



Carlingford Tributaries Catchment Status Report 2011

Conservation, protection and assessment of fish
populations and aquatic habitats

Loughs Agency of the Foyle Carlingford and Irish Lights Commission

Art Niven, July 2012



Conservation, protection and assessment of the fish populations and aquatic habitats are presented for 2011. The series of catchment status reports has been streamlined in 2012 to facilitate quicker reference to contemporary information. Additional information can be found in associated publications and previous status reports available on the Loughs Agency website.

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1.0 INTRODUCTION

The Loughs Agency series of catchment status reports outlining information collected and actions completed during 2011 have been restructured for reporting in 2012. It is anticipated that this will facilitate the same level and diversity of information dissemination provided in previous years while directing interested parties to more detailed sources of information available in other Loughs Agency publications. More detail on any of the topics included in this report can be found in previous status reports available on the Loughs Agency website.

The joint themes for the 2012 series of catchment status reports are wild trout conservation and littering. Both of these contemporary issues are of great significance to the ongoing conservation and protection of our aquatic and riparian habitats and are important issues when attracting and informing responsible users to the local area.

In 2011 the Loughs Agency has continued to participate in innovative ways to tackle the growing problem of littering. The “throw away” society has resulted in rivers acting as major conduits for discarded materials from varied sources. On their journey downstream these discarded items catch on trees and other vegetation resulting in both visual and unseen impacts upon our biodiversity and water quality.

During 2011 the Loughs Agency in Partnership with Causeway Coast Kayak Association, Limavady Borough Council, Strabane District Council and Roe Angling Association conducted canoe and bank based river clean ups at key locations throughout the river corridors of both the River Roe and Glenelly River. Over three tons of mixed rubbish was removed during these two river clean up events. While the Loughs Agency does not have a legislative remit to tackle the issue of littering it is eager to encourage a partnership approach to tackling this key issue.

Within the Foyle and Carlingford areas the conservation of wild trout populations is of ever growing importance. Rod catch returns have shown a marked decline of Sea trout over recent decades. The Loughs Agency has been working with local partners in 2011 to monitor populations of brown trout and sea trout to collect information which can be used to develop conservation and

protection programmes. Targeted monitoring programmes have been ongoing within the Derg catchment, Burndennet catchments, Inishowen and Lough Foyle tributaries. This is in addition to ongoing annual electrofishing surveys which record the abundance and distribution of trout throughout the Foyle and Carlingford areas.

The Loughs Agency promotes responsible use of the valuable aquatic resources of the Foyle and Carlingford areas. The protection of these resources can only be achieved through effective collaborative partnerships. If your organisation is interested in participating in “hands on” action please contact the Loughs Agency to discuss possible partnership development.



2.0 ATLANTIC SALMON STOCKS

SUMMARY

- There are no net fisheries for salmon in the Carlingford area in addition there were no net fisheries pursued for Atlantic salmon in the Foyle area in 2011. 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 3533 Total declared rod catch for the Carlingford catchments were 49. Voluntary catch and release for the Foyle and Carlingford areas was 28 % and 29% for Carlingford.
- Returning adult Atlantic salmon counts derived from an electronic fish counter on the Newry River were unknown salmon/grilse in 2011. This was due to electronic issues.
- Juvenile electrofishing surveys within the Newry/Clanrye catchment at 31 sites recorded an average of 2 salmon fry (Young of Year). Within the Whitewater catchment at 13 sites there was an average of 4 salmon fry.

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

There are no salmon net fisheries within the Carlingford area. 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.

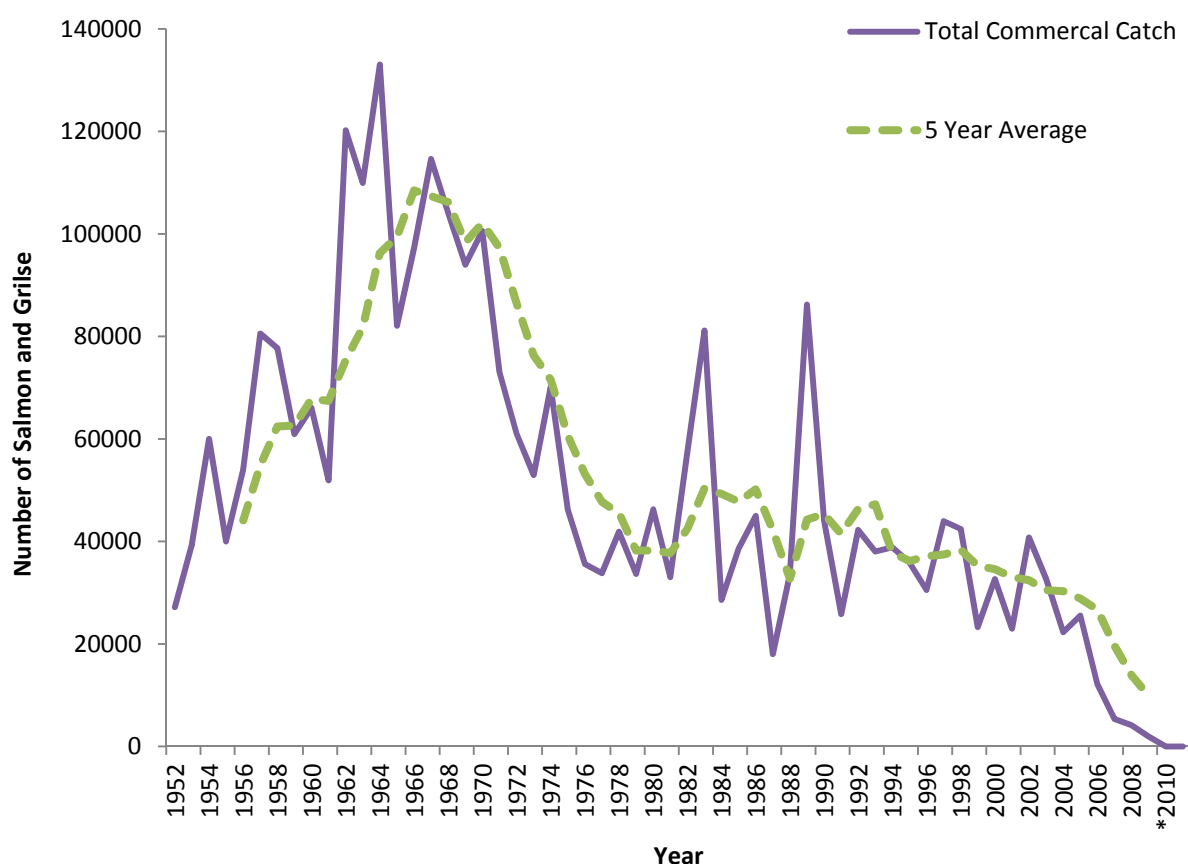


Fig 1. Total commercial catch 1952-2009 and 5 year average total commercial catch.

2.2 ROD CATCH

Total rod catch returns were 46% in 2011 (Figure 2). A total of 3533 salmon/grilse were caught in the Foyle and Carlingford areas in 2011 (Figure 2 & 3). 49 salmon and grilse were reported caught in the Carlingford catchments (Figure 4). Salmon/Grilse voluntarily caught and released were 28% in the Foyle and Carlingford area and 29% in the Carlingford area.

Trends in rod catch have generally increased over recent years. This is largely due to a number of factors including an increased number of rod licenses being issued and a higher % of returns being made (Figure 2). **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.

