LOUGHS AGENCY OF THE FOYLE CARLINGFORD AND IRISH LIGHTS COMMISSION

Culdaff River, Inishowen and 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 legislatory 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 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 Culdaff catchment was 5. Catch and release for the Foyle and Carlingford areas was 28 % and 80% for the Culdaff.

- Returning adult Atlantic salmon counts derived from an electronic fish counter at Sion Mills on the River Mourne were 1342 salmon/grilse in 2011. This compares to a 5 year average of 3856.

- Spawning redd counts for the Foyle area were 1313 in 2011 with 17 redds recorded within the Culdaff catchment

- Juvenile electrofishing surveys within the Culdaff catchment at 11standard sites recorded an average of 2 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 sub-paragraph (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.

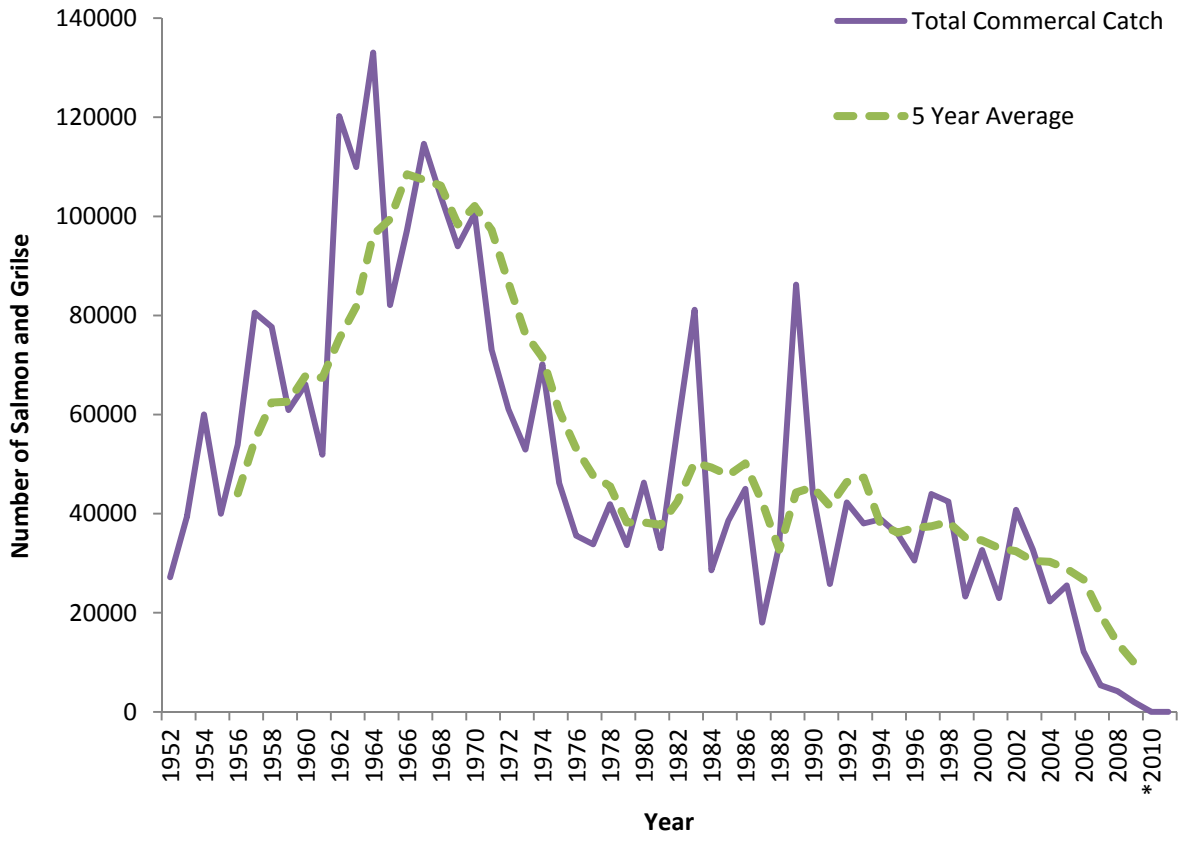

Fig 1. Total commercial catch 1952-2009 and 5 year average total commercial catch.

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). 5 salmon and grilse were reported caught in the Culdaff catchment (Figure 4). Salmon/Grilse caught and released were 28% in the Foyle and Carlingford area and 80% in the Culdaff 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.

