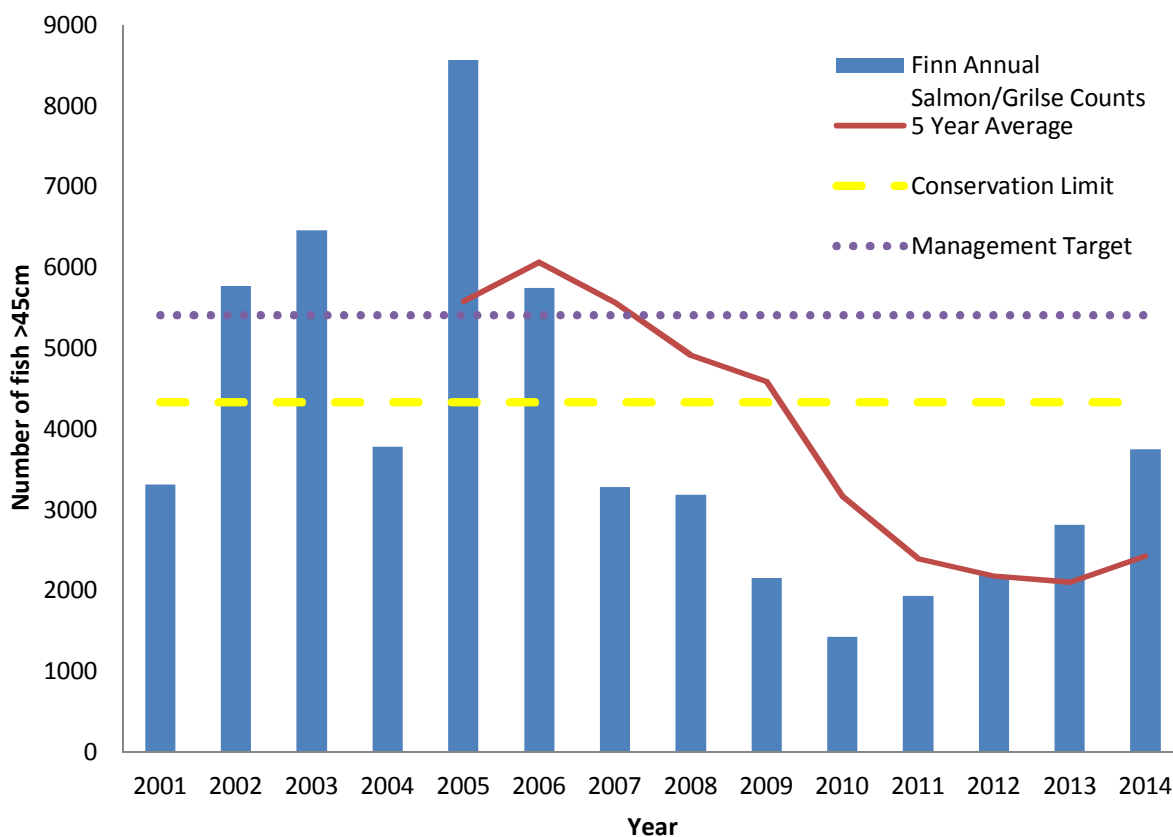


Fig.6 River Finn annual fish counts with 5 year average, management target and conservation limit.

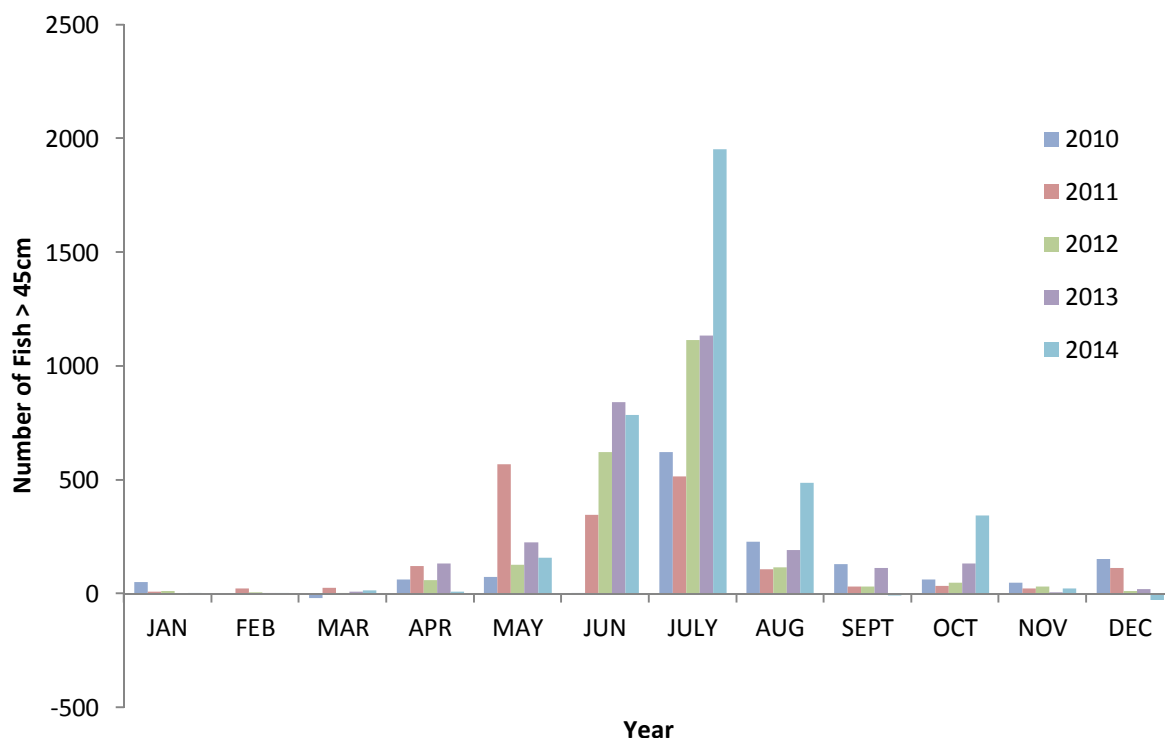


Fig.7 River Finn monthly fish counts. Negative counts represent kelts moving downstream.

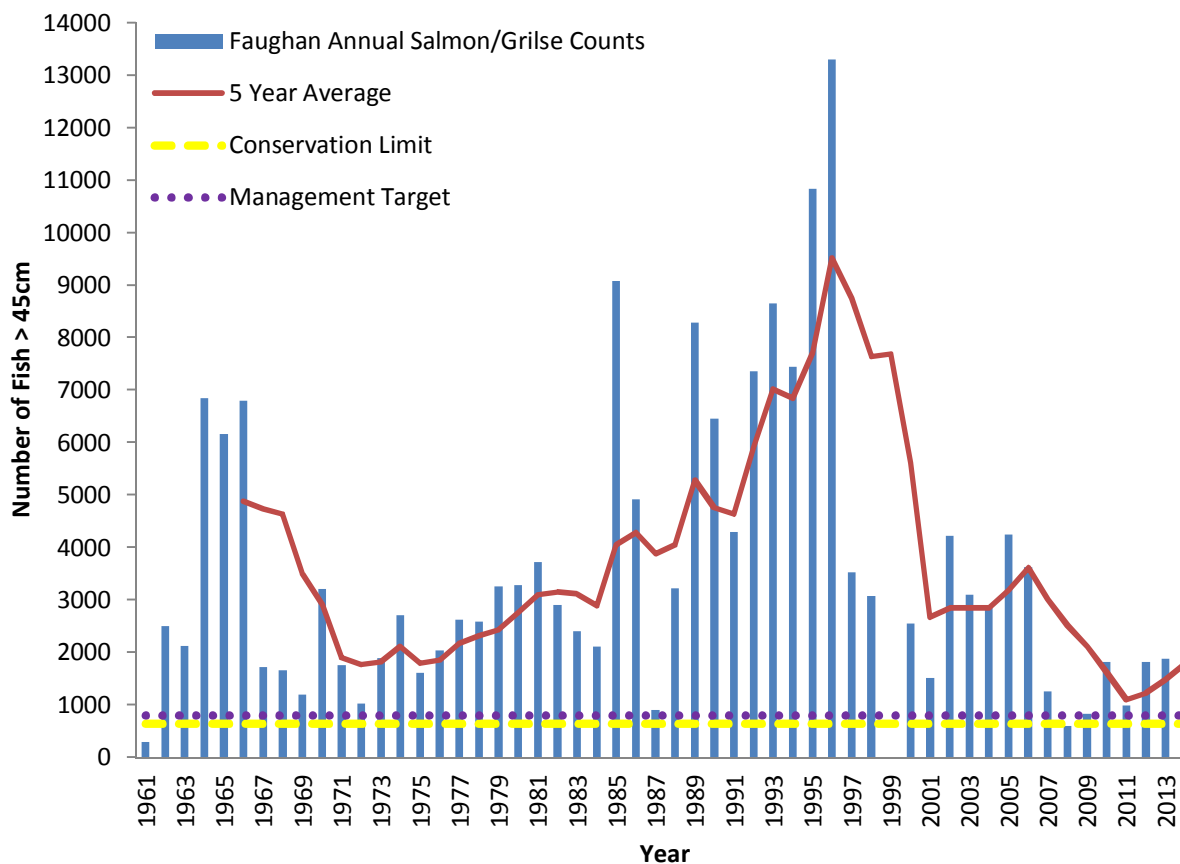


Fig.8 River Faughan annual fish counts with 5 year average, management target and conservation limit