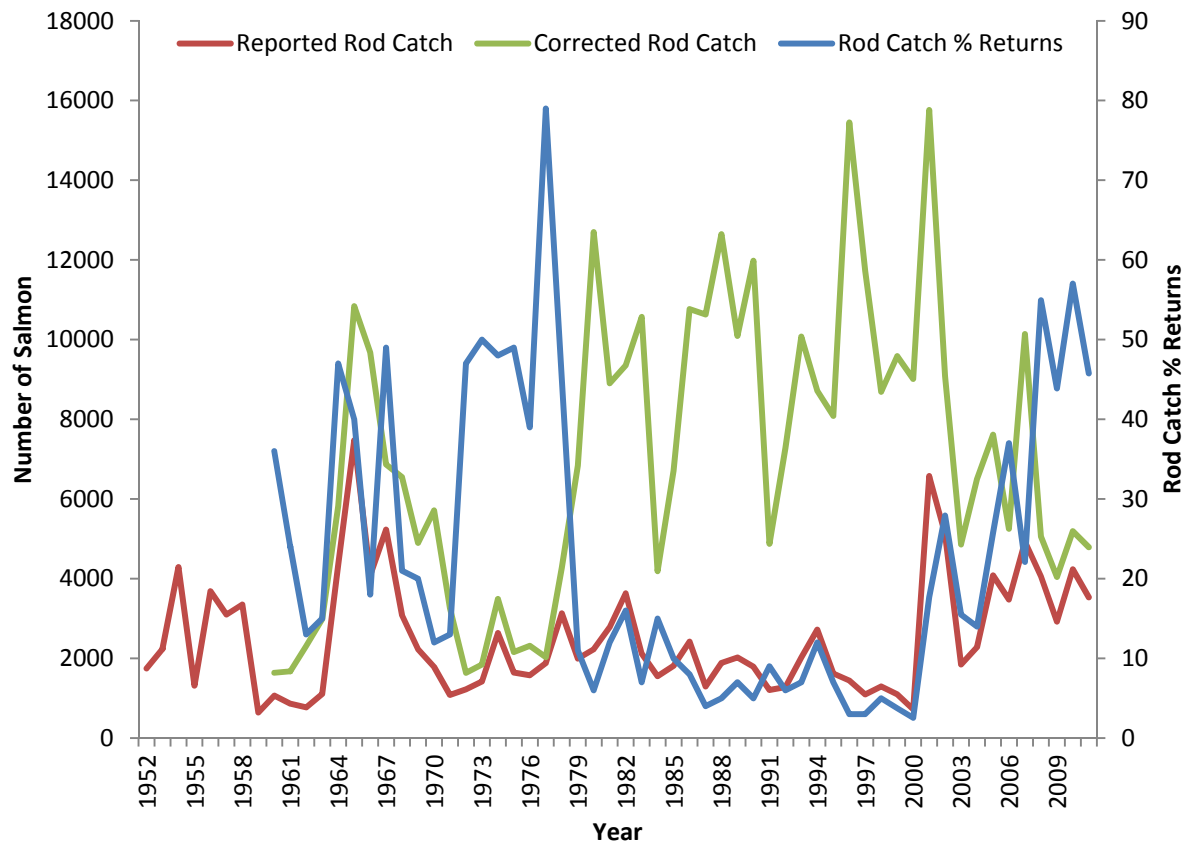


Fig 2. Loughs Agency reported and corrected rod catch with % returns made

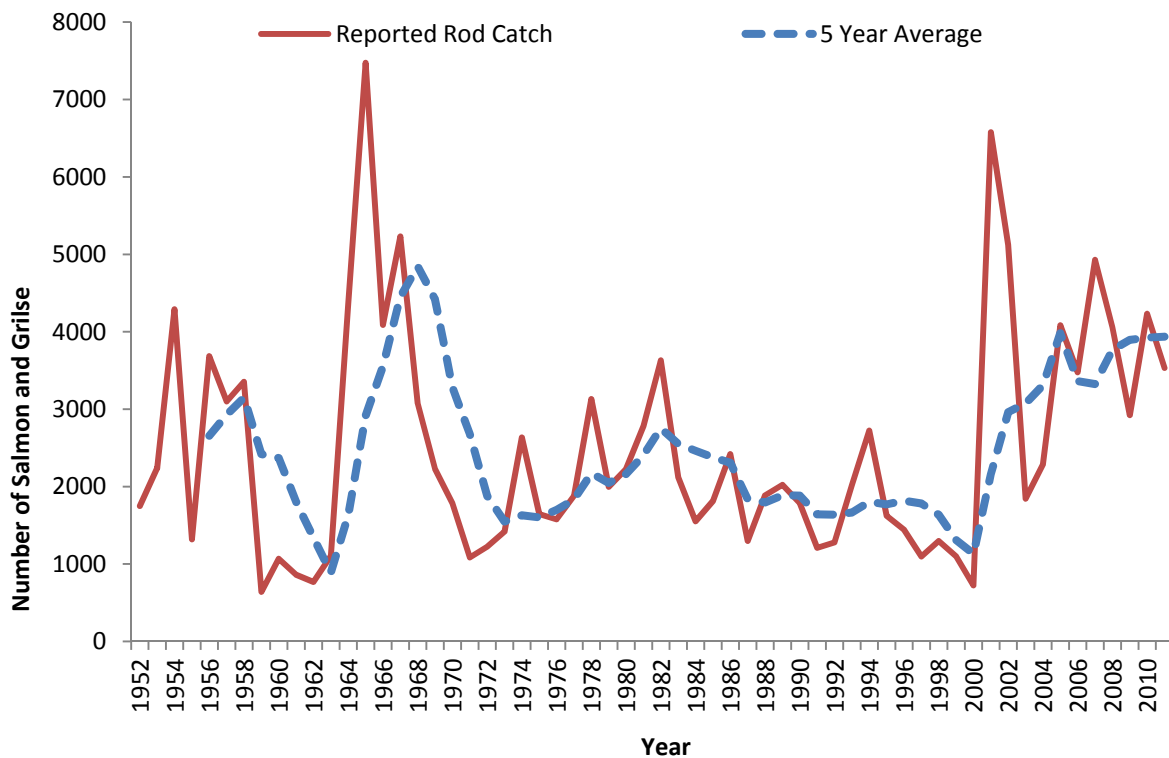


Fig 3. Reported rod catch for salmon/grilse in the Loughs Agency area and 5 year average.

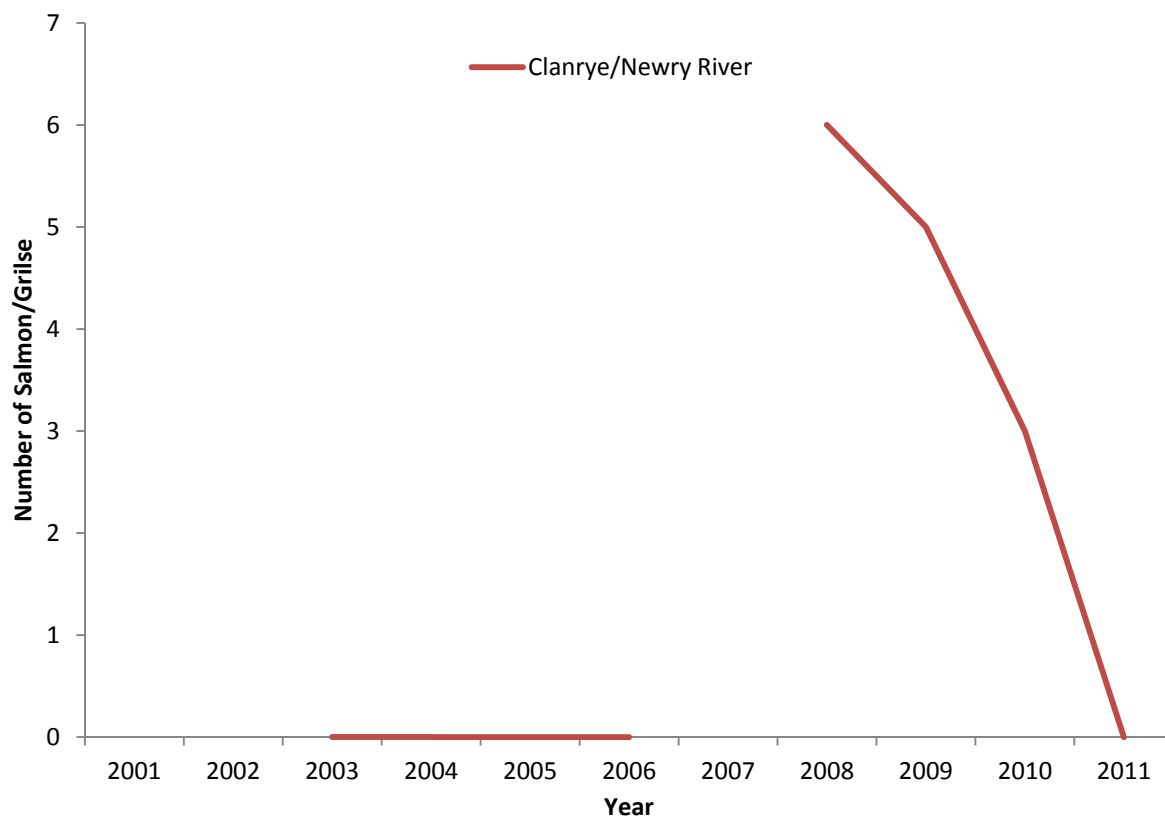


Fig 4. Clanrye/Newry River Reported rod catch

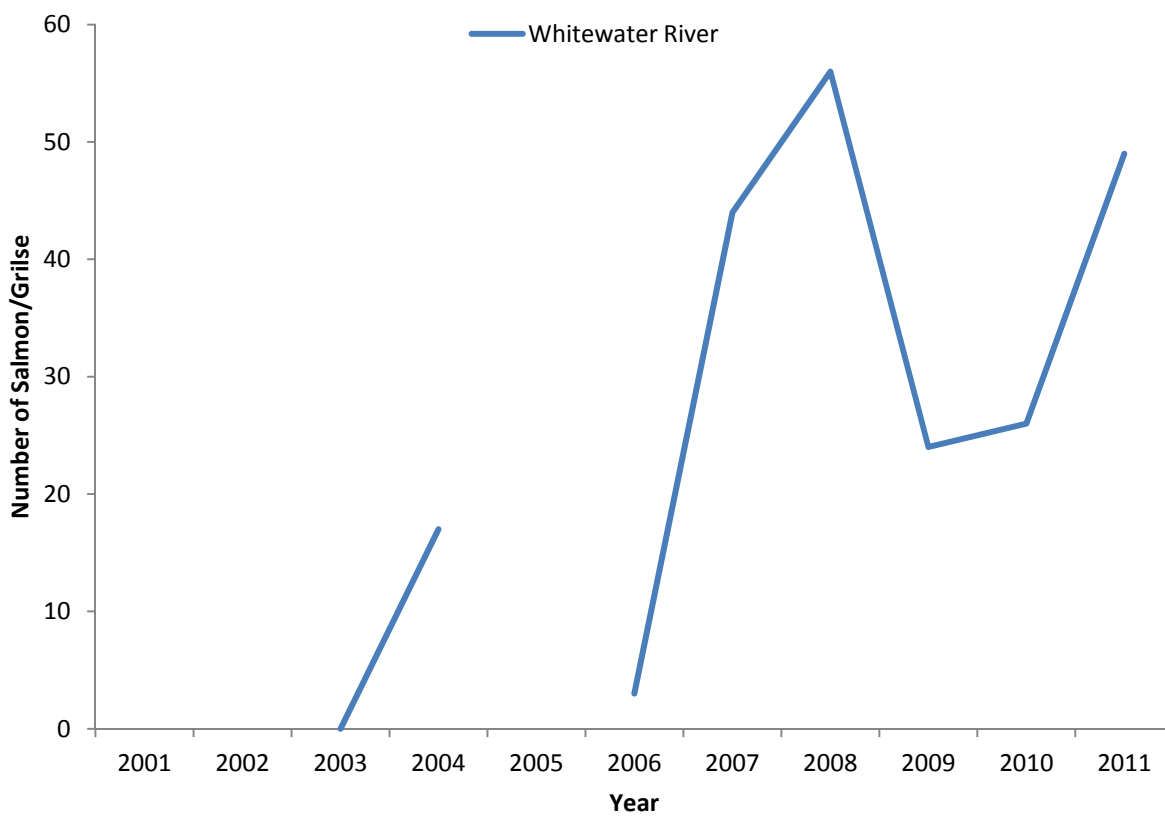


Fig 5. Whitewater River Reported rod catch

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 2011 the Newry fish counter experienced technical difficulties due to electronic problems and as such no fish count can be reported for 2011.



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). A number of 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 (Figures 7 & 8). In 2011 the mean number of salmon fry (young of year) recorded at 31 monitoring stations within the Clanrye/Newry catchment was 2. The mean number of salmon fry recorded at 13 monitoring stations on the Whitewater River was 6.