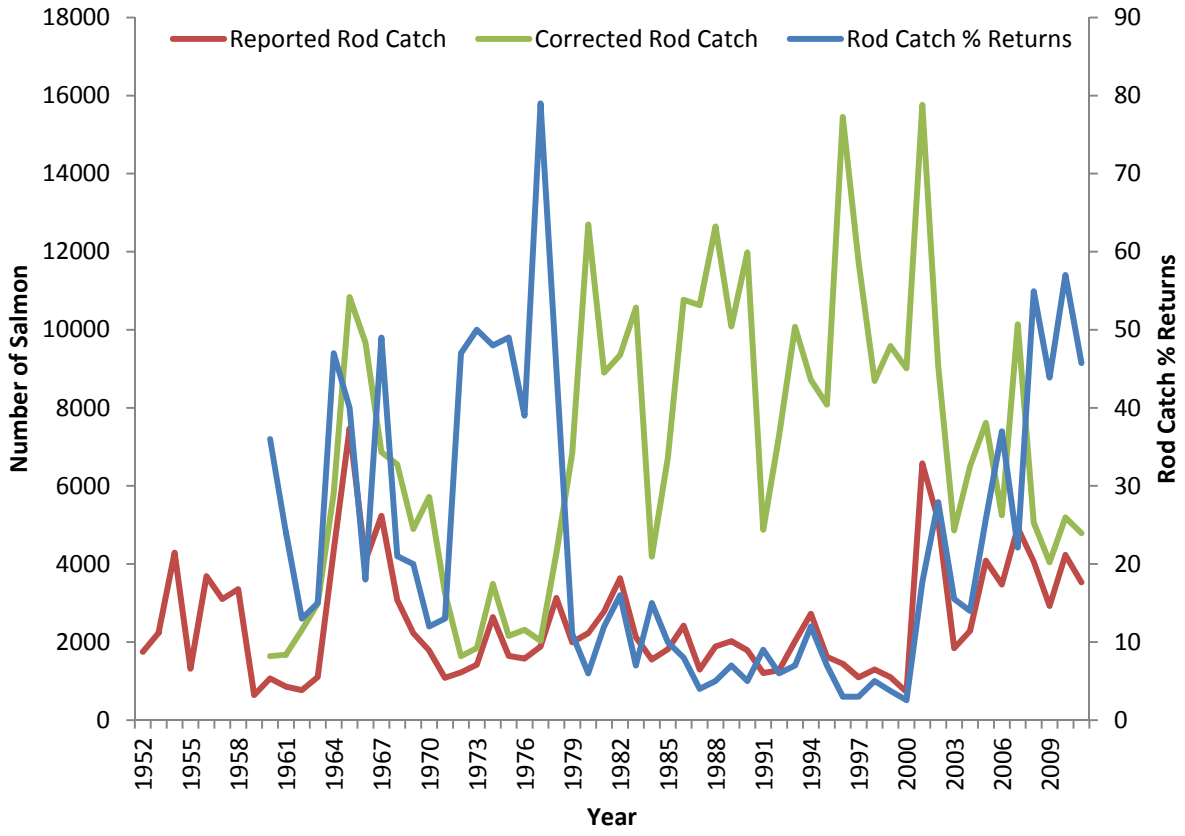

Fig 2. Loughs Agency reported and corrected rod catch with % returns made

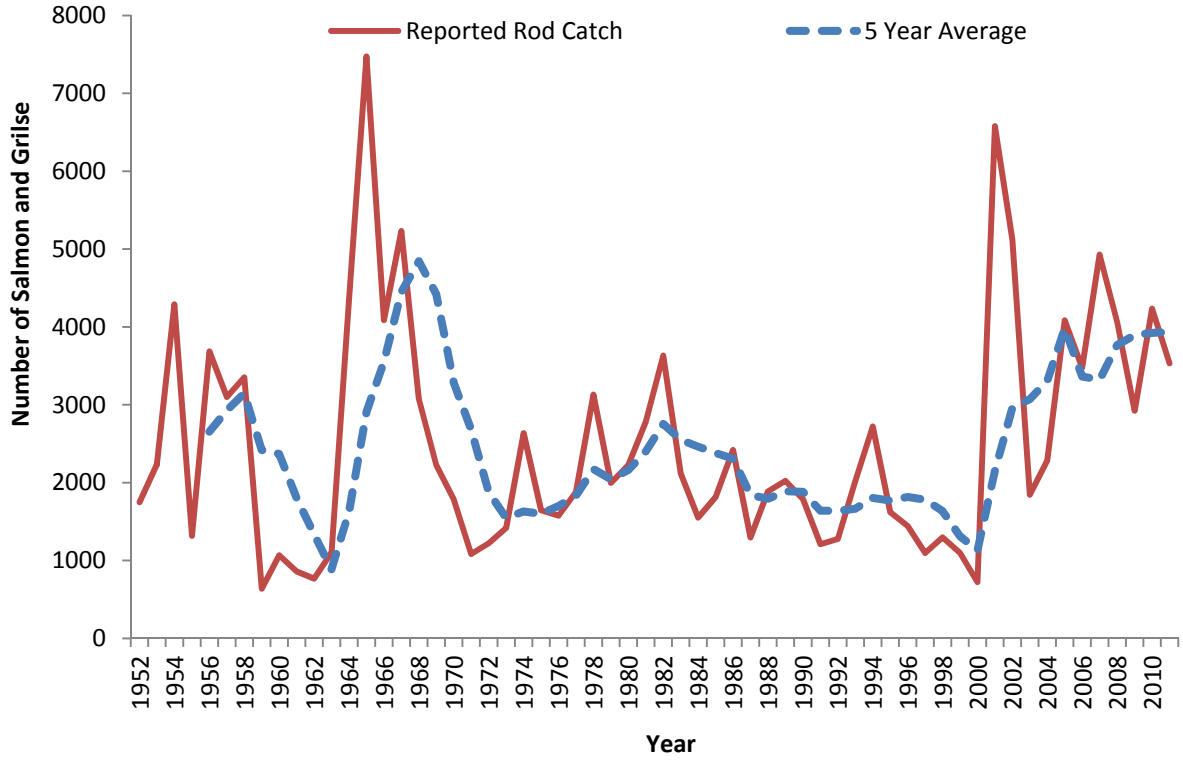

Fig 3. Reported rod catch for salmon/grilse in the Loughs Agency area and 5 year average.

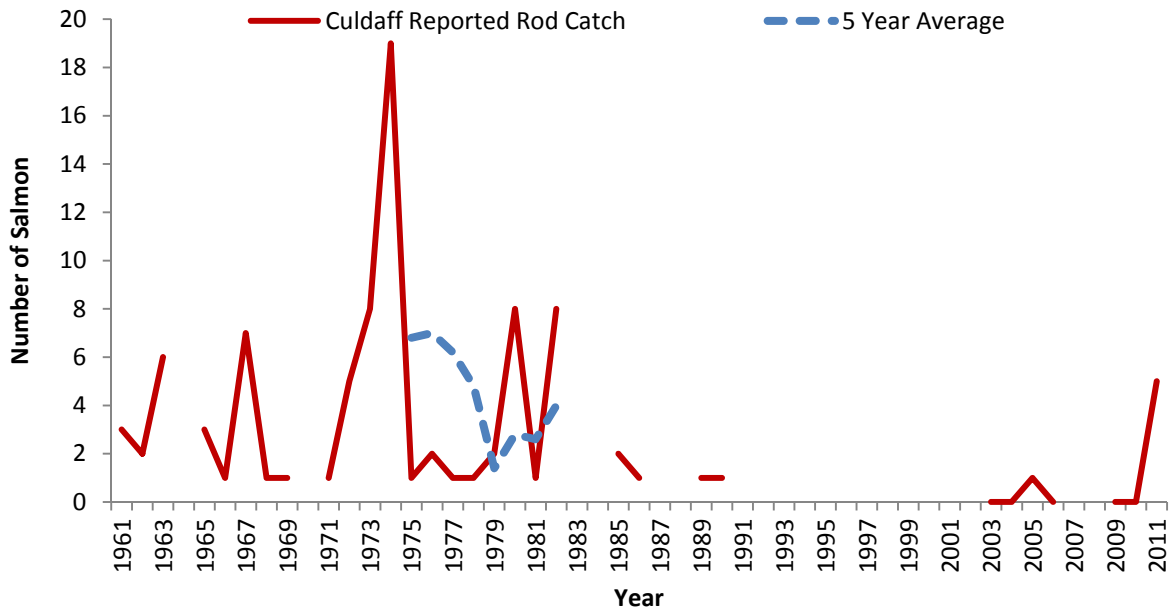

Fig 4. Culdaff Reported rod catch and 5 year average

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 2011 the Mourne fish count as recorded by the electronic fish counter at the Sion Mills on the River Mourne was 1342 with a 5 year average of 3856 (Figures 5 & 6). The management target for the Mourne is 8000 and the conservation limit is 6400.

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 Figures 5 & 6. In 2011 there was a total count of 1313 redds with a five year running average of 3459. 17 redds were recorded in the Culdaff catchment in 2011/12. It should be noted that there was poor redd counting conditions in 2011/12.