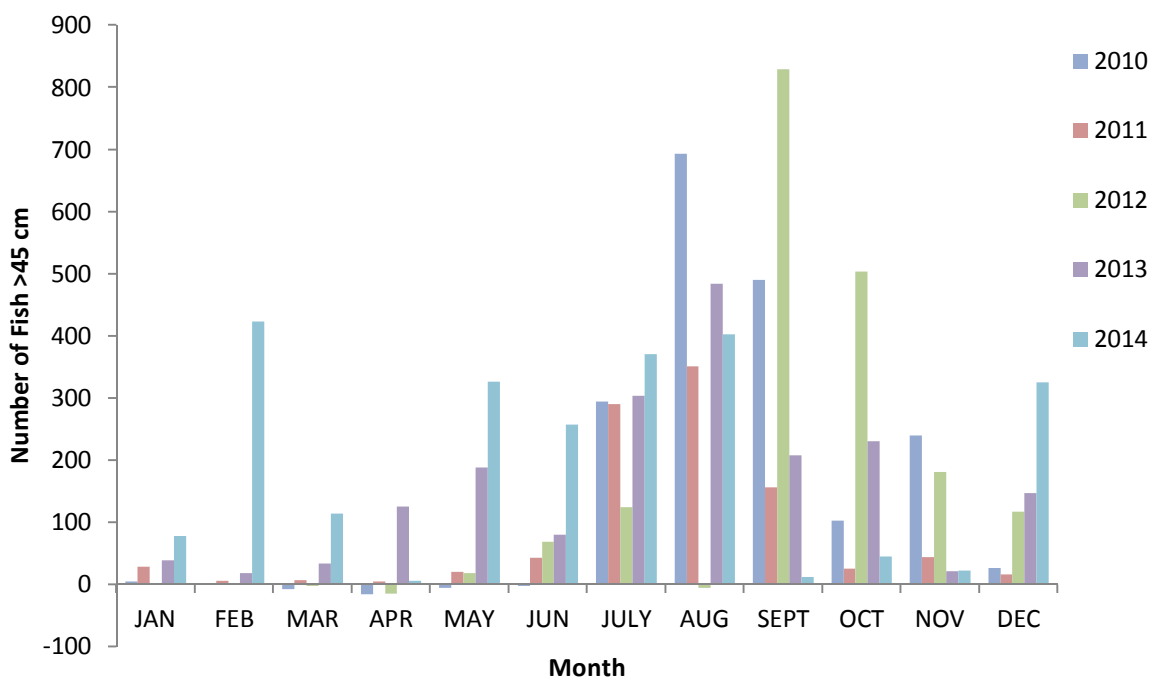


Fig.9 River Faughan monthly fish counts. Negative counts represent kelts moving downstream.

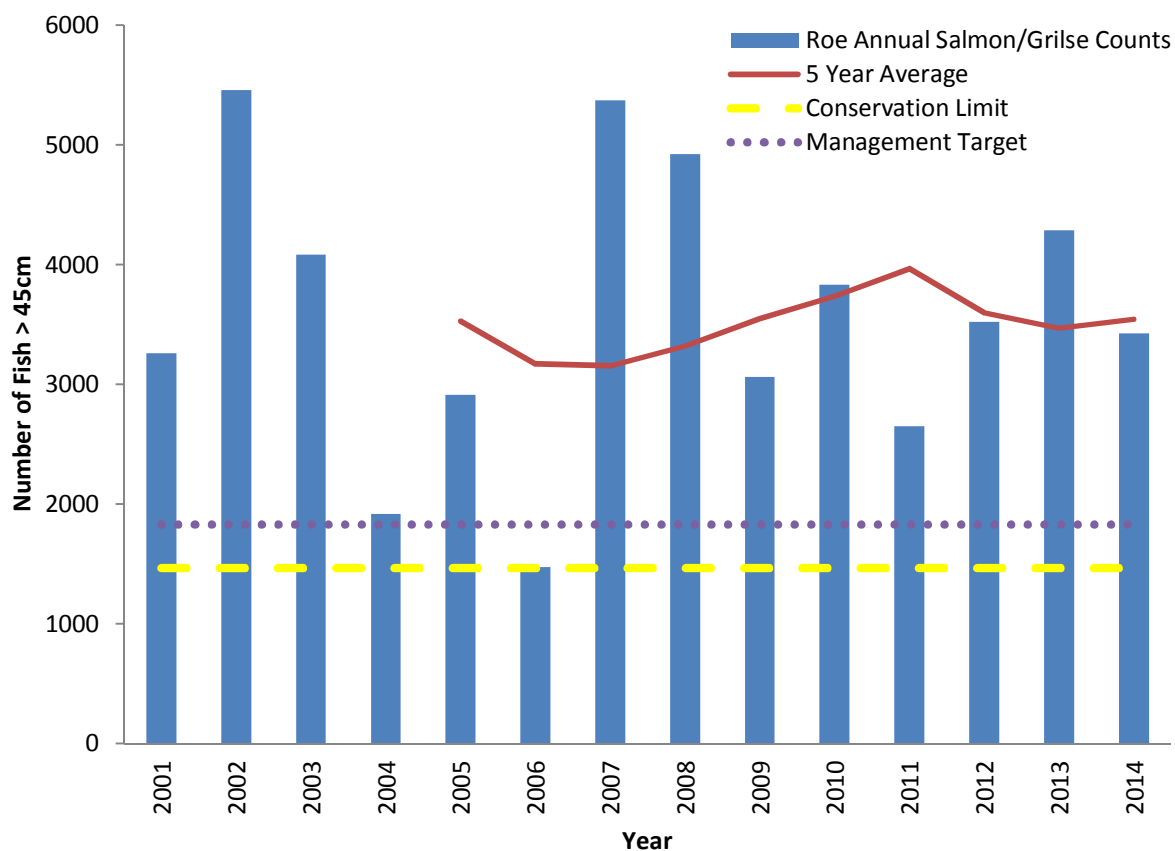


Fig.10 River Roe annual fish counts with 5 year average, management target and conservation limit.

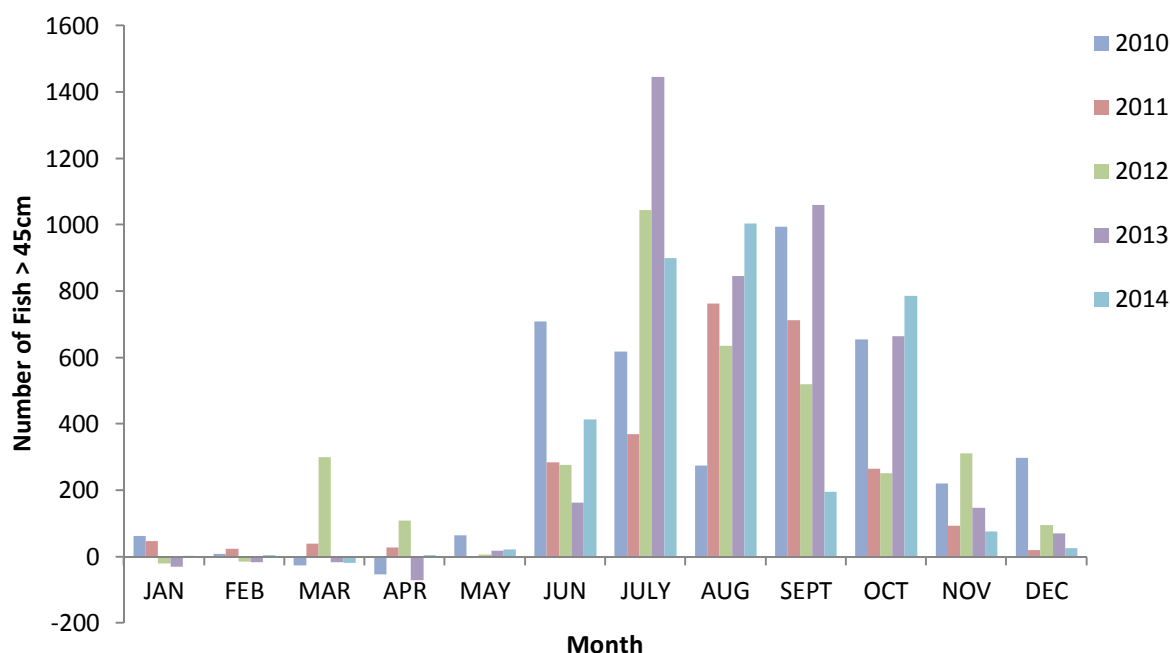


Fig.11 River Roe monthly fish counts. Negative counts represent kelts moving downstream.

## 2.4 REDD COUNTS

Atlantic salmon redds (spawning nests) are counted on an annual basis and have been shown to be a good indicator of returning population size. Annual redd counts and the 5 year running average are displayed in Figure 12. In 2014/15 there was a total count of 1546 redds with a five year running average of 2327.