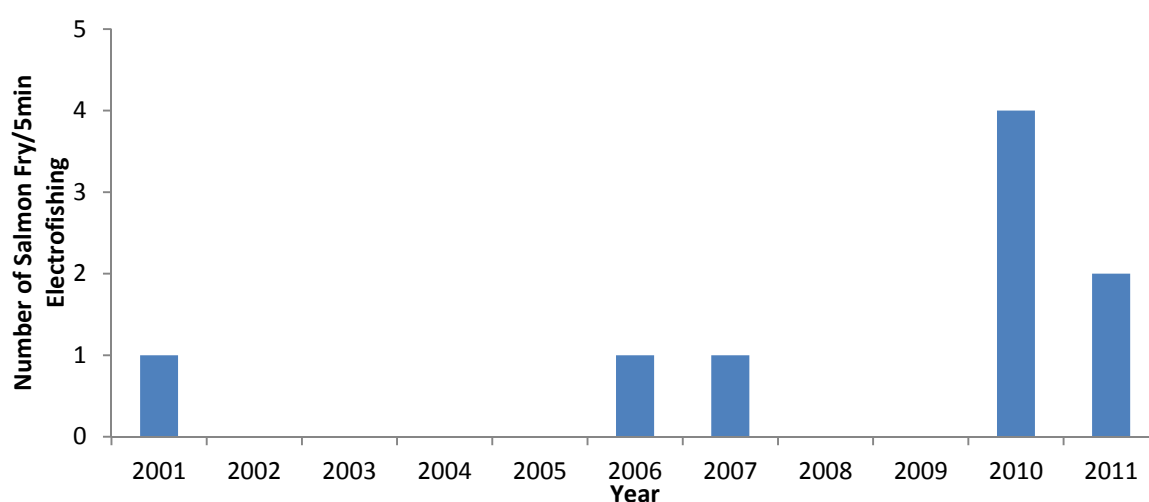


Fig 8. Clanrye/Newry River salmon fry electrofishing index. Based on a fluctuating number of sites

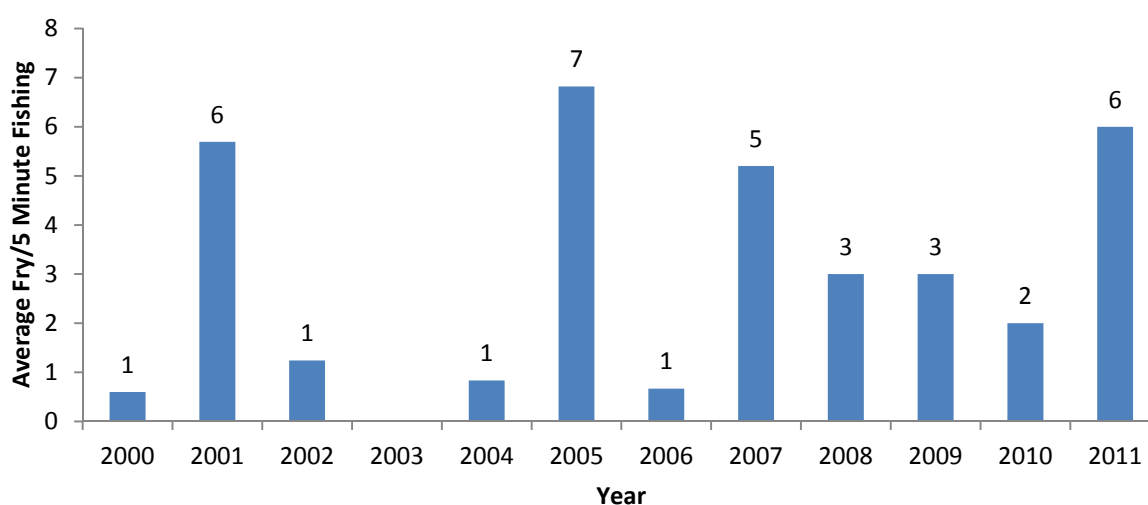


Fig 9. Whitewater River salmon fry electrofishing index. Based on a fluctuating number of sites.

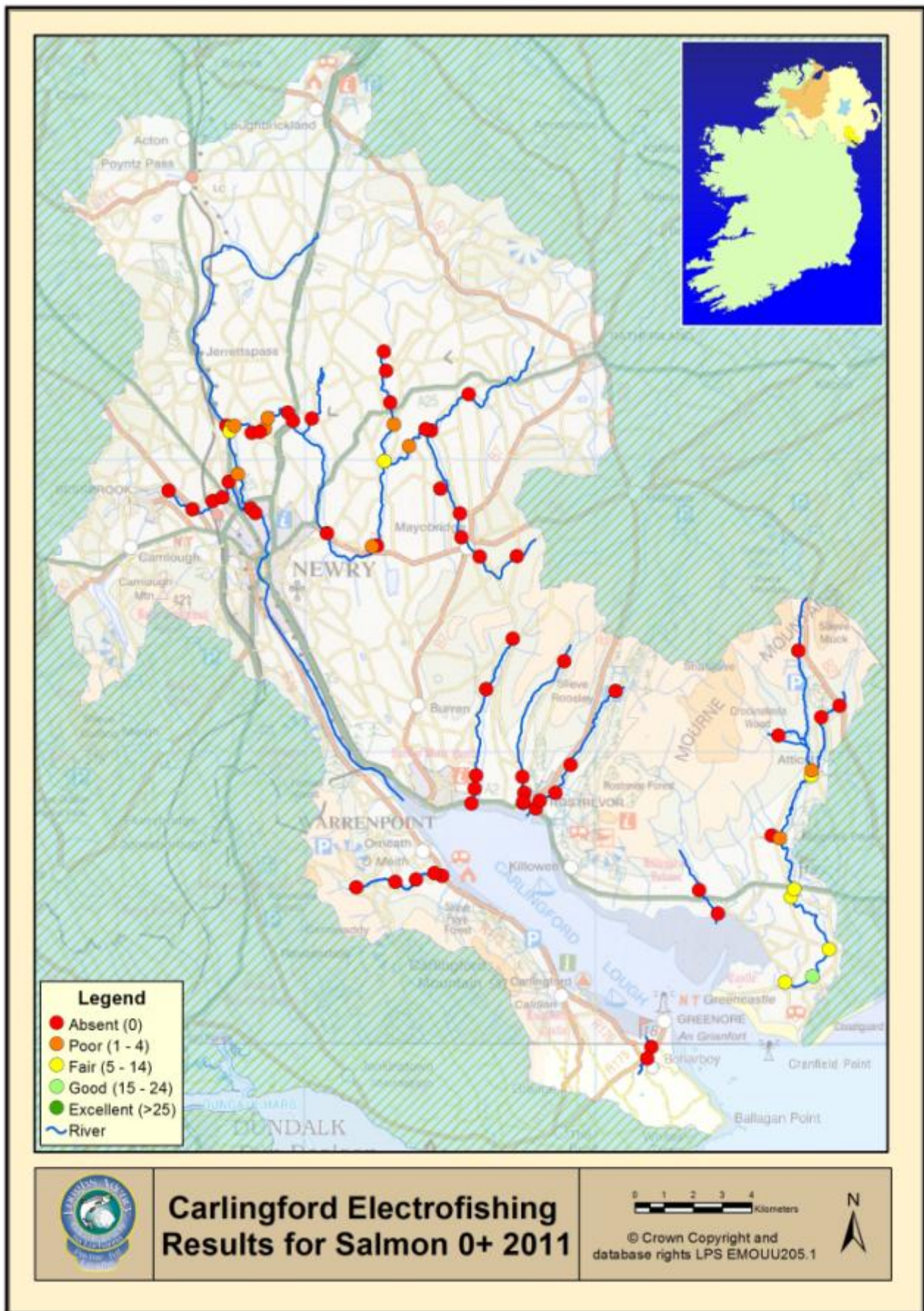


Fig 10. Culdaff salmon fry electrofishing classification

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 only 2.6% for the 2010 cohort returning to the river in 2011, this is the lowest on record. 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 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 2011 total declared Sea trout rod catch for the Foyle and Carlingford area was 315. Total declared rod catch for the Carlingford catchments was 66.
- In 2011 juvenile electrofishing surveys within the Clanrye/Newry catchment at 31 sites recorded an average of 3 trout fry. Within the Whitewater catchment at 13 sites an average of 4 trout was recorded.
- Declines in sea trout stocks have been observed in 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 will be implementing a sea trout research project in 2012 which will monitor local sea trout populations.
- Ongoing brown trout monitoring projects will continue in 2012 including a brown trout radio tracking study of the Lough Derg wild brown trout population

Development of a Loughs Agency Trout Management Strategy

During 2011 the Loughs Agency consulted with stakeholders on the development of a trout strategy. The draft 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 2011 a sea trout monitoring programme was instigated 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 31st May. A bag limit of 2 Sea trout over 40cm per day applies from the 1st 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 11-14 outline Sea trout rod catch for the Foyle and Carlingford areas and for the Clanrye/Newry catchment and Whitewater catchment. This area may be locally significant for Sea trout spawning and as such would merit closer investigation.