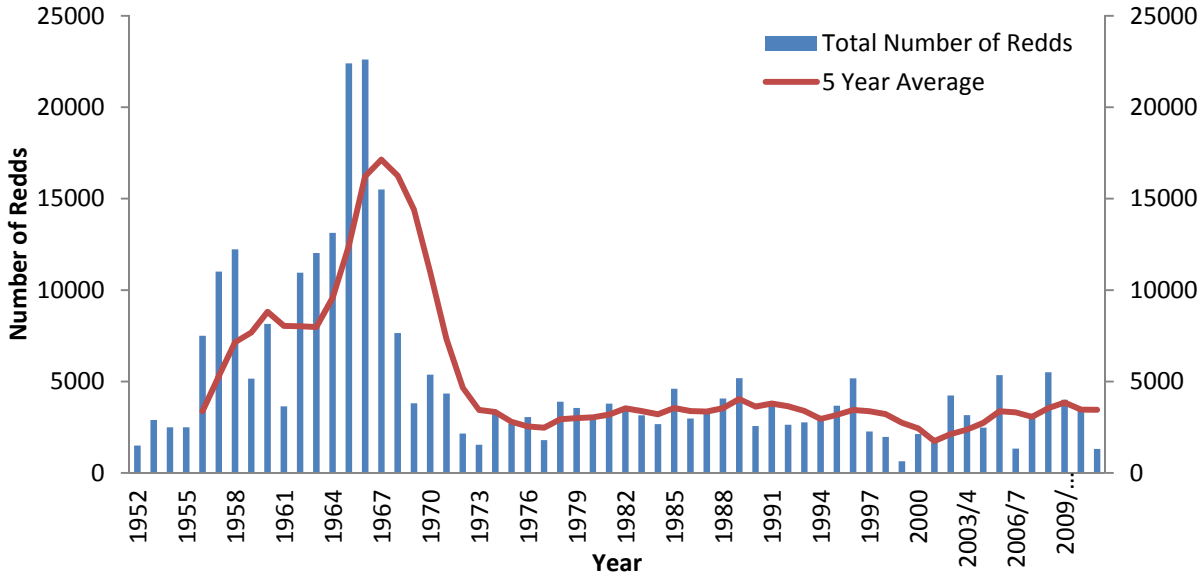

Figure 5. Annual redd counts and 5 year running average

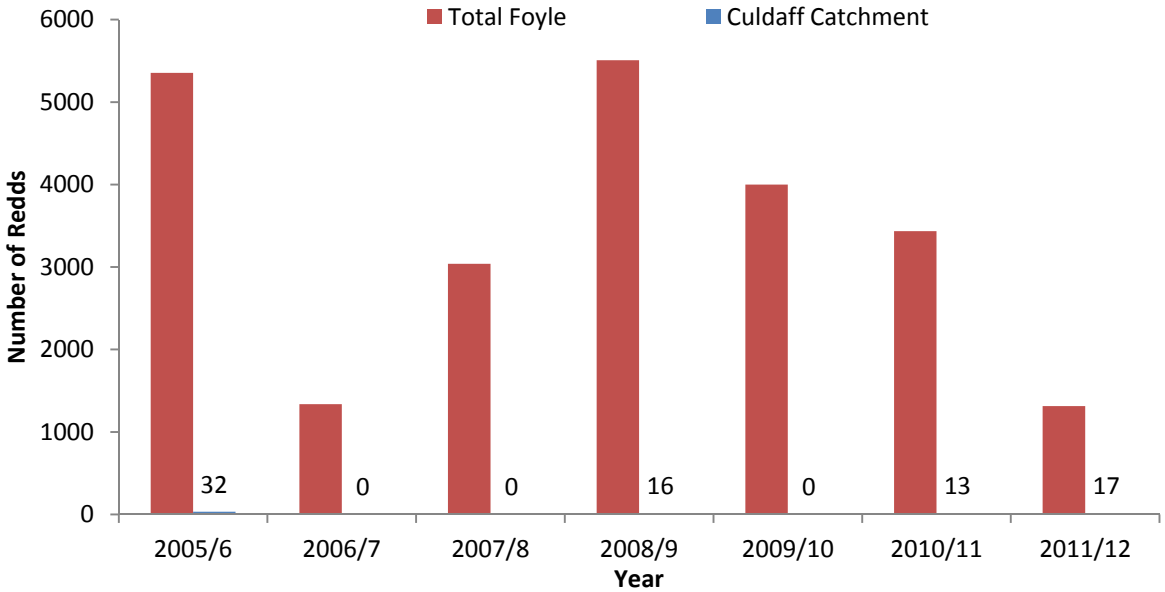

Figure 6. Recent redd count data for the total Foyle area and Culdaff catchment

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 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 (Figures 7 & 8). In 2011 the mean number of salmon fry (young of year) recorded at ?? standardised monitoring stations within the Culdaff catchment was ??.

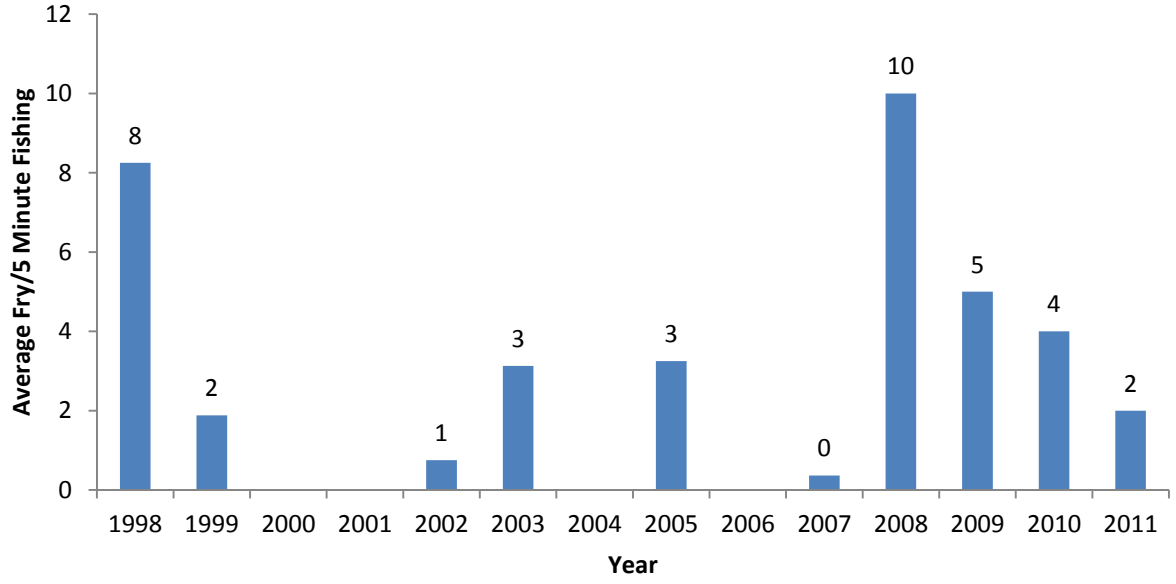

Fig 7. Culdaff salmon fry electrofishing index. Based on a fluctuating number of sites