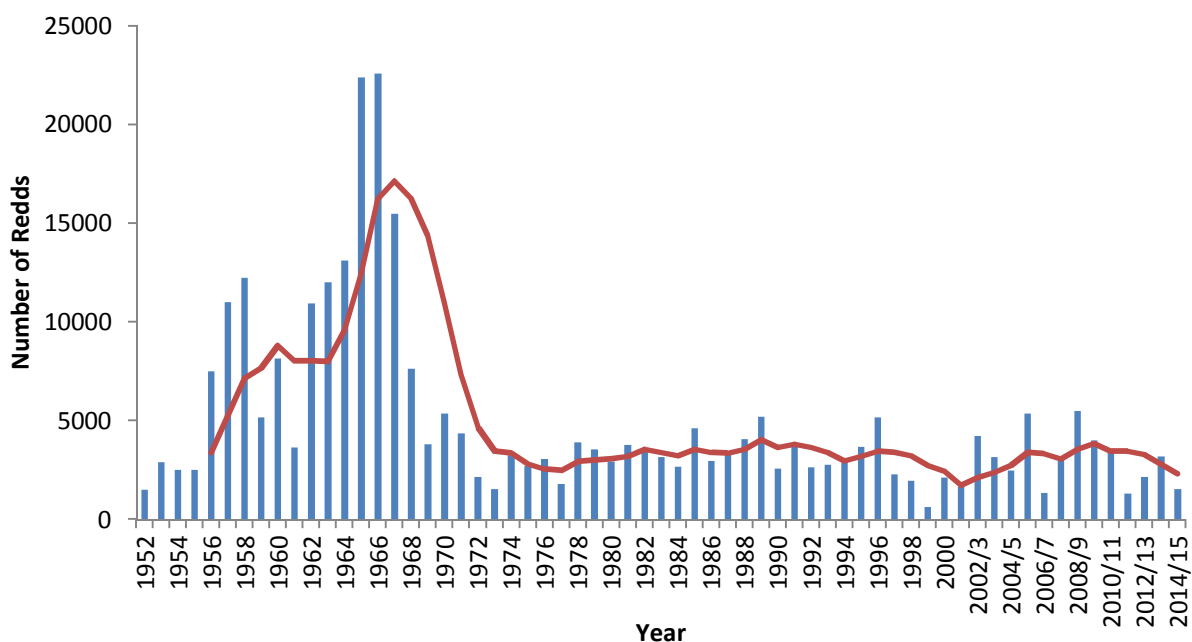


Fig.12 Annual redd counts and 5 year running average.



## 2.5 JUVENILE ABUNDANCE/ELECTROFISHING SURVEYS

Juvenile Atlantic salmon abundance is measured on an annual basis by following a standardised procedure (Crozier and Kennedy, 1996). Sampling stations are monitored using this semi-quantitative (5 minute timed) electrofishing methodology. Over many years an index has been developed to show trends for individual catchments (Figure 13). In 2014 the mean number of salmon fry (young of year) recorded at 441 sampling stations in the Foyle area was 18.

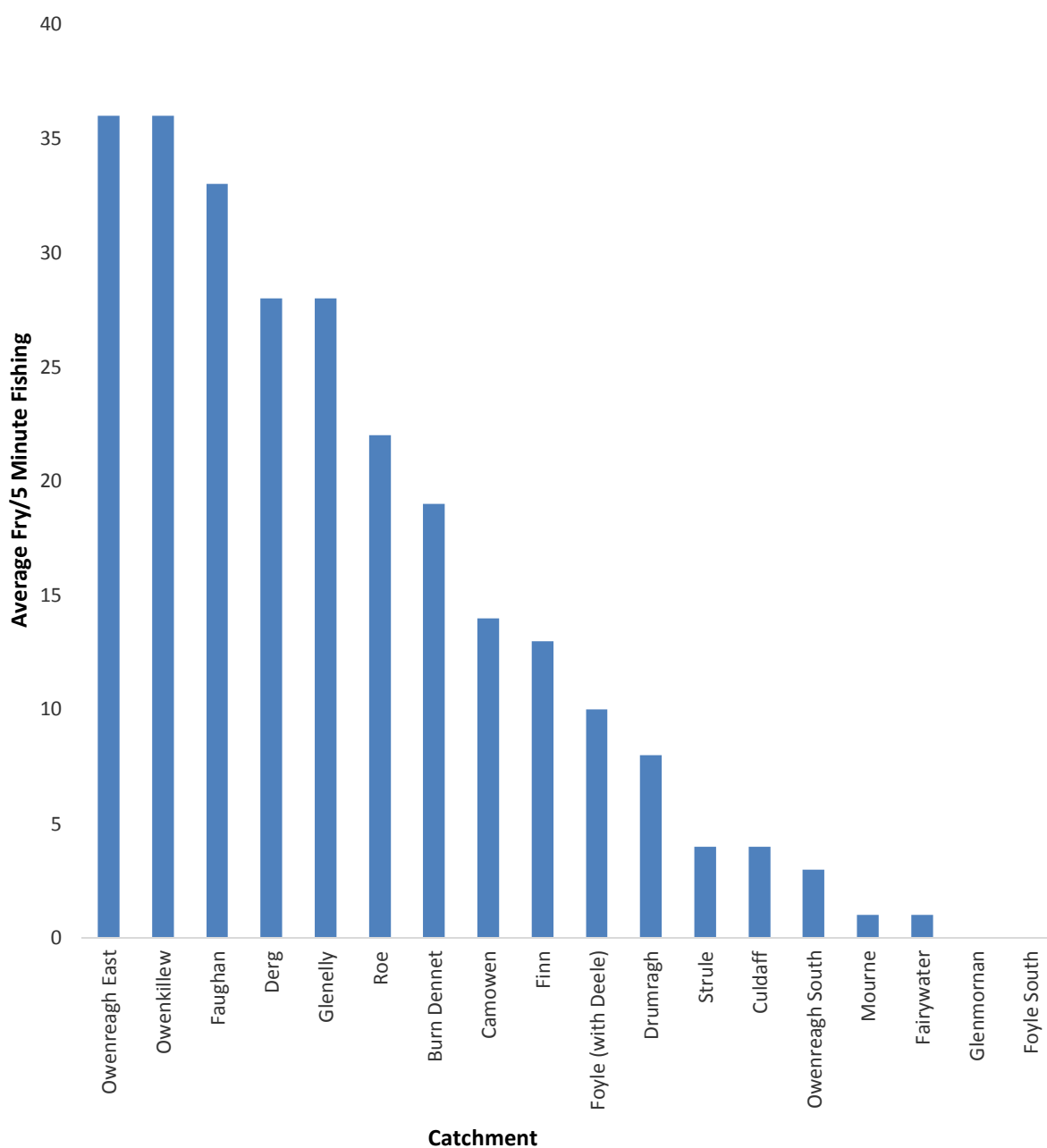


Fig.13 Foyle area salmon fry index comparison chart 2014 (NB: the number of standard monitoring stations varies between catchments).

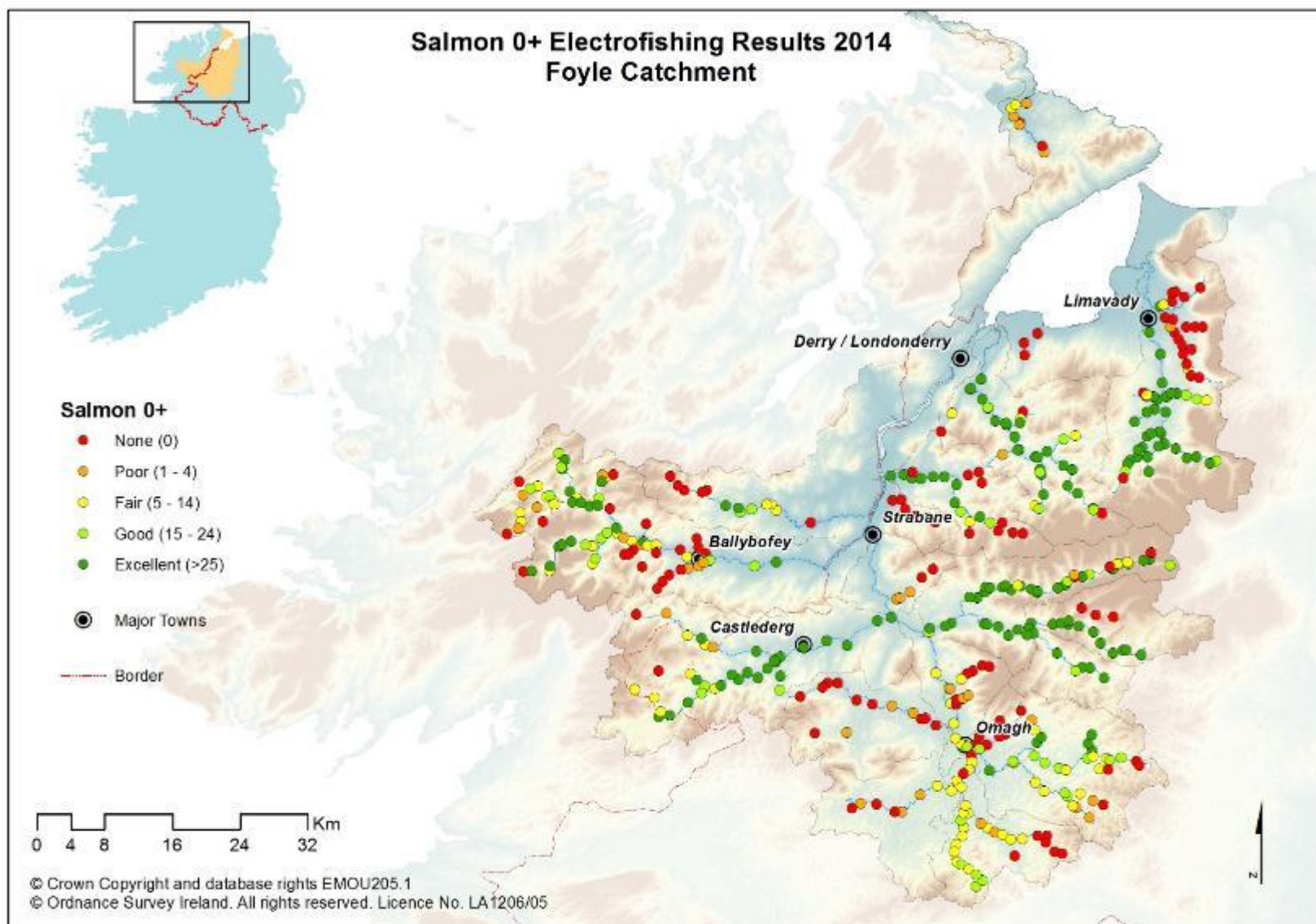


Fig.14 Foyle area salmon fry electrofishing classifications 2014

## **2.6 MARINE SURVIVAL**

Marine survival continues to be of significant concern throughout the southern range of Atlantic salmon in the North East Atlantic. The nearest monitoring station to the Foyle area which provides robust survival data to the International Council for the Exploration of the Seas Working Group on North Atlantic Salmon is the River Bush in Co Antrim. Marine survival rates for One Sea Winter (1SW) grilse pre the mid 1990's was around 30%, in recent years this has fallen to extremely low levels with a marine survival rate of 4.6% for the 2013 cohort returning to the river in 2014. This is a decrease from the 11.7% marine survival rate recorded for the 2012 cohort, and well below historic highs. Multi Sea Winter (MSW) Atlantic salmon appear to be doing slightly better.