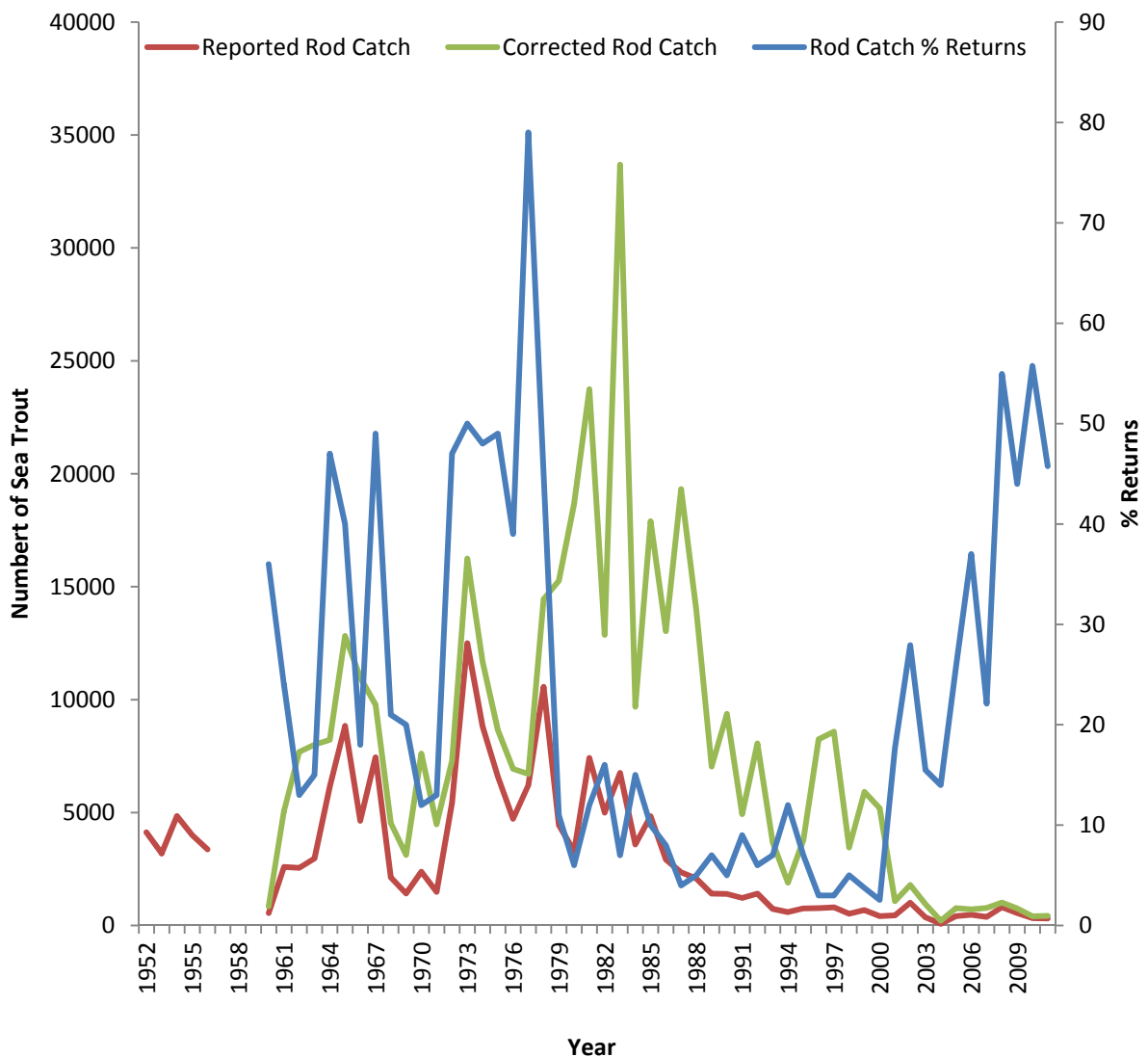


Fig 11. Loughs Agency reported and corrected rod catch (Sea trout) with % returns made

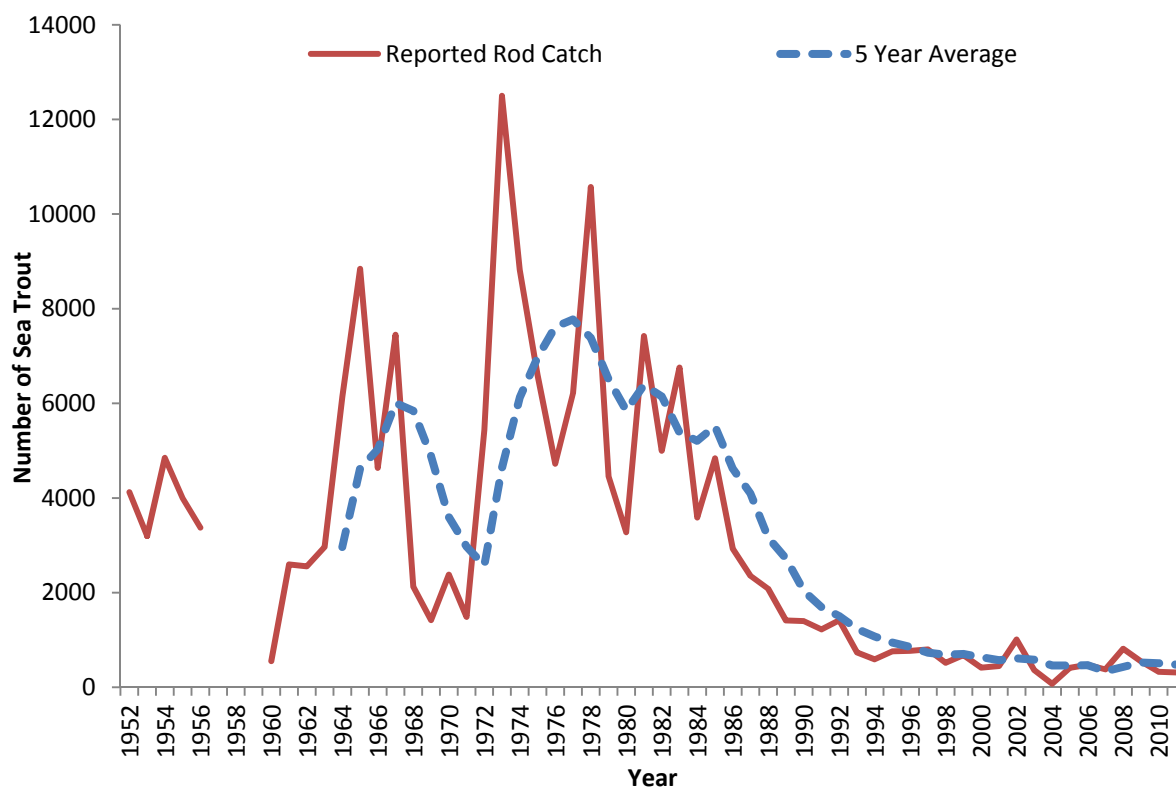


Fig 12. Reported rod catch for Sea trout in the Loughs Agency area and 5 year average.

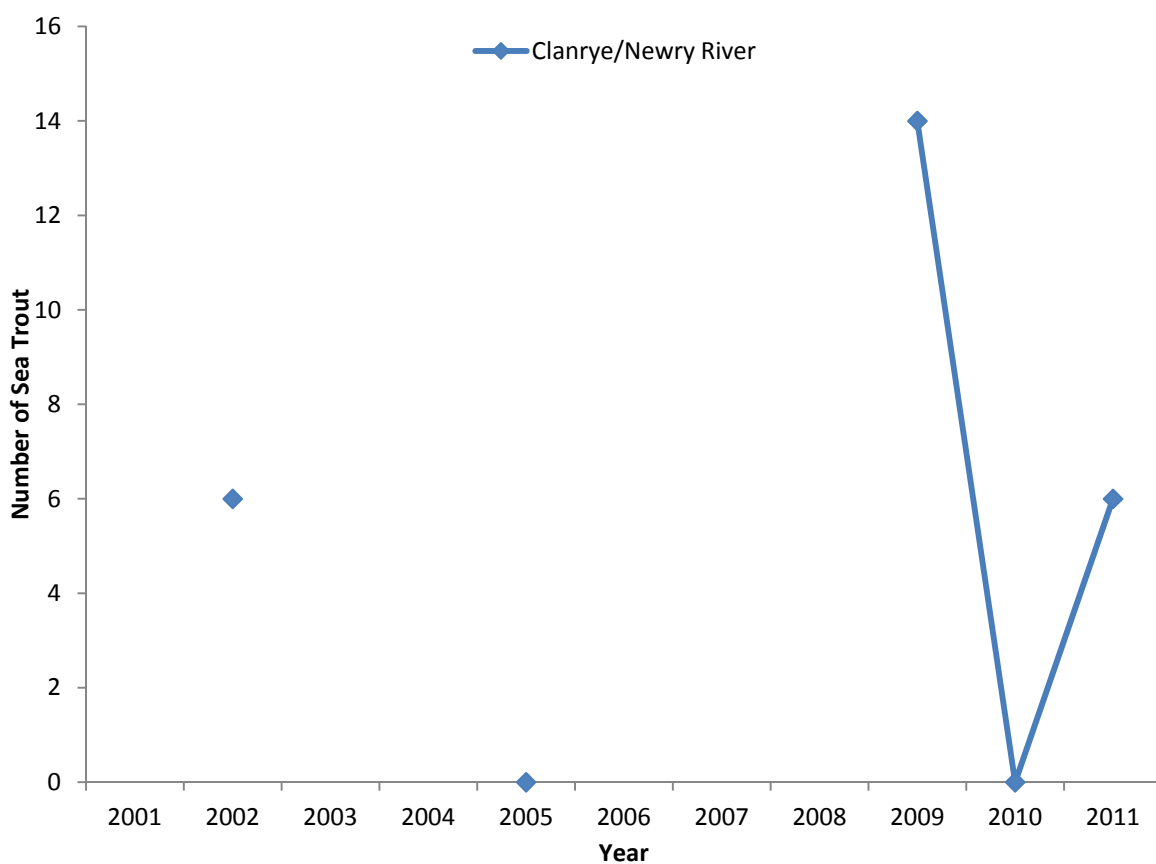


Fig13. Clanrye/Newry catchment reported Sea trout rod catch

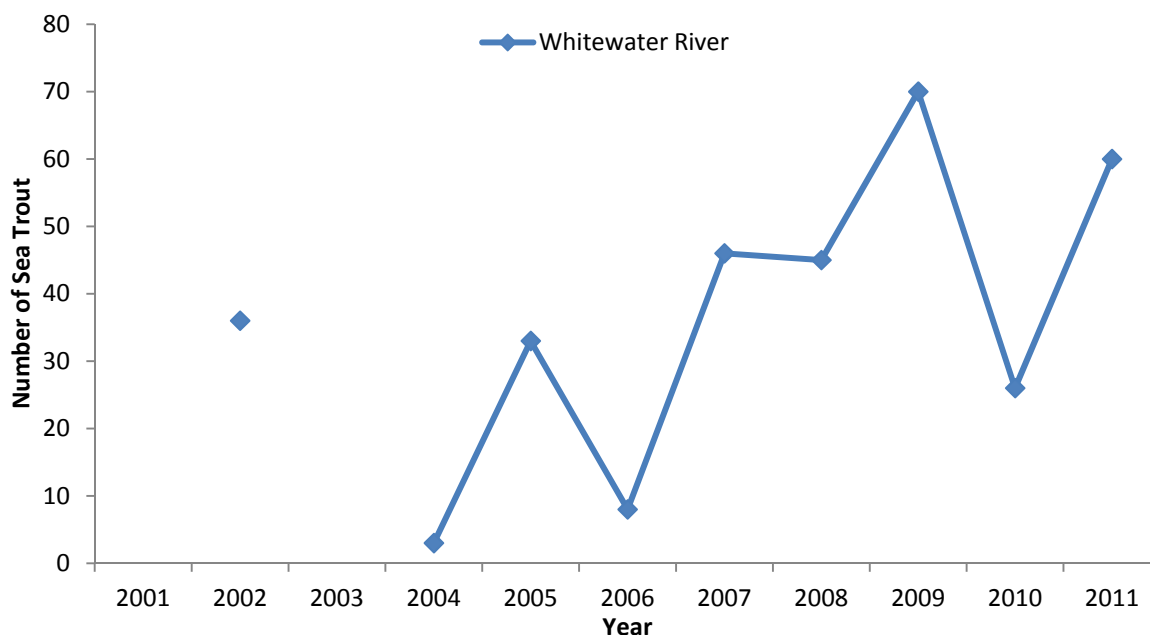


Fig14. Whitewater catchment reported Sea trout rod catch

3.2 JUVENILE ABUNDANCE/ELECTROFISHING SURVEYS

As for juvenile Atlantic salmon Trout abundance is measured on an annual basis by following the same standardised procedure (Crozier and Kennedy, 1996). A fixed number of 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 2011 the mean number of trout fry (young of year) recorded at 31 monitoring stations within the Clanrye/Newry catchment was 3. The mean number of trout fry recorded at 13 monitoring stations within the Whitewater catchment was 6.