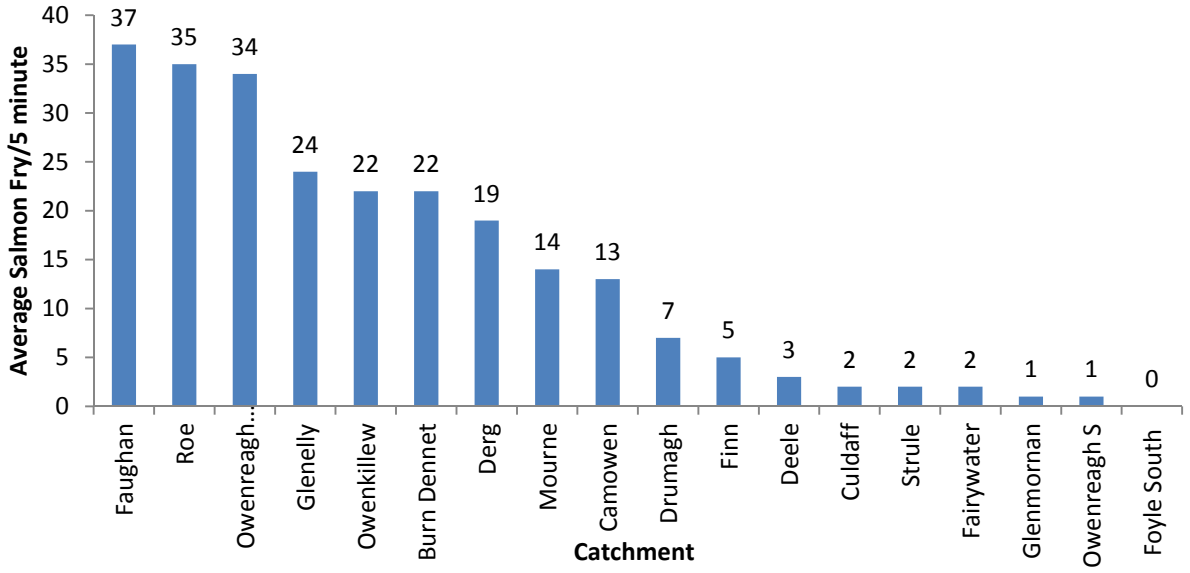

Fig 8. Foyle area salmon fry index comparison chart 2011 *the number of standard monitoring stations varies between catchments. Based on a fluctuating number of sites.

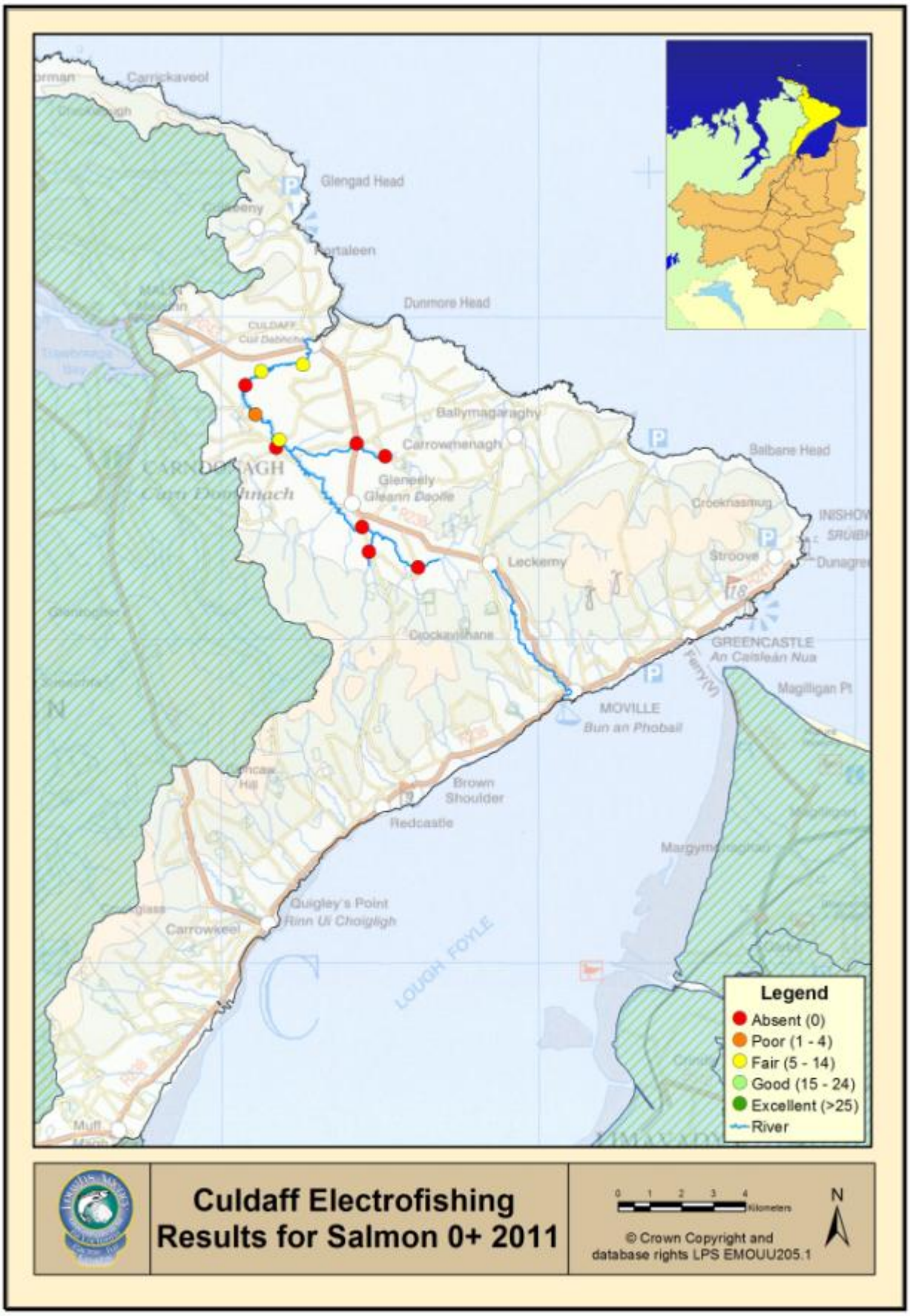

Fig 9. Culdaff salmon fry electrofishing classification

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.

In the table below a simple example is given to outline this complexity assuming that the dominant life history of Foyle salmon is followed.