The international SALSEA Merge project investigating the marine portion of the Atlantic salmon's life cycle reported in 2011. Further information can be found at [http://www.nasco.int/sas/salseamerge\\_documents.htm](http://www.nasco.int/sas/salseamerge_documents.htm) this will provide a firm platform on which to develop future salmon management strategy at an international level that takes into consideration the complex lifecycle of Atlantic salmon and its place within both freshwater and marine ecosystems.

## **2.7 DISCUSSION**

As outlined above Atlantic salmon have a complex lifecycle which can be impacted upon by many factors. The impacts cannot always be quantified making it difficult to accurately estimate the number of returning adult salmon/grilse to our rivers each year. An analysis of cohort/age class strength throughout its lifecycle from egg to spawning adult is complicated by numerous factors. These include varying egg survival rates, differing age at smolting, marine survival rates, time spent at sea/age at spawning and number of spawning migrations made.

It is extremely difficult to infer from one life history stage or stages what the strength of any returning cohort will be. This is currently exacerbated by extremely low marine survival rates possibly as a result of altered marine food webs and oceanic prey distribution all in the context of climate change.

### 3.0 TROUT STOCKS SUMMARY

- In 2014 the total declared Sea trout rod catch for the Foyle and Carlingford areas was 287. Total declared Brown trout rod catch for the Foyle and Carlingford areas was 226.
- In 2014 juvenile electrofishing surveys within the Foyle area at 441 standard sites recorded an average of 7 trout fry.
- Sea trout stocks have declined significantly in the Foyle area over recent decades with most recent rod catches being the lowest on record.
- Similar declines in sea trout stocks have been observed in other parts of Ireland and the west coast of Scotland. Diverse reasons for population declines have been proposed and are currently being investigated.
- The Loughs Agency continued to develop and conduct sea trout research projects in 2014 to monitor local sea trout populations.
- Ongoing brown trout monitoring projects continued in 2014 including a study of the Lough Derg wild brown trout population.

#### Development of a Loughs Agency Trout Management Strategy

In 2013 the Loughs Agency published its Trout strategy. The strategy contains 19 policies which relate to six main areas:

- **Habitat improvement**
- **Exploitation**
- **Stock management**
- **Barriers to migration**
- **Culverting**
- **Water abstraction and impoundment**

At present Loughs Agency monitor stocks of trout in a number of ways including analysis of rod catch data, and juvenile electrofishing surveys. During 2014 a sea trout monitoring programme continued on a tributary of the Burdennet and the Lough Derg Wild Trout Conservation Project continued with the Loughs Agency working in partnership with Pettigo and District Angling Association.

### 3.1 ROD CATCH

Sea trout are a prized quarry in both the Foyle and Carlingford areas but display very different life history strategies to both the resident brown trout and Atlantic salmon. Rod catch provides one of the key “audit points” for the management of this species. Declared rod catch has highlighted the significant declines over recent decades. It should be noted that sea trout populations fluctuate greatly and like many wild populations of animals they are prone to boom and bust cycles.

Over the duration of the decline in sea trout populations various reasons for the decline have been suggested including spawning habitat loss, barriers to migration, increased numbers of sea lice due to salmon aquaculture, natural population fluctuations, inshore marine ecosystem change, over fishing, pollution of key spawning streams etc. All of these will have impacted the Sea trout populations to some extent. Within the Foyle area Sea trout average weight tends not to exceed 2-3 lbs with larger specimens being quite rare. In the Carlingford area, Sea trout are considerably larger with average weight somewhere between 5-8lbs with larger double figure specimens encountered from time to time. The difference between west and east may be down to the quality and availability of suitable prey species. Irish Sea populations of Sea trout tend to be much larger and may be indicative of less impacted prey species populations. A parallel could be made between documented north coast of Ireland sea bird populations and Irish Sea populations, with Irish Sea populations doing better because of better availability of prey species. North coast of Ireland sea bird populations have been in decline over recent decades, in parallel with the plight of Sea trout.

In the Foyle and Carlingford area the minimum size for retaining a Brown trout or Sea trout is 25.4cm. All Sea trout over 40cm must be tagged and there is a bag limit of 1 Sea trout per day, up to a maximum of 5 during the period from the start of the season to 31<sup>st</sup> May. A bag limit of 2 Sea trout over 40cm per day applies from the 1<sup>st</sup> June to the end of the season up to a maximum of 20. There is also a daily bag limit of 4 Brown trout or Sea trout of 40cm or less in length throughout the season. Stricter club/association rules may apply.

Within the Foyle area there is generally a geographic north south divide with sea trout dominant in the northern catchments and brown trout dominant in the southern catchments. Historically the northern catchments and their associated small streams provided excellent spawning and nursery habitat and when associated with high densities of salmon may have been a major reason for seaward migration of juvenile trout in search of prey and less competition. The southern catchments still hold good populations of resident Brown trout with significant angling development potential. These populations however are more susceptible to pollution events. Figures 15 & 16 outline Sea trout rod catch for the Foyle and Carlingford areas. Many catchments within the Foyle area would merit further investigation in relation to developing collaborative Sea trout monitoring projects with interested parties. Contact [art.niven@loughs-agency.org](mailto:art.niven@loughs-agency.org) to discuss potential project development.

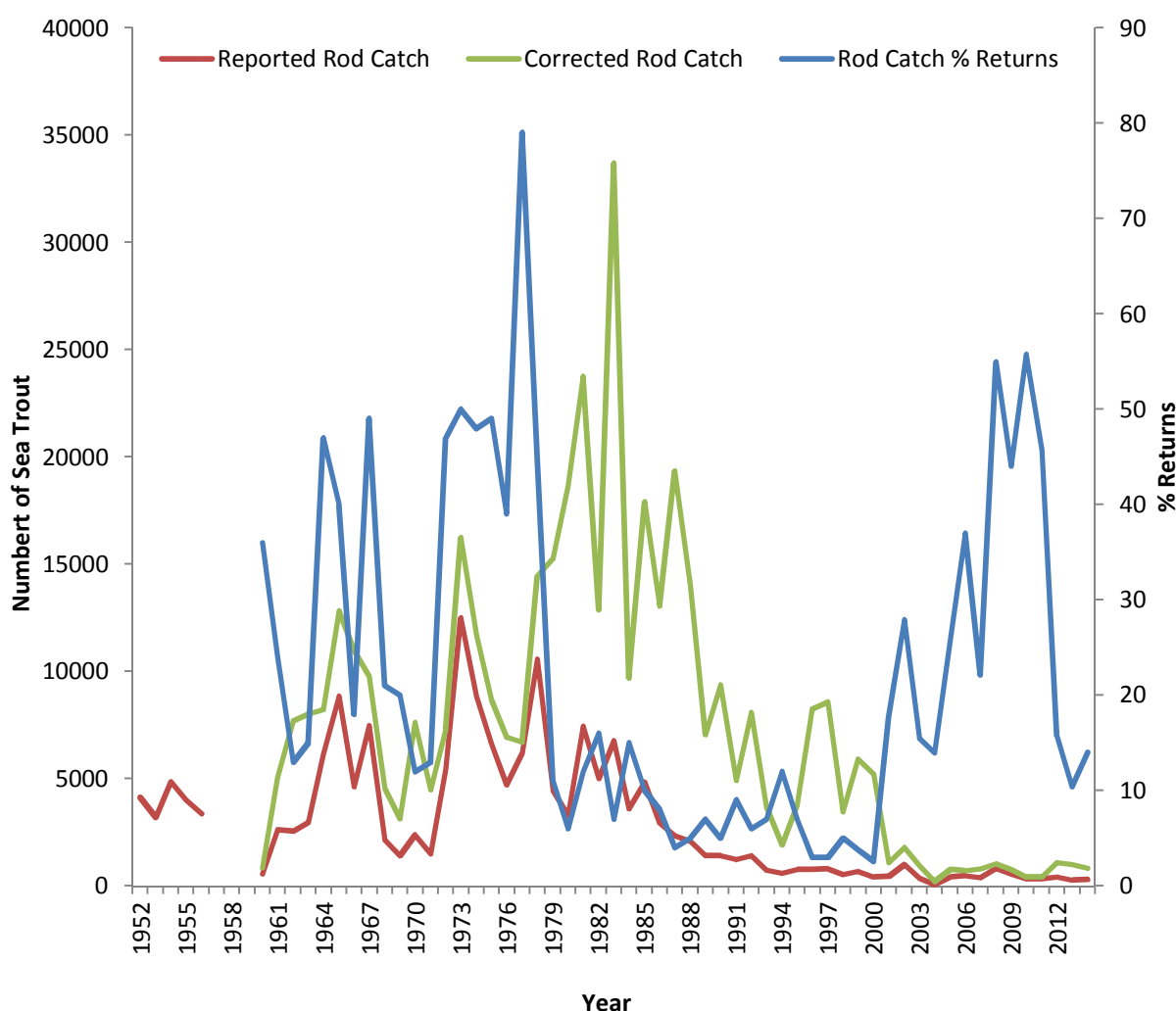


Fig.15 Loughs Agency reported and corrected rod catch (Sea trout) with % returns made.