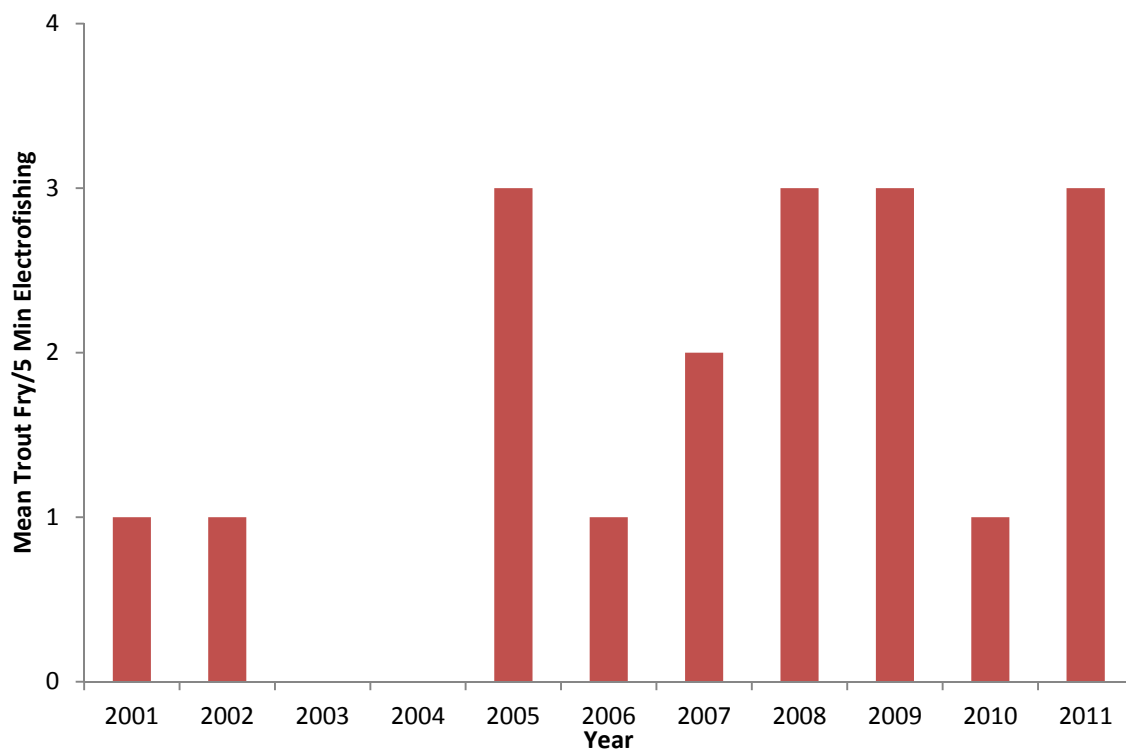


Fig 15. Clanrye/Newry trout fry index. Based on a fluctuating number of sites.

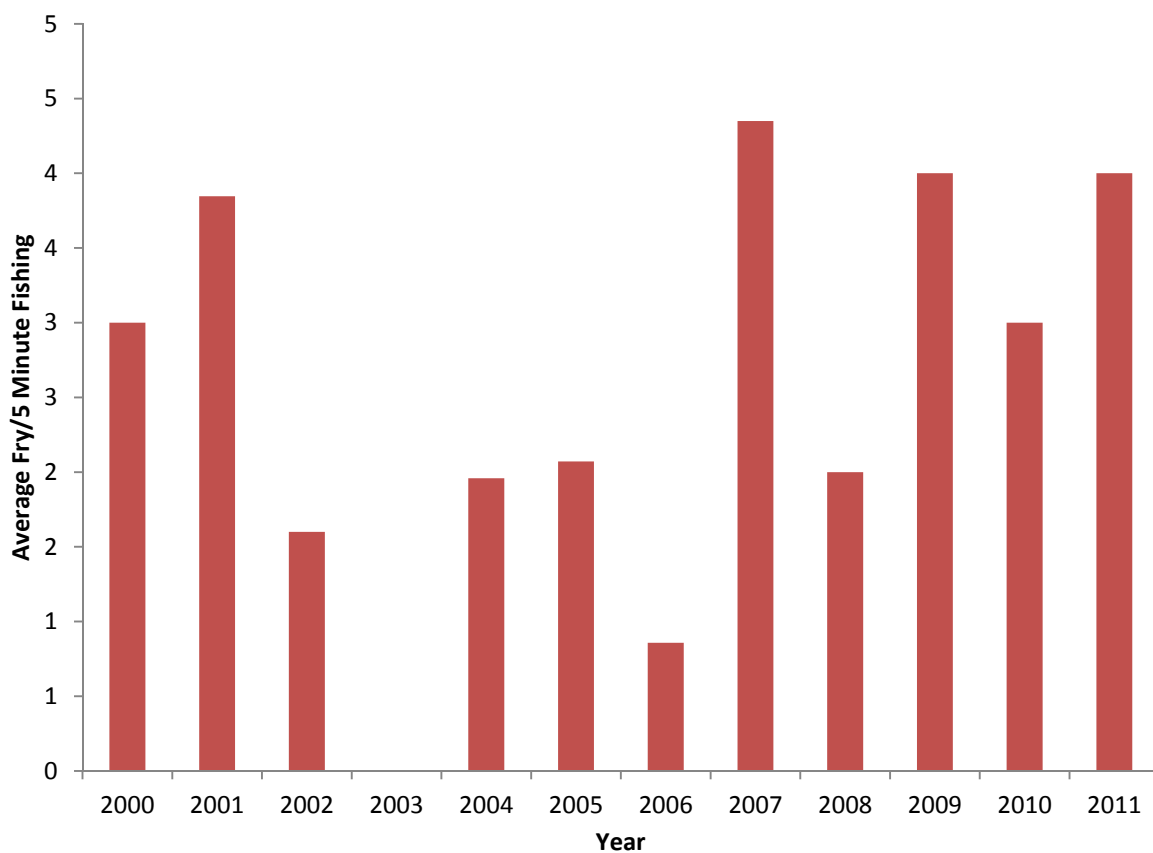


Fig 16. Whitewater trout fry index comparison chart 2011. Based on a fluctuating number of sites

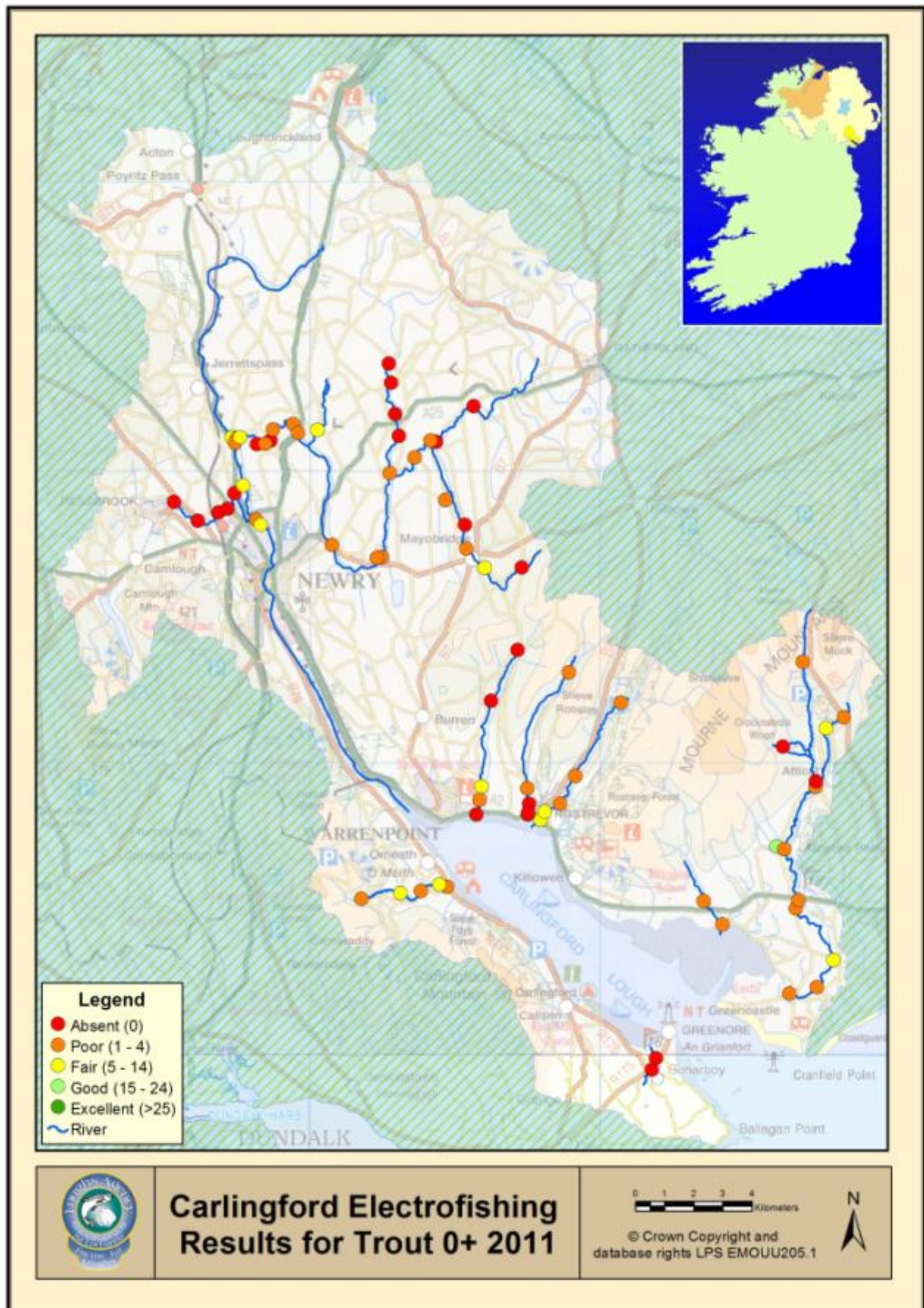


Fig 17. Culdaff Trout fry classifications

3.3 DISCUSSION

At present rod catch and juvenile electrofishing surveys are the two 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 Carlingford catchments are significant habitats for Sea trout. Within the Carlingford 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.