YEAR	ROD CATCH	REDD COUNT	ELECTROFISHING INDEX
2002	N/A	24	1
2003	0	12	3
2004	0	0	N/A
2005	1	32	3
2006	0	N/A	N/A
2007	N/A	N/A	N/A
2008	N/A	16	10
2009	0	N/A	5
2010	0	13	4
2011	5	17	2

Table 1. Culdaff catchment Atlantic salmon/grilse statistics 2002-2011

Cohort analysis is not possible on the short time series of data above. There is no fish counter on the Culdaff and no catch has been declared in recent years. The Culdaff River has a low angling effort however any catch must be declared, failure to make a rod catch return is an offence. It is also a requirement to have a rod license to fish the Culdaff River.

The redd count and juvenile electrofishing surveys highlight that there is a small run of salmon into the Culdaff River. This resource is worth conserving, protecting and developing.

It should be noted that using rod catch or redd count as a proxy for total run size is not ideal as weather conditions prohibiting angling and redd counting can mask true trends. In the absence of an accurate estimate of returning year class strength analysis of other life history stages becomes more important.

In 2011 rod catch was 5. There was a limited redd count conducted in 2011 due to poor weather conditions with peak spawning time dominated by high water. Juvenile electrofishing surveys in 2012 will provide information on the strength of the next cohort.

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 Culdaff catchment was 7.

- In 2011 juvenile electrofishing surveys within the Culdaff catchment at 11 sites recorded an average of 6 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 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 Burndennet 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, 12 & 13 outline Sea trout rod catch for the Foyle and Carlingford areas and for the Culdaff catchment. The Culdaff River and Inishowen area may be locally significant for Sea trout spawning and as such would merit closer investigation.

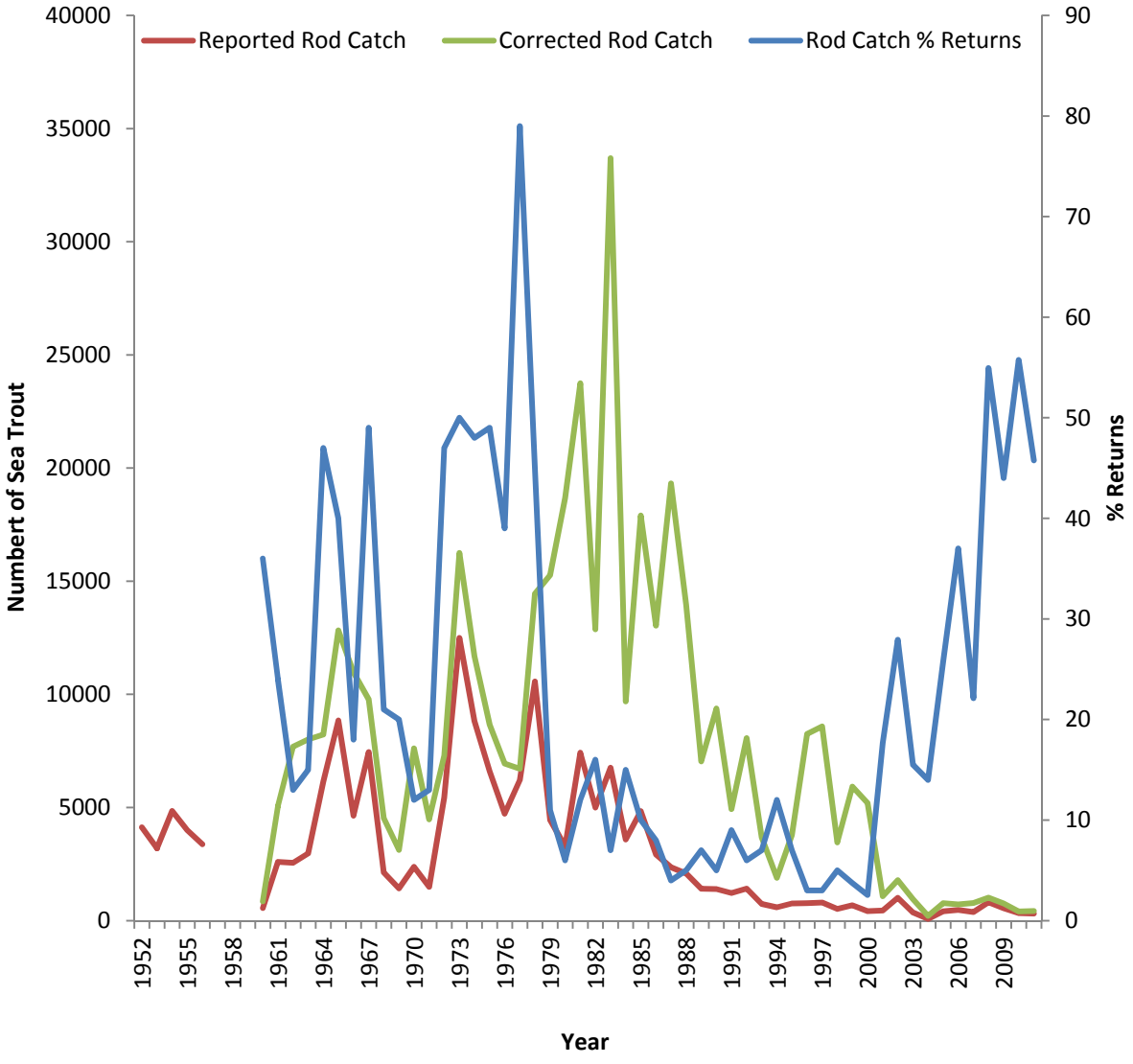

Fig 10. Loughs Agency reported and corrected rod catch (Sea trout) with % returns made