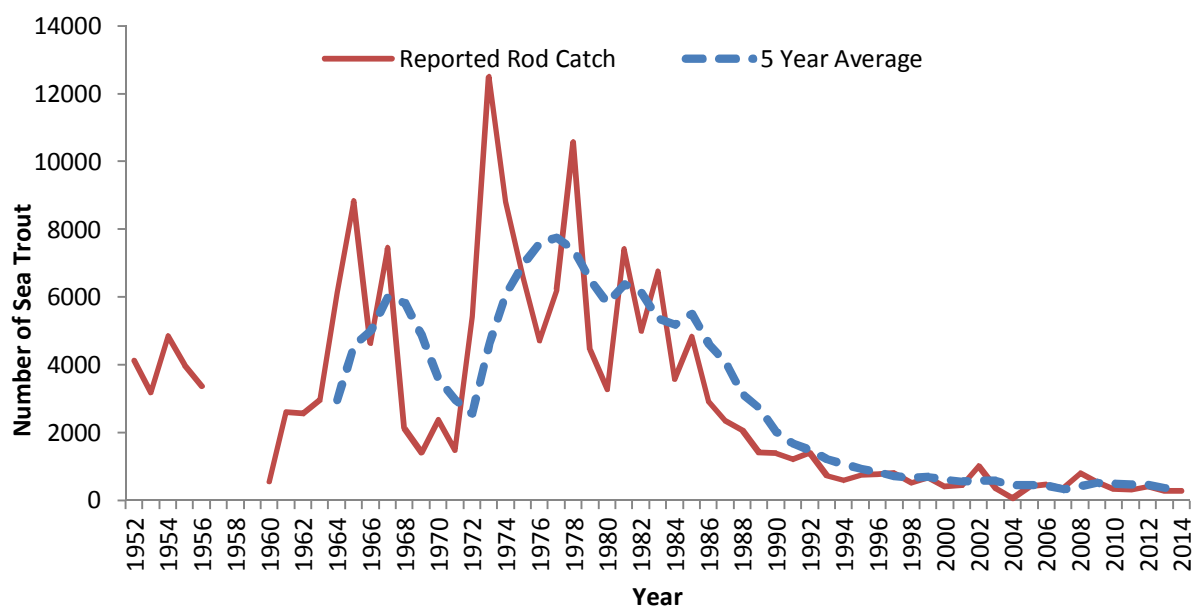


Fig.16 Reported rod catch for Sea trout in the Loughs Agency area and 5 year average.

### 3.2 JUVENILE ABUNDANCE/ELECTROFISHING SURVEYS

As for juvenile Atlantic salmon, Trout abundance is also measured on an annual basis by following the same standardised procedure (Crozier and Kennedy, 1996). Sampling stations are monitored using this semi-quantitative (5 minute timed) electrofishing methodology. Over many years an index has been developed to show trends for individual catchments (Figure 17). In 2014 the mean number of trout fry (young of year) recorded at 441 monitoring stations within the Foyle area was 7.

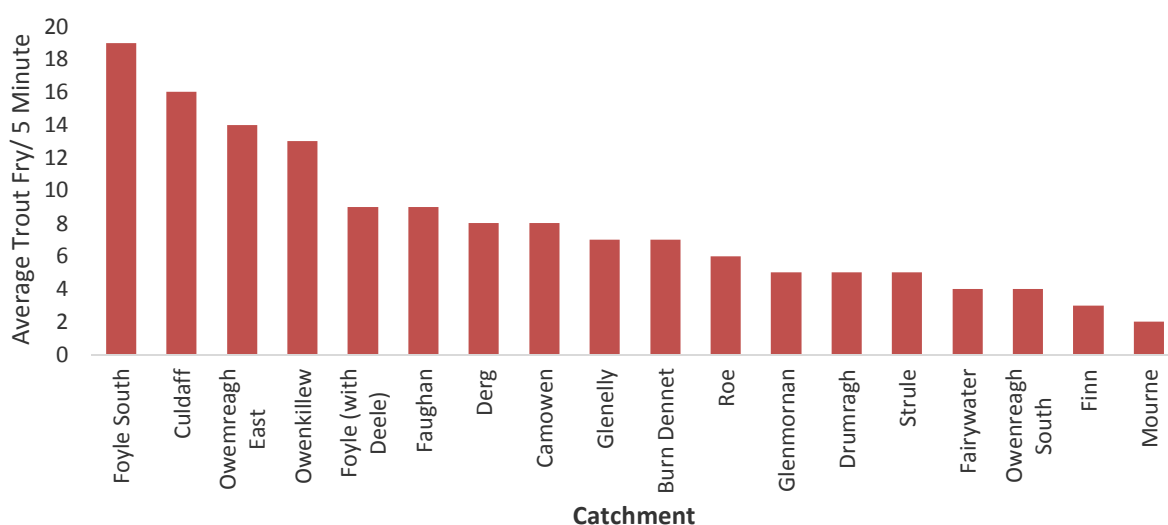


Fig.17 Foyle area trout fry index comparison chart 2014 (NB: the number of standard monitoring stations varies between catchments).



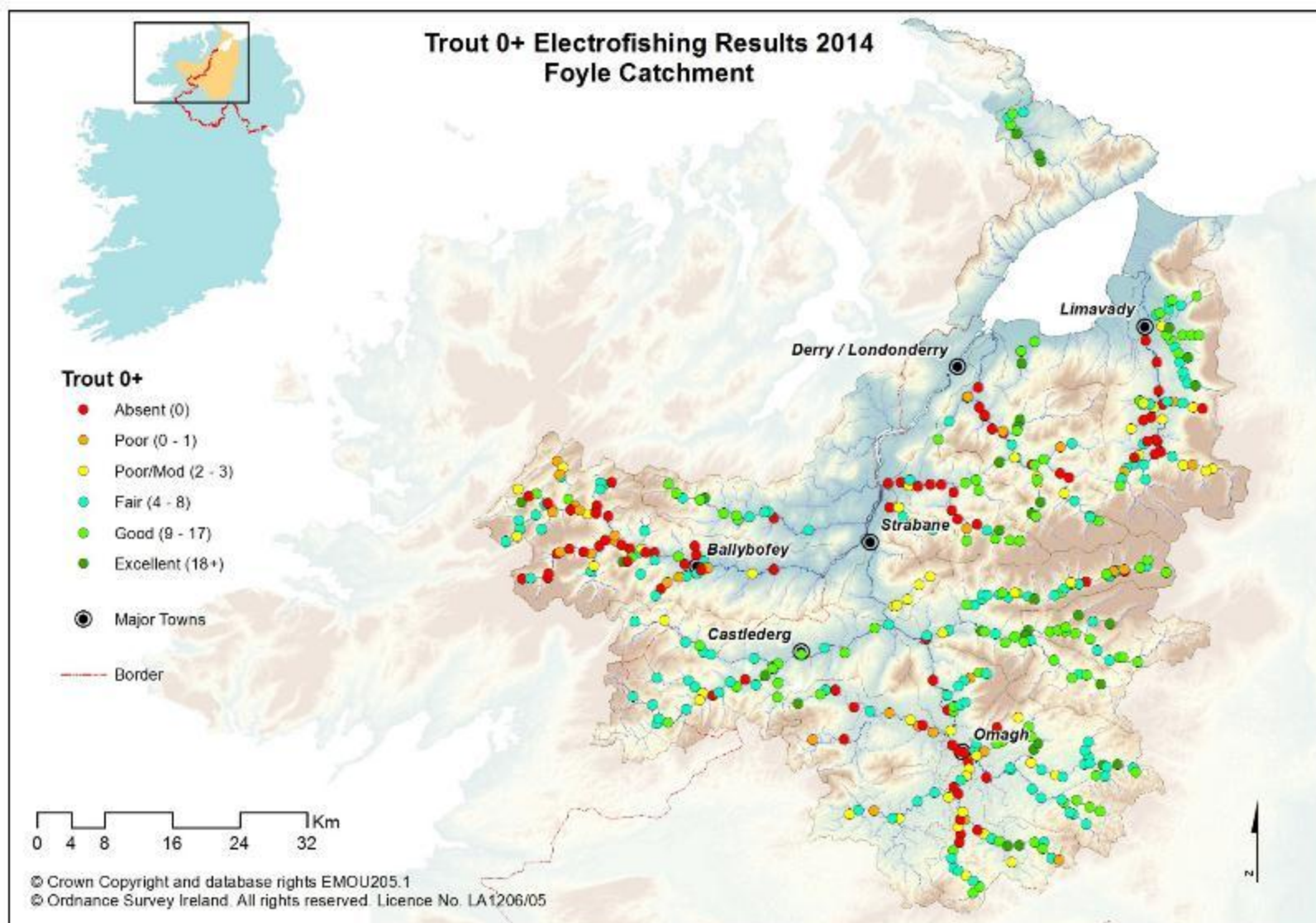


Fig.18 Foyle area trout fry electrofishing classifications 2014



### 3.3 DISCUSSION

At present rod catch and juvenile electrofishing surveys are the two main monitoring programmes conducted annually on Trout populations within the Foyle and Carlingford areas. In order to extend the baseline of information future expansion of the monitoring programmes could include the development of a Trout redd index on key tributaries. This would facilitate the analysis of trends over time and the effects of any remedial works. Adult Sea trout electrofishing surveys could also be conducted to gain key biological information which could assist with regulating catch size. The Foyle area forms a significant habitat for Sea trout. Within the catchments of the Foyle area there is competition with Atlantic salmon for feeding territories. While both species have slightly different habitat requirements at times they do overlap. The general trend is that salmon dominate the main stem and swifter water while trout dominate the smaller tributaries. Collaborative monitoring of Sea trout populations should be a priority within the tributaries of the Foyle area contact [art.niven@loughs-agency.org](mailto:art.niven@loughs-agency.org) to discuss this potential further.