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



4.0 SUMMARY OF OTHER SURVEYS AND FISH STOCK ASSESSMENTS

- Eight Water Framework Directive fish surveillance monitoring stations were surveyed within the Foyle area in 2011. There were none surveyed within the Carlingford catchments. Three sites will be surveyed in the Carlingford area in 2012.
- Further details can be found in the 2011 WFD Fish Surveillance Report on the Loughs Agency website under the publications section www.loughs-agency.org
- Work on Invasive species continued as part of the INTERREG funded CIRB project. The Loughs Agency holds the position of chair of the CIRB project steering group in 2012. The CIRB project covers the Newry/Clanrye catchment in the Carlingford area and the Faughan catchment in the Foyle area. Additional catchments in Ireland and Scotland are included in the project.

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 2011 no additional fish stock assessments were conducted for Water Framework Directive fish monitoring purposes. Three sites will be surveyed in 2012. These sites will be surveyed by quantitative electrofishing. This method involves stop netting of a section of river and conducting electrofishing removal sampling. The data generated can be used to calculate the densities of different species and age classes present.

Other information will be collected on site to derive a fish classification for incorporation into overall surface waterbody classification under the Water Framework Directive.

In 2011 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 24 surveillance monitoring stations on a rolling six 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 2011 the Loughs Agency monitored eight surveillance stations within the Foyle area with none in the Carlingford catchments. Three sites will be monitored in the Carlingford area in 2012.



4.3 INVASIVE SPECIES AND BARRIERS TO MIGRATION

Controlling priority Invasive species and Restoring native Biodiversity (**CIRB**) project. **CIRB** is an INTERREG IVA funded project co-ordinated across three jurisdictions including Northern Ireland Republic of Ireland and Scotland. The partners include Queens University Belfast, University of Ulster, Rivers And Fisheries Trusts Scotland (RAFTS), Inland Fisheries Ireland, Tweed Foundation, Galloway Fisheries Trust and the Ayrshire Rivers Trust. A number of rivers within each jurisdiction including the Faughan and Newry catchments have been chosen as demonstration sites where Invasive Non Native Species (INNS) will be controlled and methods for restoring native biodiversity trialled. While the Loughs Agency are not a formal project partner we are a member of the steering group overseeing the project and have facilitated events and knowledge transfer.

The CIRB project is a good example of partnership working including the engagement of stakeholders to tackle a persistent issue. The CIRB project will run until December 2014.



5.0 WATER QUALITY SUMMARY

- 94 sites were monitored in the Foyle and Carlingford areas for water quality parameters during the summer of 2011.
- 17 sites were monitored in the Carlingford catchments.
- Ammonia results in the Culdaff catchment were classified as very good for 15 out of 17 sites, 1 site was classified as good and 1 as fair.
- 14 out of 17 sites in the Carlingford catchments were classified as very good for BOD, 1 classified as good and 2 classified as poor.
- Phosphorous results were classified as acceptable for 16 sites and unacceptable for one site.
- Suspended solids were classified as favourable for nursery conditions for 13 out of 17 sites and acceptable for migratory passage at 3 sites and unacceptable at one site.
- In the Culdaff catchment Macro invertebrates were monitored with a BMWP classification of fair quality at 1 out of 4 sites and poor quality at the remaining 3 sites. BMWP monitoring was conducted during the summer only.

The Importance of Monitoring Water Quality

The Loughs Agency conducts proactive and reactive pollution investigations within the Foyle and Carlingford areas. As part of this approach the Loughs Agency conducts a seasonal water quality monitoring programme. All results are collected and analysed by Loughs Agency staff at Loughs Agency facilities.

Key chemical and biological parameters including macro invertebrate monitoring, Biological Oxygen Demand (BOD), suspended solids, ammonia and phosphorous are monitored on a monthly basis during summer.

Results are available for all parameters monitored within 5 days and any follow up action can be conducted immediately.

Rivers and lakes are important habitats for varied biodiversity including fish. The Loughs Agency monitors water quality during the sensitive summer period to inform investigations