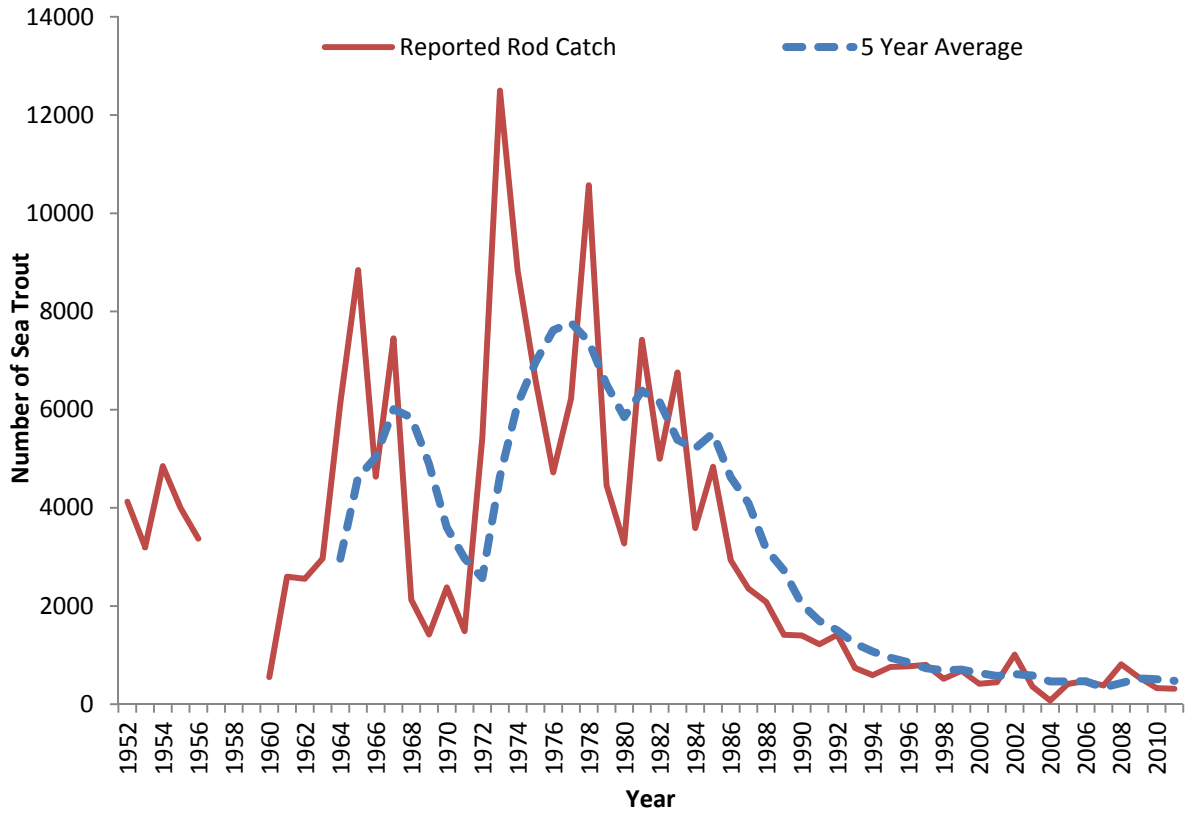

Fig 11. Reported rod catch for Sea trout in the Loughs Agency area and 5 year average.

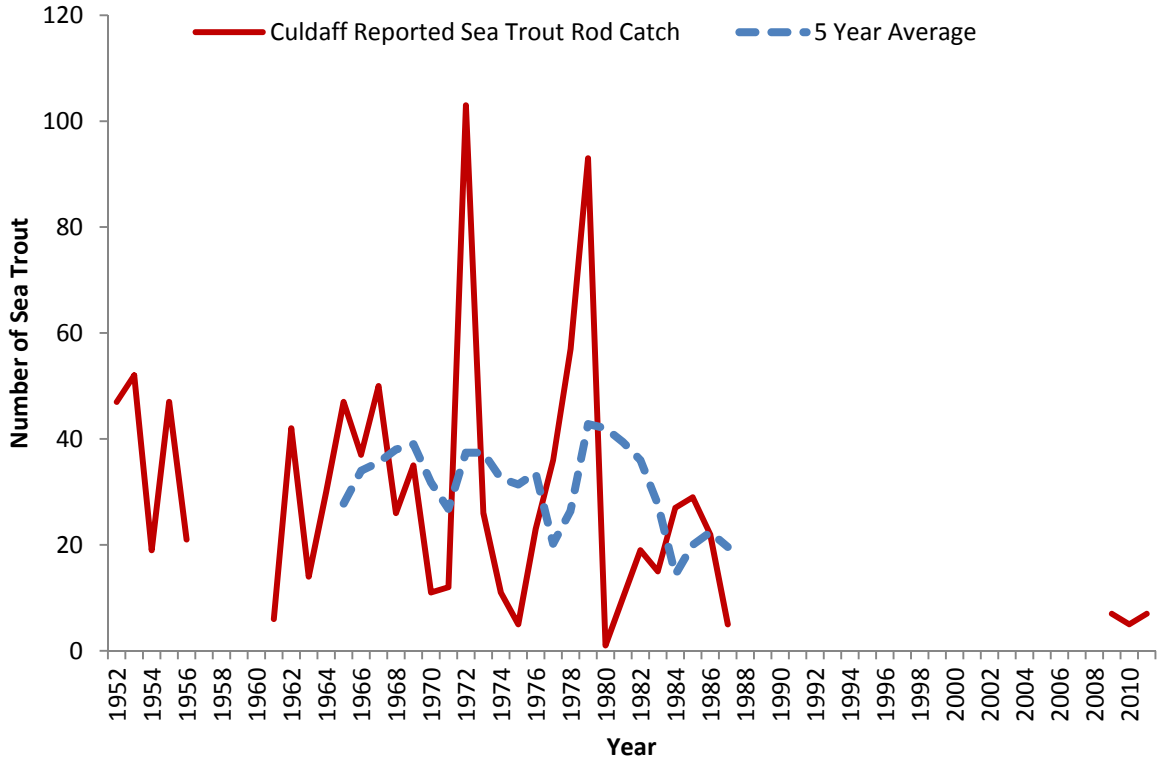

Fig12. Culdaff Reported Sea trout rod catch and 5 year average

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 11 standardised monitoring stations within the Culdaff catchment was 6.