Ongoing monitoring is essential for the development of appropriate and contemporary regulation of the rod fishery.



Fig.19 Brown trout captured in fyke nets on the River Derg, 2014.

#### 4.0 SUMMARY OF OTHER SURVEYS AND FISH STOCK ASSESSMENTS

- Seven Water Framework Directive fish surveillance monitoring stations were surveyed within the Foyle area in 2014. All 7 were in Northern Ireland.
- Further details can be found in the 2014 WFD Fish Surveillance Report on the Loughs Agency website under the publications section [www.loughs-agency.org](http://www.loughs-agency.org)
- Genetic samples were collected from adult Sea Lamprey at Sion Mills Weir on the River Mourne. This was in addition to genetic sampling of River and Brook Lamprey caught in a rotary screw trap on the River Faughan in April/May 2014.
- The Altnaghree Burn is an index tributary for monitoring Sea trout in the Foyle area. Further electrofishing surveys were conducted in the autumn of 2014 and it is hoped that the project can be expanded to include additional index sites within the Foyle area in the coming years.
- A number of in-stream and riparian habitat improvement projects were conducted in the Foyle area in 2014.
- One still water fish survey was conducted in the Foyle area in 2014.

#### Additional Surveys and Fish Stock Assessments

Fish stock assessments are an extremely important part of fishery management. They provide the information on which to develop policy and to implement appropriate legislation and regulation to ensure future sustainable management.

During 2014 an additional fish stock assessment was conducted on a still water body (Lough Nambraddan) to assess stock composition.

In 2014 biota sampling was carried out for priority substances on 4 water bodies within the Foyle catchment on behalf of NIEA.

The Lough Derg wild trout conservation project continued with a genetic baseline survey being conducted.

Riparian invasive species surveys were also carried out on the River Finn and its tributaries the Elatagh and Cummirk Rivers.

In 2014 the Loughs Agency continued to meet its obligations under a raft of national and international legislation. In addition to meeting its statutory duties the Loughs Agency plans its monitoring works to best inform current and future policy development and to deliver on conservation and protection targets as outlined in the Loughs Agency Corporate and Business Plans.

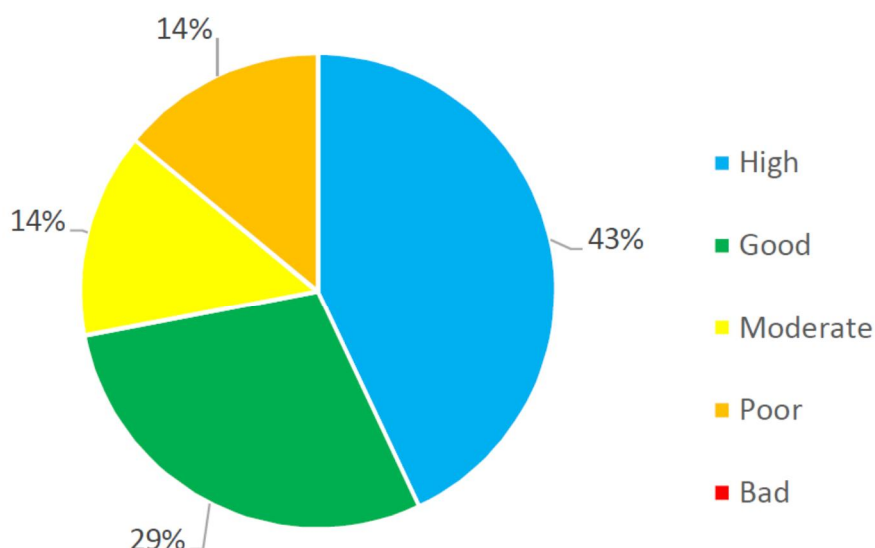
#### **4.1 WATER FRAMEWORK DIRECTIVE FISH MONITORING**

The WFD is a key piece of European environmental legislation designed to facilitate improvements in our aquatic environments. The Loughs Agency under the guidance of the Northern Ireland WFD Fish Group is responsible for fish monitoring within the Foyle and Carlingford areas. This involves the monitoring of 27 surveillance monitoring stations on a rolling three year basis. Quantitative electrofishing is the preferred method where possible and the data collected is used to derive a fish classification which is then combined with the results from other monitored parameters to create an overall surface water body classification. This ranges from High Ecological Status through Good Ecological Status, Moderate Ecological Status, Poor Ecological Status to Bad Ecological Status. The target set by the WFD is that all water bodies must reach Good Ecological Status by 2015. In 2014 the Loughs Agency monitored seven surveillance stations within the Foyle area.

Of the seven Water Framework Directive fish surveillance monitoring stations surveyed within the Loughs Agency jurisdictions in 2014 all seven were within Northern Ireland. An additional two waterbodies had sufficient fisheries data to be able to derive an FCS2 Ireland classification. 43% of sites surveyed were classified as high status, 29% as good status, 14% as moderate status and 14% as poor status. 0% of sites were classified as bad status.



Fig.20 Brown trout from the Beragh River, 2014



Classification in 2014 was completed using the WFD compliant classification tool, Fish Classification Scheme 2 Ireland (FCS2 Ireland) with the option of a professional judgement override. No results were overridden using professional judgement in 2014. Additional indicative classifications have been derived for water bodies within the Foyle and Carlingford areas where certain criteria have been applied to semi quantitative Salmon Management Plan electrofishing data. These criteria have been developed by the Northern Ireland Water Framework Directive Fish Group and are outlined within the annual Water Framework Directive report which available under the publication section of the Loughs Agency website.



Fig.21 Survey team sampling on the River Derg, 2014.



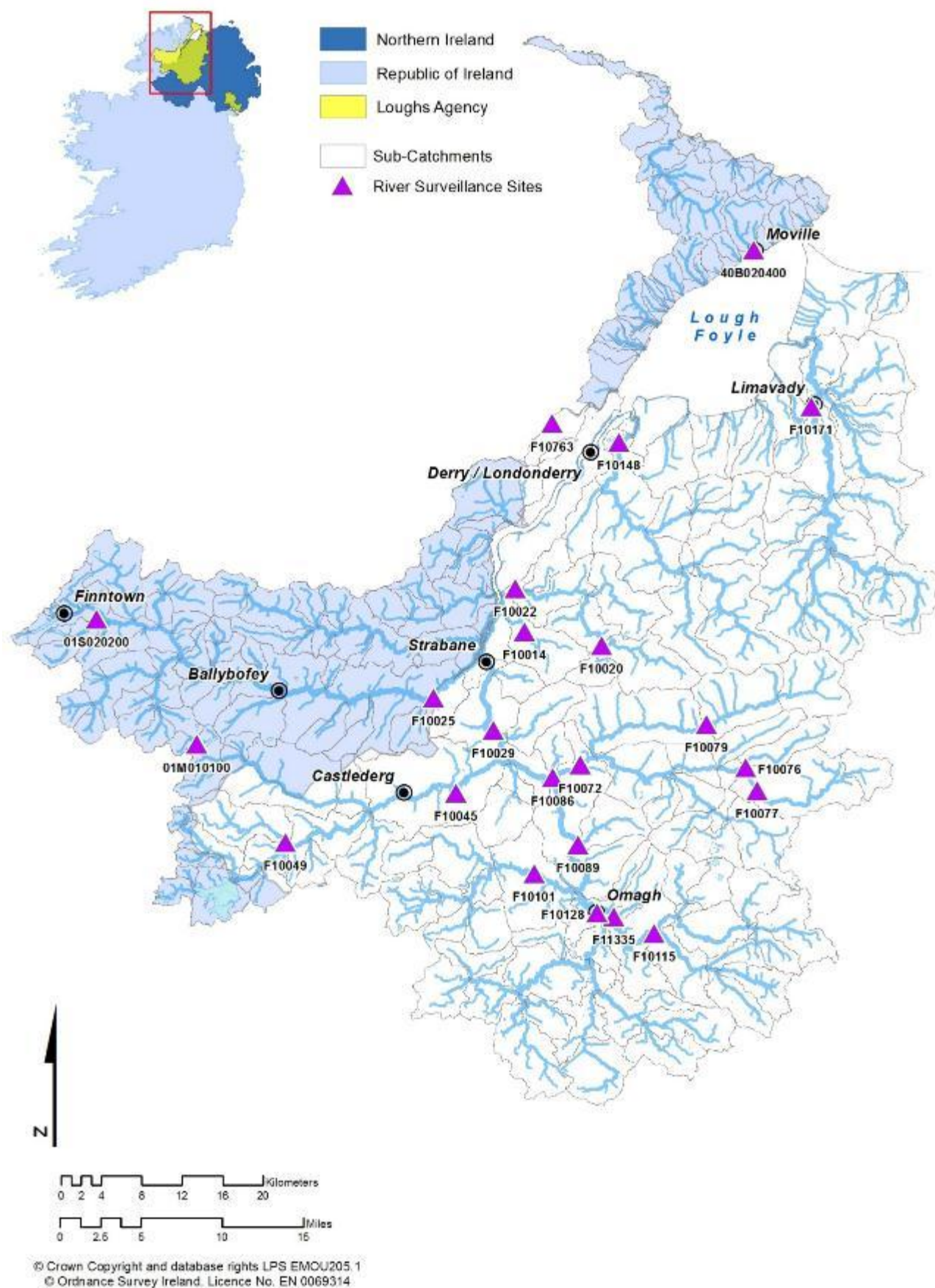


Fig.22 Water Framework Directive fish surveillance monitoring stations within the Foyle area.