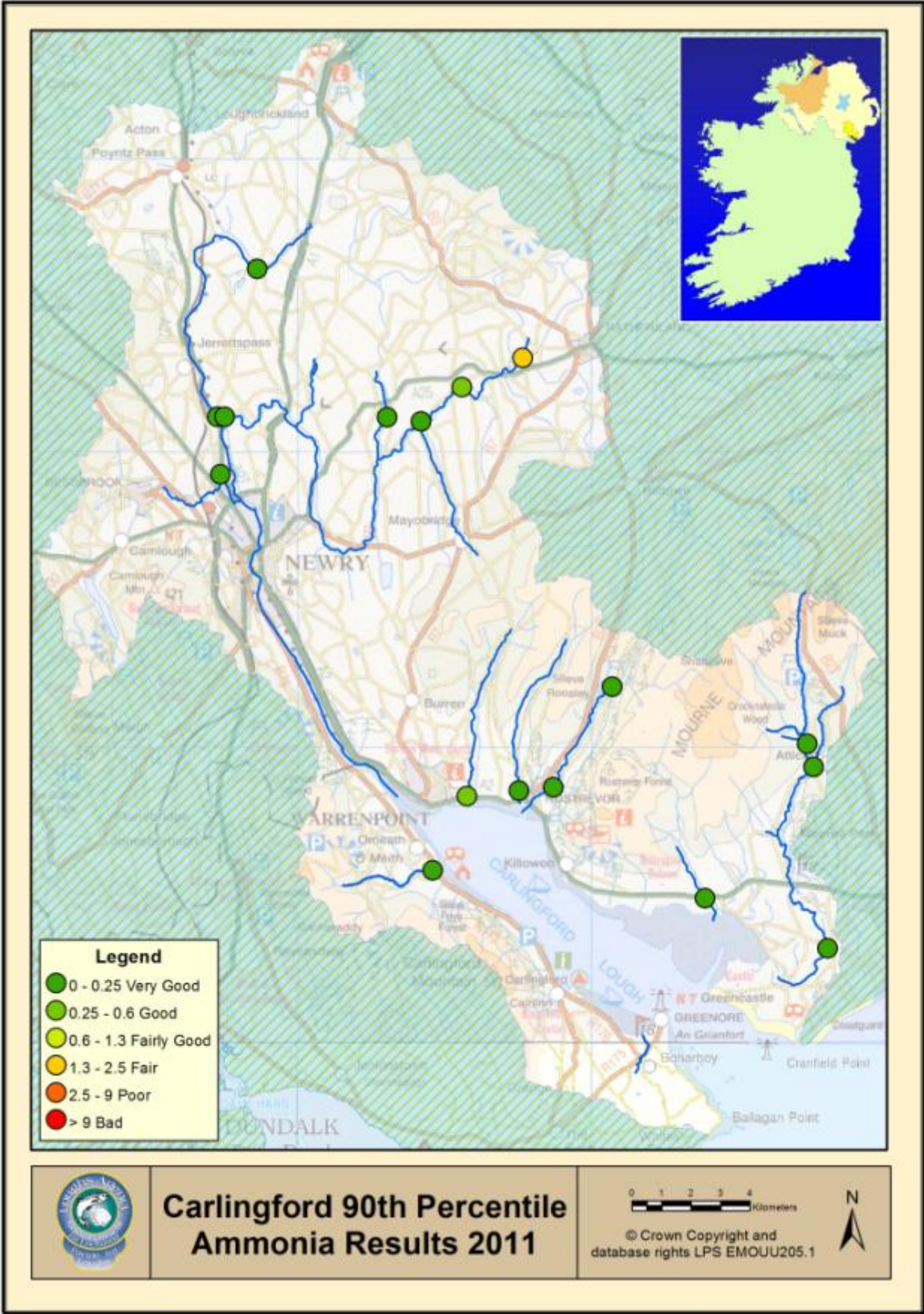


Fig 18. 2011 Ammonia classifications

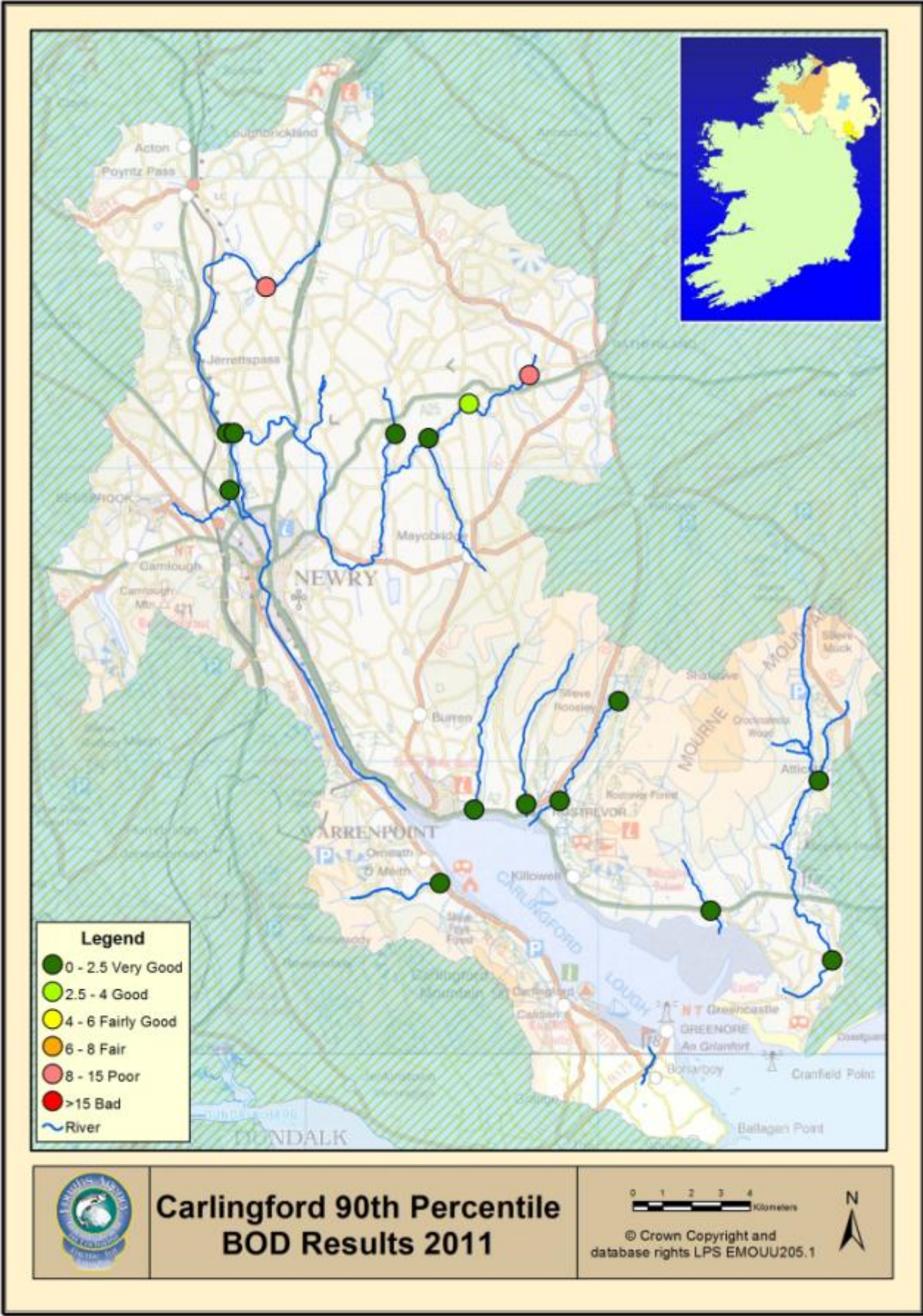


Fig 19. 2011 BOD classifications

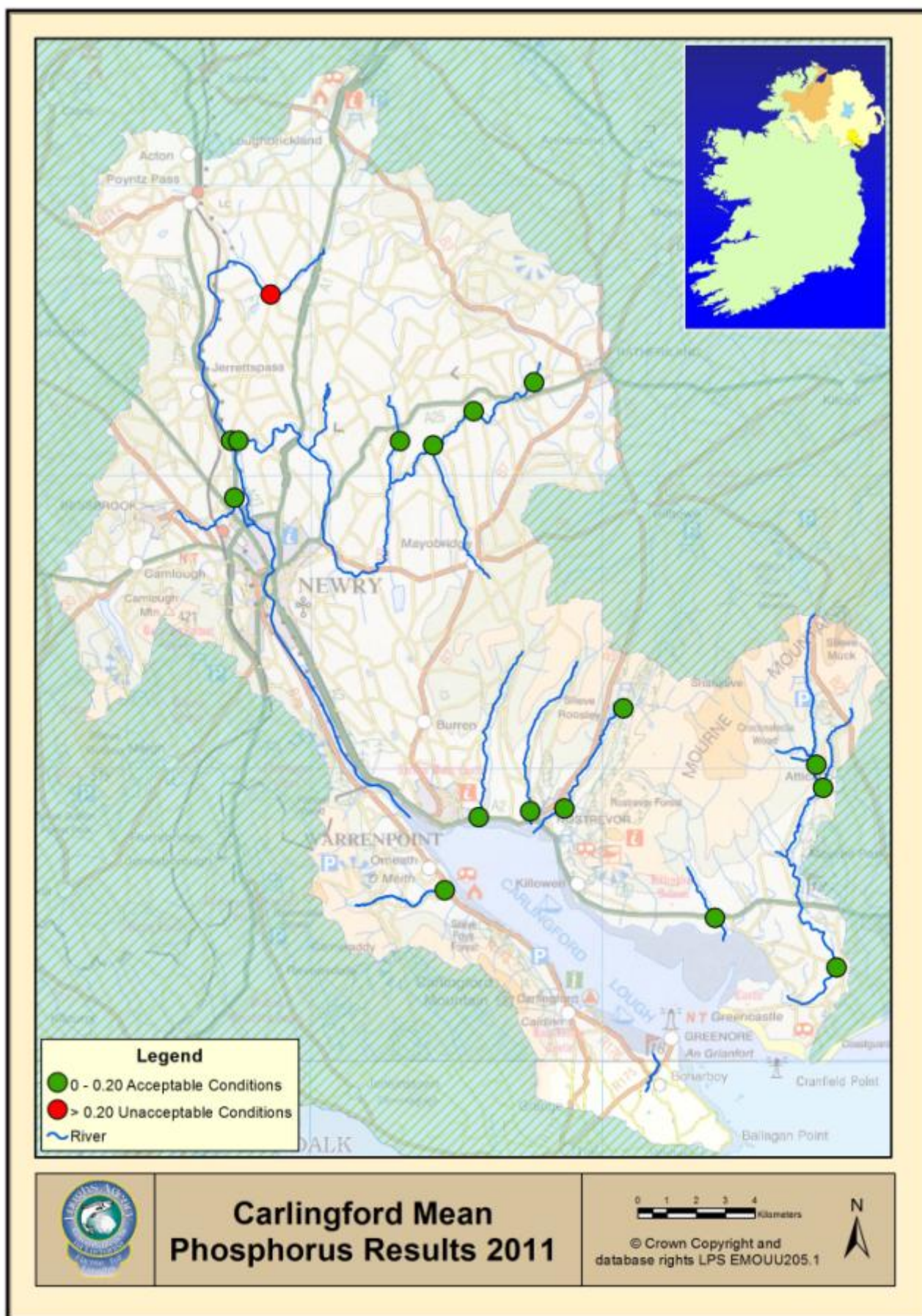


Fig 20. 2011 Phosphorous classifications

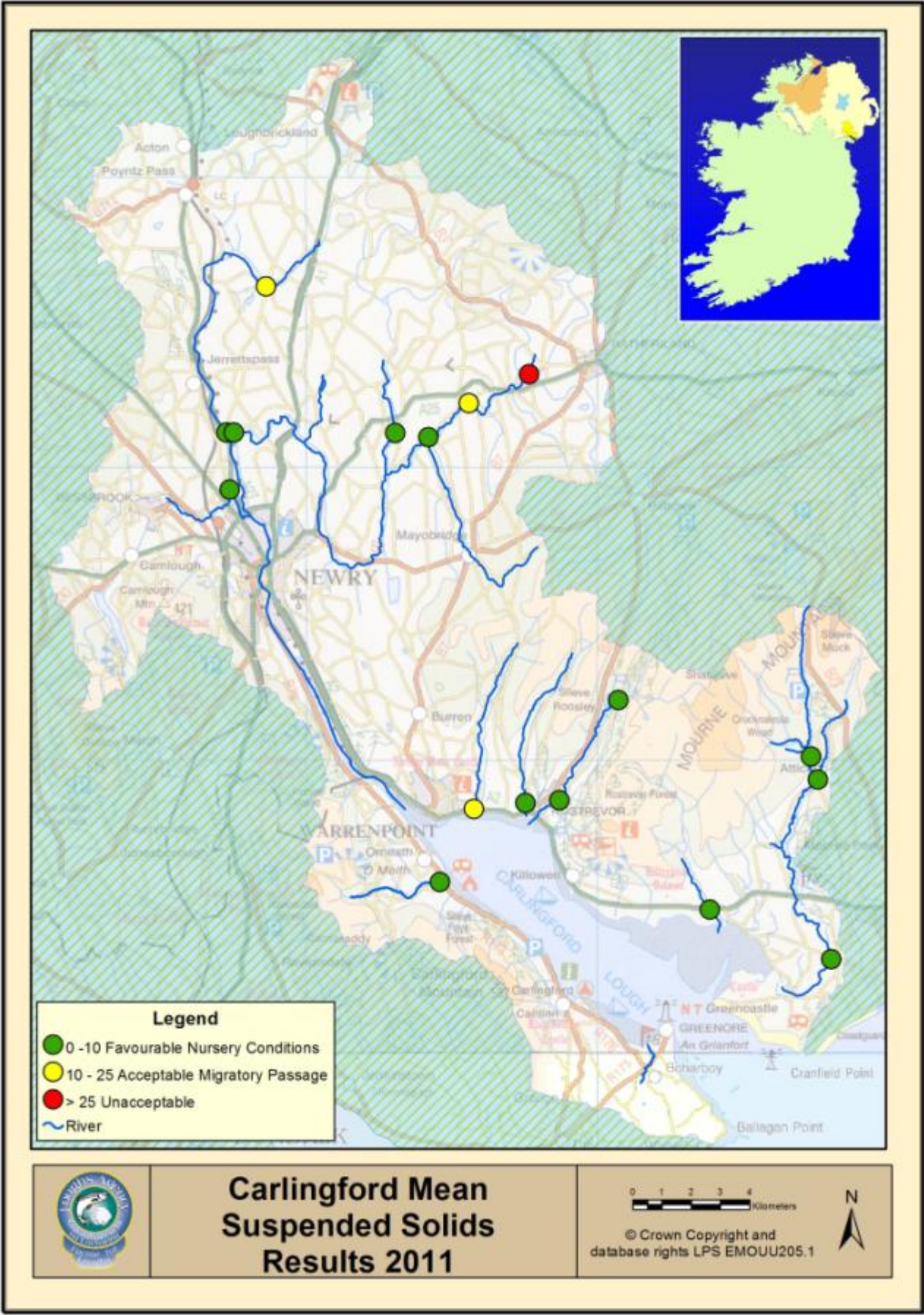


Fig 21. 2011 suspended solids classifications

6.0 CONSERVATION AND PROTECTION

SUMMARY

- In 2011 within the Carlingford catchments there were 8 warning letters issued.
- There were 553 angling license checks within the Carlingford catchments in 2011.
- There were 2 joint patrols in the Carlingford catchments in 2011 with local angling association personnel.
- There were 33 pollution investigations in the Carlingford catchments in 2011.
- 10 rods were seized and 2 nets were seized in the Carlingford catchments in 2011.
- There were 61 DCAL permit checks in the Carlingford catchments in 2011

Conservation and Protection

The Carlingford catchments are within the Loughs Agency Carlingford zone. The Carlingford crew is responsible for the conservation and protection of their zone in addition to other duties throughout the Foyle area.