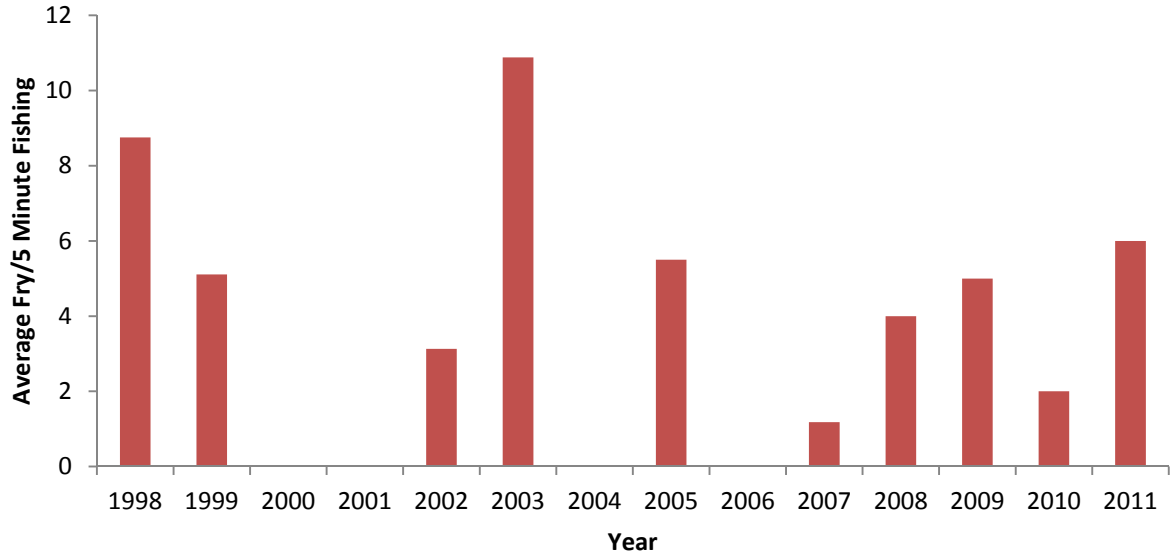

Fig 13. Culdaff trout fry index

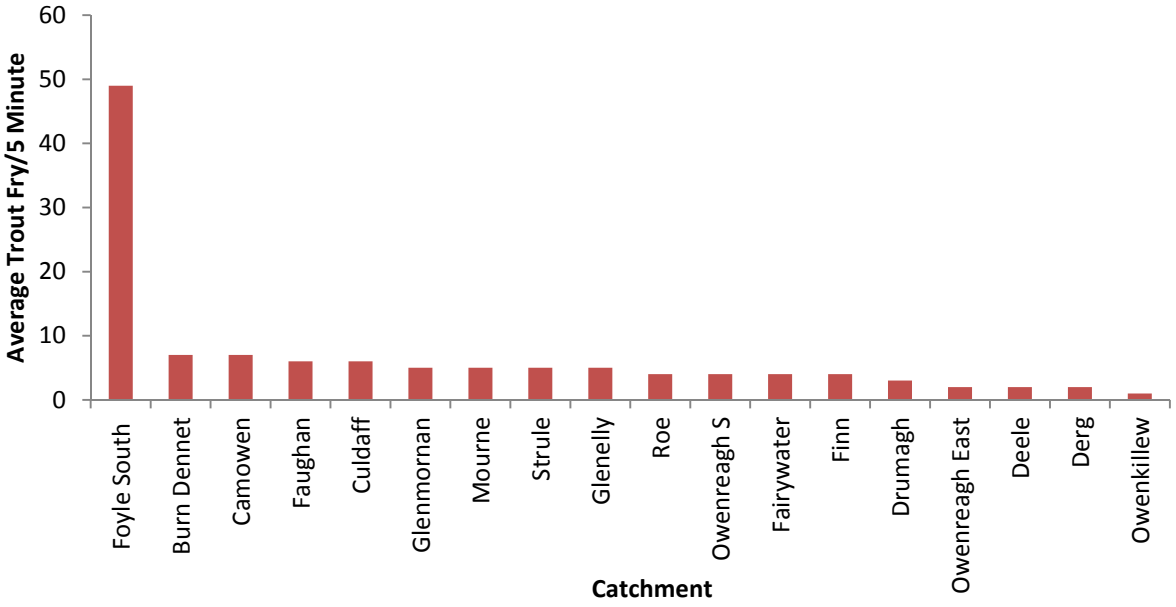

Fig 14. Foyle area trout fry index comparison chart 2011 *the number of standard monitoring stations varies between catchments

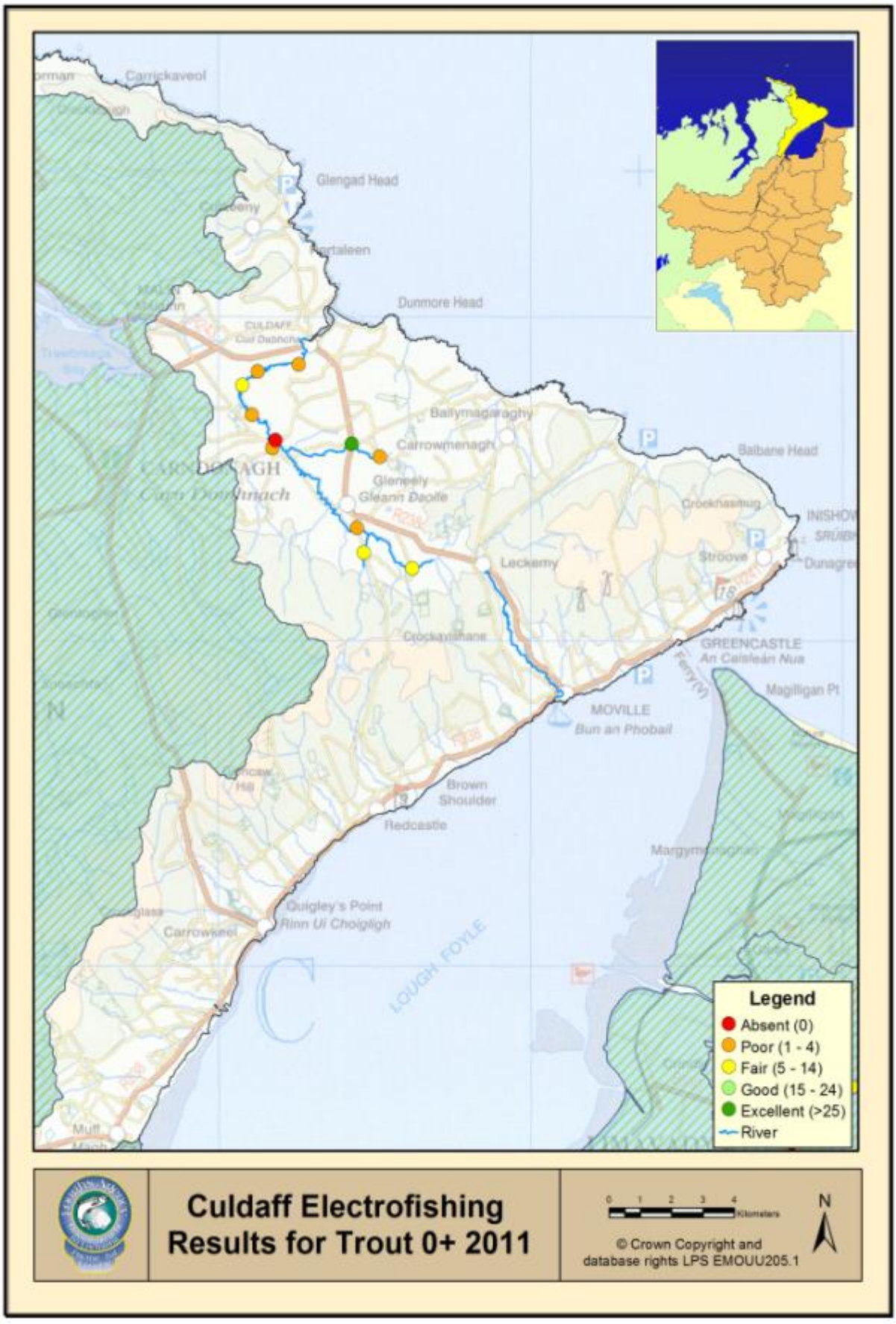

Fig 15. Culdaff Trout fry classifications

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 Culdaff and Inishowen catchments are significant habitats for Sea trout and Brown trout. Within the Culdaff catchment 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 in the Culdaff River is that salmon dominate the main stem and swifter water while trout dominate the smaller tributaries. In the other Inishowen catchments within the Foyle area where salmon are generally absent Trout dominate throughout.