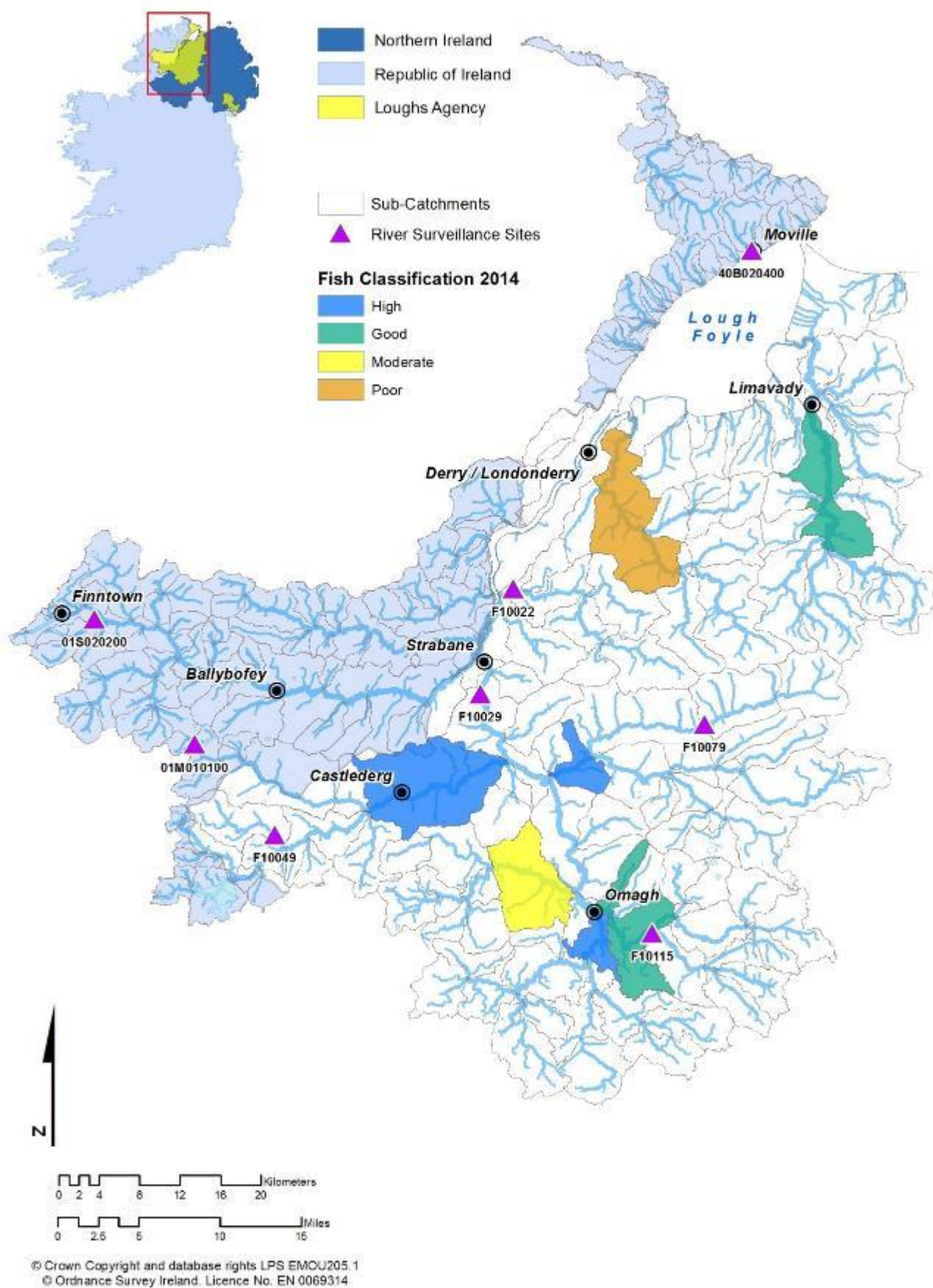


Fig.23 2014 WFD fish surveillance classification Foyle area



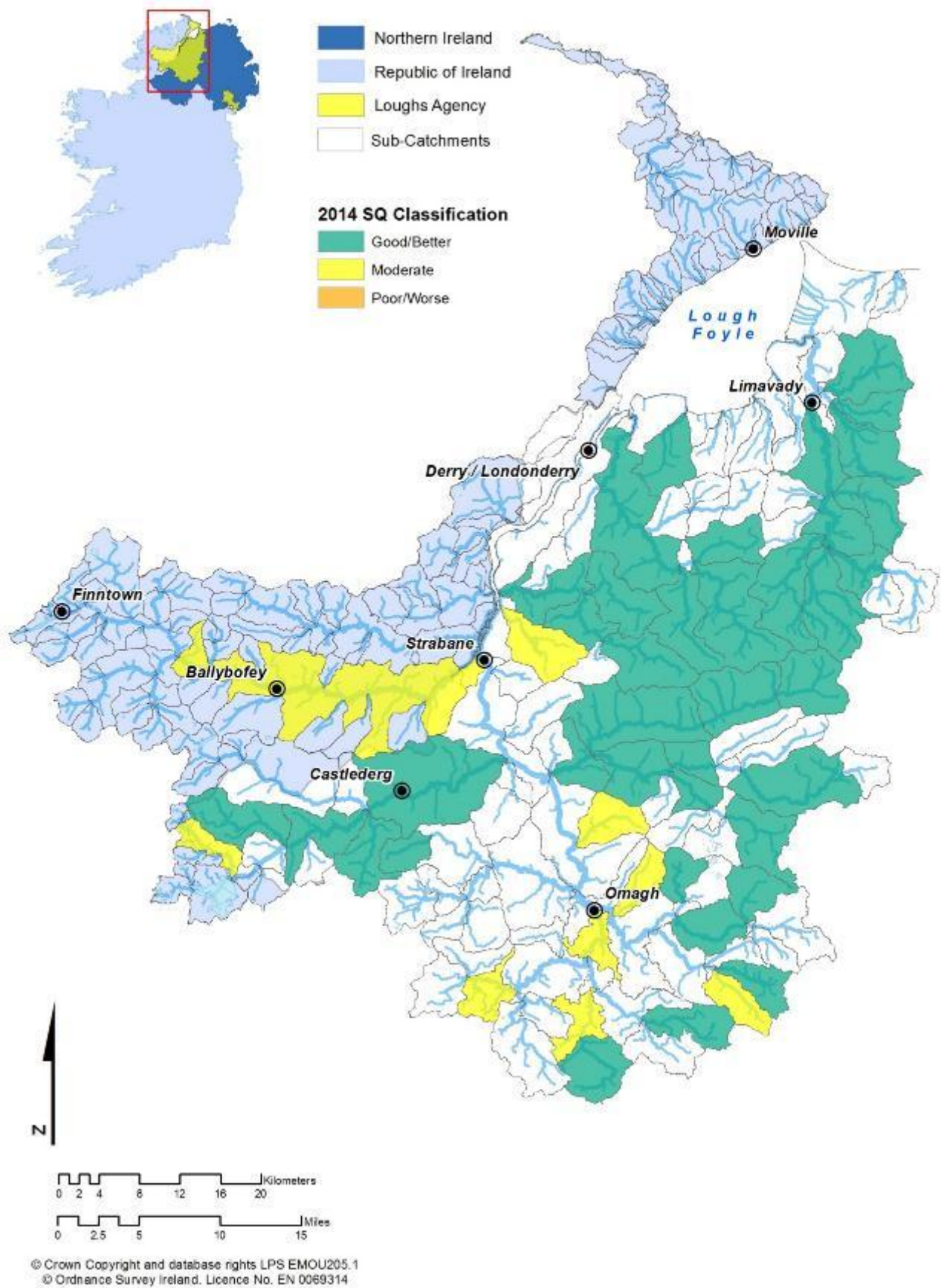


Fig.24 Indicative classifications based on Loughs Agency 5 min semi quantitative electrofishing data

## 4.2 FOYLE SEA TROUT SURVEYS

The Loughs Agency currently monitors one index tributary for returning adult Sea trout, the Altnaghree Burn. This is a significant tributary of the Burn Dennett catchment. Monitoring commenced in the autumn of 2011 after habitat improvement works had been undertaken on some stretches of the river in 2010. In the autumn of 2014 this index tributary was surveyed using standard electrofishing techniques. A total of 12 returning, pre spawning adult Sea trout were captured. Lengths and weights were recorded for each individual fish. Scale samples were taken for age analysis from all fish, before they were released back into the river. It is recommended that additional adult Sea trout index sites are incorporated into this monitoring programme. It is hoped that by extending the programme into other known Sea trout tributaries, it may be possible to identify any potential diversity in run timing, abundance and other key biological characteristics such as length, weight, age and sex ratios.