The Carlingford crew is composed of 1 senior fishery officer and 3 fishery officers.

Each crew is responsible for amongst other tasks conducting a wide variety of conservation and protection duties including direct fishery protection, anti poaching patrols, license checks, pollution monitoring, redd counting, electrofishing and assisting with other stock assessments.

Crews will liaise with staff and volunteers from relevant government departments and angling associations to ensure water quality is maintained and to monitor all potential impacts on the fishery and aquatic resources.

6.1 CREW REPORT ON 2011

Agency staff continued their involvement in routine environmental monitoring within the catchment, including habitat surveying, water sampling, electrofishing, shellfish sampling, etc. Elevated water levels at key times during the year did curtail the amount of electrofishing sites covered and amount of redd counting done.

The crew were involved in 7 promotional shows including several in the UK and 1 in Germany.

Field staff continued to be involved in stakeholder consultations such as the Coarse fish forum and environmental forum. These fora provide an opportunity for interest groups and members of the public to voice their concerns and help direct some of the Agency's work. Issues that were raised in 2011 included the impact of seal predation on salmonid stocks, the continuing lack of safe parking along Newry Ship Canal, a desire for further legislation to protect pike and an assessment of the potential impact of Rivers Agency dredging of the summit level canal and its possible impact on coarse fish spawning habitat. Agency staff also gave presentations at a number of events such as the launch of the Cranfield Safety Code, Mourne Heritage Trust's Natural Heritage event and an Institute of Fisheries Management (IFM) conference.

The Agency continued its work on the seal population study in Carlingford Lough, resulting in the production of a discussion document. Work also continued on the dietary study and a preliminary report on those findings is expected mid 2012.

The Agency in co-operation with Roads Service, secured the provision of a number of parking bays along the ship canal. This work was incorporated into the provision of sustainable drainage along the Omeath – Newry road.

Thursday the 7th April saw the culmination of the second leg of the Loughs Agency's "Trout in the Classroom" pilot exchange programme with the release of trout fry into the Forkhill River by pupils from Kilbroney Integrated Primary School, Rostrevor and Scoil Phadraig Naofa, Kilcurry, Co Louth. In 2010, trout eggs from the Kilbroney River were raised in a small hatchery at Scoil Phadraig

Naofa and released back into their native river. In 2011, it was the turn of 5th and 6th class students from the Kilbroney Primary School to raise and care for eggs from the Forkhill/Castletown River catchment who then released the fry with their friends from Scoil Phadraig Naofa. The event was also supported by Dept. Culture Arts and Leisure and Inland Fisheries Ireland.



In May, Agency staff were involved in Fisheries Awareness Week. Fishery officers visited St. Oliver's Primary School, Carlingford and Ardagh and St. Lawrence's National Schools, Omeath to talk to students about the fisheries resource they have right on their doorstep. The children saw an aquarium containing trout, eels, sticklebacks and flatfish, all of which had been caught in the local Ryland (Essmore) River. The children also saw examples of the insects that live in the river and heard about the importance of good water quality. The students also saw a demonstration of fly tying.





Illegal fishing continued to be a problem in the catchment in 2011. One particular net seized near Ballagan illustrated the impact such activity can have on other species as well as salmonids. The net contained sea trout, mullet and a juvenile tope. The tope and sea trout were successfully returned to the water.



Agency staff investigated a number of pollution incidents throughout the year, one of which resulted in a significant fish kill in the Bessbrook River/Newry summit level canal. The dead fish included trout (one of which was 4lbs in weight), eels, stone loach and minnow. 2 other minor fish kills occurred in McCourts Lake and Loughbrickland lake.



The discharge of suspended solids continues to be an issue within the catchment with the Agency receiving several reports during 2011



There appeared to be an increase in the number of incidences of killing coarse fish and the use of live bait. Despite this, coarse anglers reported that the canal fished very well in 2011 and there are now plans to encourage more competition angling events.

The Agency commissioned the sampling and analysis of sediment from the Newry summit level canal. The reason for this was to establish the presence or otherwise of contaminants in the sediment which might pose a pollution/disposal problem should dredging of the canal occur e.g. during work to develop further coarse angling. The analysis found that there was no risk.

Agency staff carried out monitoring of necessary engineering work (due to erosion and bank collapse) on the Kilbroney and Whitewater rivers and advised on the provision of habitat features to help try to offset any impact.



Rivers Agency also carried out some gravel removal and brush cutting on the Ghann and Moygannon Rivers to deal with a flooding risk.

In July, Loughbrickland Lake developed a serious problem with weed/algae covering most of its surface. This reduced angling to virtually zero and contributed to a fish kill. Agency staff were involved in monitoring water quality and gave advise to Banbridge Council.

Following on from field work carried out in 2010/2011, a report commissioned by the Agency, identified that erosion of material from the banks of the Clanrye River was significantly contributing to the problem of sand deposition on the bed and its subsequent impact on habitat. This information is being used to plan and implement a series of targeted anti-erosion and habitat enhancement works in the catchment.

Agency staff were involved in the mapping and monitoring of invasive species within the catchment. This included some co-operation with the CIRB project

Agency staff worked with Warrenpoint Harbour Authority and AFBI carrying out monitoring of water quality while dredging of the harbour took place in the latter part of 2011. This was necessary due to concerns expressed by members of the shellfish/aquaculture industry

The Kilkeel Angling Club suffered a terrible loss of brood stock from their hatchery in November. 30 salmon and 6 Sea trout were lost. All of the fish had come from the Whitewater River. The cause was found to be a flood that had washed very high amounts of suspended solids into the hatchery and blocked the water inlet point. This resulted in deoxygenation of the holding tank. Damage to the gills by suspended solids was also thought to be a contributing factor. The incident unfortunately just happened to occur in a 6 hour window between routine checks by the club volunteers. The club are reviewing their procedures and examining the use of oxygen monitoring equipment.

6.2 PROPOSED HABITAT IMPROVEMENT SCHEMES FOR 2012/13

1. The proposal is to build on the Clanrye sedimentation report and target a section of the upper Clanrye most likely in the Rathfriland area. The intention is to create a demonstration stretch of erosion control and

habitat enhancement measures using mostly soft engineering techniques.

2. It is proposed to use willow spiling and/or Christmas tree revetment along with re-grading to reduce bank erosion. Where necessary it may be necessary to use geotextile. This will be combined with the construction of a number of deflectors to speed up flow and create riffle.

By doing an initial small scale project, we limit the amount of landowner agreements required, can determine any pitfalls/issues during the construction phase and can use the works to demonstrate the benefits to downstream landowners.

3. The Moygannon river has a number of falls, most of which appear to be passable to migratory fish with adequate flow. I suggest that the river is assessed for migration barriers, there are a number of natural falls, which appeared to be impassable, but upstream populations of trout suggest otherwise. At the head waters of the Moygannon, a concrete section is impassable, due to the height and flow. No fish have been recorded in electro-fishing above this section – Ballyvally Bridge.

Another barrier of concern is located approximately 1 mile upstream from the mouth of the river, the driveway to a recently build house (within the last 10 years), crosses the river. The crossing itself consists of 5 large pipes, approximately 1m in diameter and 4m in length. The crossing is located at the top of a natural falls, and should be assessed if it can be passed by migratory fish.

4. While redd counting on the Moygannon river in late 2011, there were a series of what appeared to be ideal spawning gravel, approximately 0.5 miles upstream from the mouth of the river. Although redds were expected, none were observed, however it was clear that cattle had recently been in this section of the river and disturbed the gravel or destroyed the redd.

Fencing would solve this issue, preventing the cattle from entering the river, with the possible inclusion of a 'drinking station' where cattle can enter the river, but away from the spawning gravel.

5. On the Whitewater river, at the 'Mourne Grange' section, approximately 1 mile upstream from the mouth of the river. Along this section, there are areas of tunnelling caused by overgrown riparian vegetation, (Fir/Alder/Sycamore) leaving the river quite dark in areas. Cutting back or thinning of the vegetation would greatly help to get more light to the river.

Also in the section, there appears to be good spawning gravel, however redds are not usually recorded here. The gravel in this section is compacted and therefore cleaning the gravel may free it for spawning. Cleaning the gravel and a reduction in tunnelling will greatly improve the habitat along this section of river.

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 2012/13 and beyond the Loughs Agency will aim to engage local stakeholders in participating in river corridor litter picks, the development of

habitat improvement works and Sea trout monitoring programmes. We will also facilitate wider stakeholder engagement through participation in the CIRB invasive species project aimed at controlling Invasive Non Native Species and in supporting stakeholder events by providing premises for events.

If you are a member of an organisation which may be interested in working on collaborative conservation and protection projects within the Carlingford catchments please contact art.niven@loughs-agency.org to discuss potential projects.



8.0 ACTIONS FOR 2012/2013

- To continue to enforce fisheries legislation in the catchment
- To organise more education events to promote fisheries and the good quality local aquatic environment. In particular we wish to build on our experience with the “hatchery in the classroom” programme and the success of the 2011 Fisheries Awareness Week visits.
- To continue updating the habitat surveys and in particular identify migration barriers
- To continue to be vigilant regarding the impact of construction/development works (authorised and unauthorised) in and around watercourses

- To continue work on the 5 year plan to address habitat improvement on the Clanrye River and implement the recommendations of the habitat study.
- To continue to expand the genetics surveying
- To continue the seal monitoring programme. This year we intend to focus survey effort around the times of the smolt run and autumn run of salmonids. This is to assess any change in behaviour of the seals when compared to other times of the year and to focus the dietary analysis (scat sampling) around the times that salmonids are particularly vulnerable
- To continue to participate in/cooperate with the work of other agencies and programmes that have a fisheries and/or aquatic environment interest.
- To carry out at least 1 habitat improvement project