Fig.25 Sea Trout electrofishing survey Altnaghree Burn, 2014



### 4.3 RIVER FAUGHAN SEA TROUT SURVEY

It has been acknowledged that more scientific data is required to successfully manage Sea trout stocks. Traditional data sets derived from rod catch and juvenile electrofishing surveys have been supplemented in recent years to include data collected from a rotary screw trap on the River Faughan which was deployed to capture downstream migrating Sea trout smolts. The majority of the Sea trout sampled from the River Faughan have been smolts but also included some early returning adults, Finnock and Sea trout kelts. This key biological information including run timing and abundance can be used to facilitate future stock management.



Fig.26 Rotary screw trap deployed on the River Faughan, 2014.

As Sea trout are a significant economic and social asset as part of a recreational fishery the Loughs Agency is in the early stages of delivering a strategy to conserve and protect Sea trout populations within the Foyle and Carlingford catchments. Management of Sea trout stocks should be based upon current scientific information, therefore there is a need for more research into triggers for adult migration, the timing of smolt runs and the role of estuaries in juvenile and adult life stages. Measures should also be taken to promote the proven benefits of practicing catch and release to rod fisheries as a way of helping to

sustain populations of active breeders. This will require the development of active partnerships between the Loughs Agency and interested stakeholders.

#### **4.4 LOUGH DERG WILD TROUT CONSERVATION PROJECT**

In 2014 the Loughs Agency continued its active collaboration with the Pettigo and District Angling Association. The Lough Derg Wild Trout Conservation Project continues to provide valuable biological information on juvenile and adult trout stocks in the lough, its inflowing tributaries and its only outflowing waterbody, the River Derg. The success of the partnership project has allowed the Loughs Agency to monitor the run timing and abundance of Lough Derg trout over the past number of years. Once again in 2014 the rotary screw trap was placed at the outflow to Lough Derg to capture downstream spawning adult trout. This scientific data is key to making informed management decisions which will help to ensure the long term conservation of the wild trout populations in the lough. In 2014 a number of remote inflowing tributaries were surveyed for juvenile fish using standard electrofishing techniques. Lengths, weights, scales and genetics samples were also taken from each fish before they were released unharmed back into the river.



Fig.27 Genetic sampling on Murlough Burn an inflowing tributary of Lough Derg, 2014.

## 5.0 STILLWATER FISH SURVEYS

In 2014, a stillwater fish survey was conducted at Lough Nambraddan, County Donegal. Individual stillwater fish survey reports will be available on the Loughs Agency website.

A number of different rationales exist for conducting stillwater fish surveys. These include but are not limited to, a full Water Framework Directive fish in lakes survey which can be used for WFD classification purposes. This follows a detailed methodology described in the Water Framework Directive compliant NS Share Methods Manual for systematic surveying of lakes for fish. Other rationales include baseline surveying to inform conservation, protection and development objectives and to inform answers to specific questions.

In 2014 the rationale for monitoring Lough Nambraddan was to collect baseline information on species composition and to make observations on water quality. The Lough was surveyed over one night on the 13<sup>th</sup> of August 2014 according to the methodology described in the Water Framework Directive compliant NS Share Methods Manual for systematic surveying of lakes for fish (NSSHARE, 2008). Prior to the commencement of the fish survey a bathymetric survey was conducted to obtain accurate depth data. A total of 9 nets were set at various depths within the lough. It was anticipated that this should provide accurate information on species composition. Water quality was also monitored for a number of parameters at various depths.



Fig.28 Still water fish survey on Lough Nambraddan, Co. Donegal 2014



Common name	Scientific name	2014 CPUE	2014 BPUE
Brown trout	<i>Salmo trutta</i>	0.222 (0.103)	10.615 (4.534)
Eel	<i>Anguilla anguilla</i>	0.133 (0.033)	17.331 (3.648)

Fig.29 Mean ( $\pm$  S.E.) CPUE and BPUE for all fish species recorded on Lough Nambraddan.



Fig.30 Brown trout from Lough Nambraddan, 2014.

## 6.0 FISHERIES HABITAT IMPROVEMENT

The Loughs Agency is active in many Inter agency groups with the direct aim of river restoration and habitat improvements. In 2014 a number of instream and riparian habitat improvement projects were conducted in the Foyle area. This included a wide variety of works ranging from native riparian tree planting projects, bank protection, and the introduction of spawning and nursery substrate into selected rivers.

In 2014 the Loughs Agency initiated a Fisheries Habitat Improvement Strategy. This is a fisheries management tool designed to help outline methodologies for identifying and developing fisheries habitat improvement projects. The purpose of the document is to define what fisheries habitat improvements are, highlight why they are needed and to outline a strategy for effective and efficient delivery of these within the Loughs Agency jurisdiction. It is envisaged that this will be

delivered through the development of catchment specific implementation plans.



Fig.31 Glenshane native riparian tree planting scheme, River Roe 2014.



Fig.32 Trees were individually staked and guarded.



## 7.0 CATCHMENT INITIATIVES

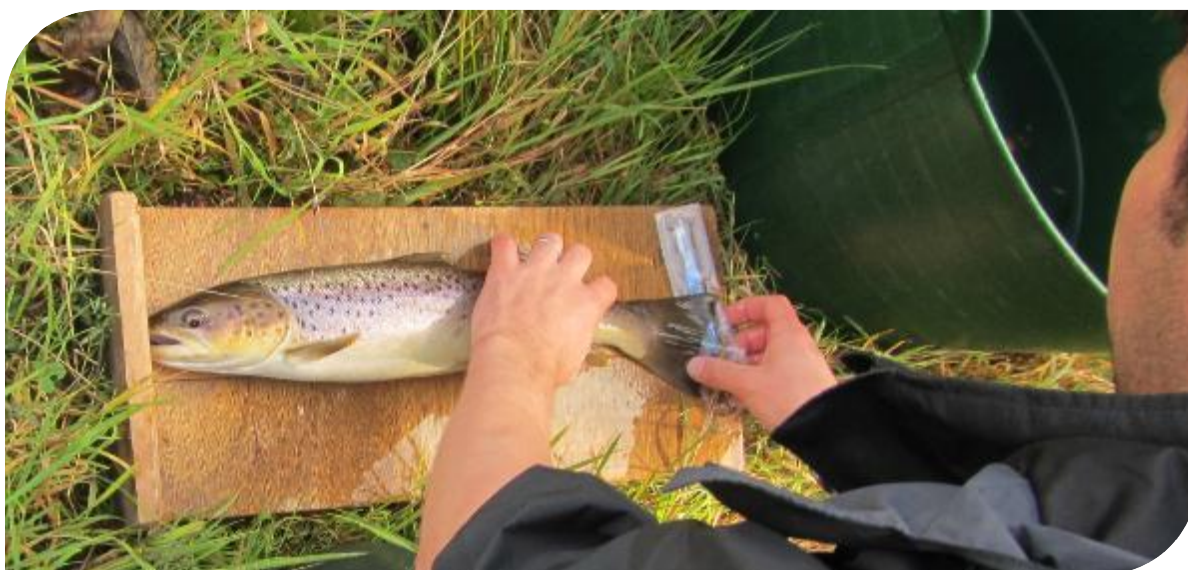
Integrated catchment management planning can only be delivered through the development of true partnerships between statutory and non-statutory partners. An understanding of desired outcomes and methods of delivery is essential in matching requirements and expectations to actions.

Exemplar catchment management planning is an iterative process developed and refined over time between parties who have fostered and developed productive working relationships.

Environmental legislation in tandem with societal requirements dictates that steps are taken to improve our natural habitats. From an aquatic perspective the Water Framework Directive is the key driver towards integrated management of our aquatic environments. The Loughs Agency acknowledges this and is eager to encourage participatory approaches as a way to effectively and efficiently meet challenging objectives.

In 2015/16 and beyond the Loughs Agency will continue to engage local stakeholders in participating in river corridor litter picks, the development of habitat improvement works and trout monitoring programmes.

If you are a member of an organisation which may be interested in working on collaborative conservation and protection projects within the Foyle please contact [art.niven@loughs-agency.org](mailto:art.niven@loughs-agency.org) to discuss potential projects.



## **8.0 GENERAL ACTIONS FOR 2015/2016**

- Communicate monitoring findings through various media to stakeholders.
- Implement and develop actions from the Trout Strategy.
- Facilitate user groups river clean ups by canoe and foot.
- Encourage Angling Associations and community organisations to instigate litter picks/river clean ups within the Foyle area.
- Continue to Implement and develop fisheries monitoring programme.
- Conduct water quality monitoring programme.
- Continue to screen all planning applications within the Foyle area for potential impacts to the fishery and aquatic resources.
- Facilitate the implementation of habitat improvement projects including riparian buffer zone creation, fencing, native species planting and in-channel habitat improvements including spawning bed and nursery habitat improvement.
- Work with interested statutory and non-statutory partners to improve water quality and native fish populations.