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. None were within the Culdaff or Inishowen catchments. One WFD monitoring station is within the Inishowen catchment on the Bredagh River which runs through Moville. This is next due to be surveyed in 2013.

- In 2011 20 electrofishing stations were semi quantitatively surveyed in the Inishowen catchments in addition to the annual surveys conducted on the Culdaff River to monitor their fish populations.

- Trout were present in 16 out of 20 sites.

- A walkover survey was conducted in early 2011 to investigate impacts within the main channel of the Culdaff catchment. This information will feed into the development of possible habitat improvement projects.

- It has been proposed to conduct an estuarine fish survey within the Culdaff estuary in 2012/2013 to assess the fish stocks present and to see if Sea trout utilise the area. Sandeels are present at the mouth of the Culdaff River.

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 additional fish stock assessments were conducted on all small tributaries within the Inishowen peninsula which drain into the Foyle area.

Numerous peripheral small streams were surveyed to assess their productive capacity. Salmonids, primarily trout were recorded in most.

It is hoped to integrate this work into a wider assessment of trout populations within the Foyle area. How significant are these small streams in contributing to the Sea trout population and how are the habitats utilised by the various and complex life history stages of Sea trout.

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. In 2011 in addition to the collection of standard annual audit point fishery management information surveys were conducted on the habitat of the Culdaff catchment.

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 Culdaff catchment.

4.2 SMALL TRIBUTARY JUVENILE TROUT ELECTROFISHING SURVEYS

During the summer of 2011 20 additional sites were electrofished in the Inishowen area to identify the fish fauna utilising these habitats. It was part of a wider survey along the Atlantic and Foyle coast from Malin Head to Downhill/ Numerous small streams discharge directly to the Atlantic and Lough Foyle. Loughs Agency staff are interested to know how significant these small streams may be in relation to the overall Sea trout stocks within the area. As has already been reported Sea trout stocks have been in significant decline over recent decades, by asking relevant questions and developing appropriate monitoring and research programmes some light may be able to be shed on the reasons for reduced Sea trout populations.

5.0 WATER QUALITY SUMMARY

- 94 sites were monitored in the Foyle and Carlingford areas for water quality parameters during the summer of 2011.
- 13 sites were monitored in the Culdaff and Inishowen catchments.
- Ammonia results in the Culdaff catchment were classified as very good for 9 out of 13 sites, 2 sites were classified as good and 2 as fairly good.
- 5 out of 13 sites on the Culdaff catchment were classified as very good for BOD, 3 classified as fairly good, 2 classified as fair, 2 classified as poor and 1 site classified as bad.
- Phosphorous results were classified as favourable for all sites.
- Suspended solids were classified as favourable for nursery conditions for 11 out of 12 sites and acceptable for migratory passage for the remaining 1 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

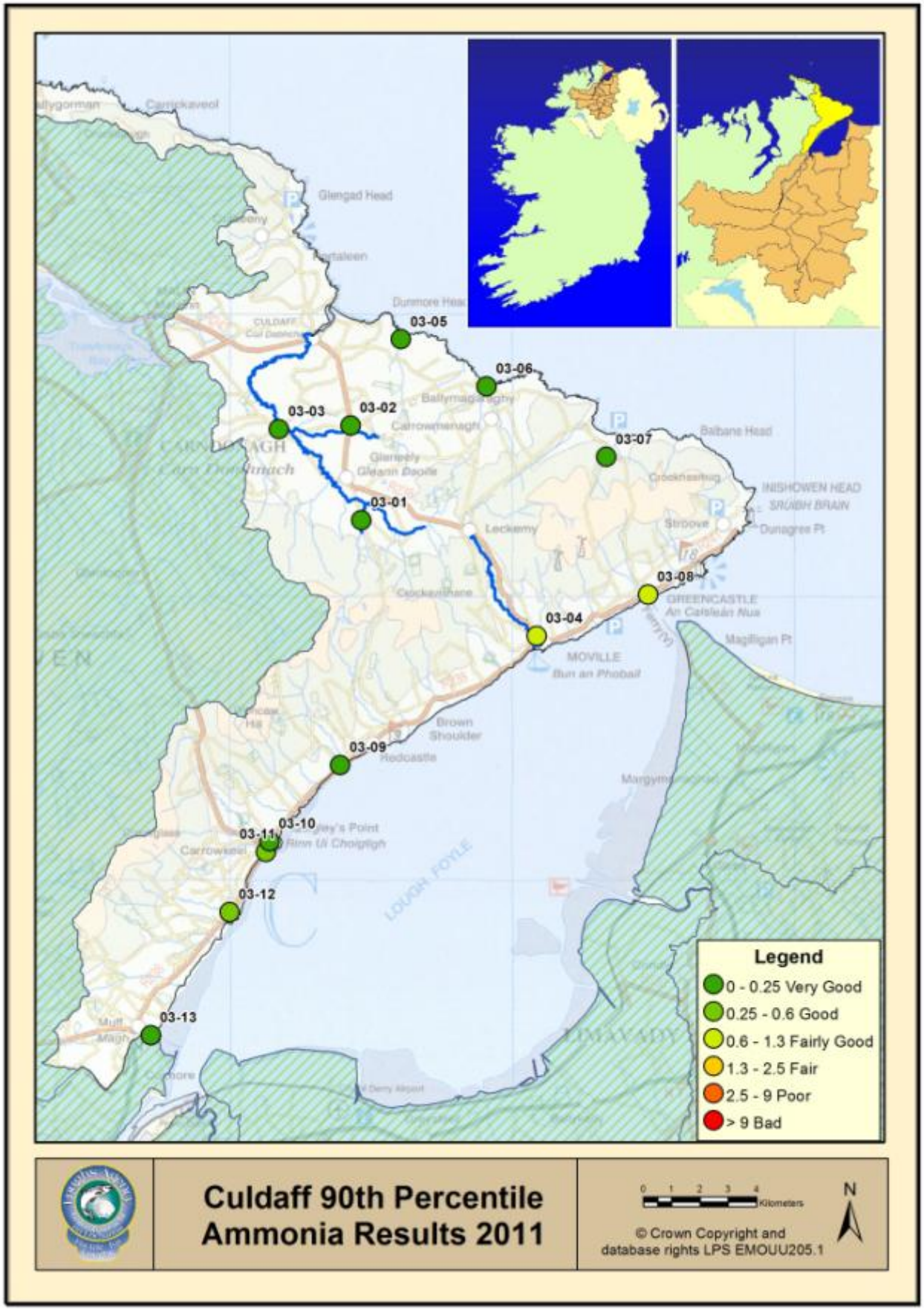

Fig 16. 2011 Ammonia classifications

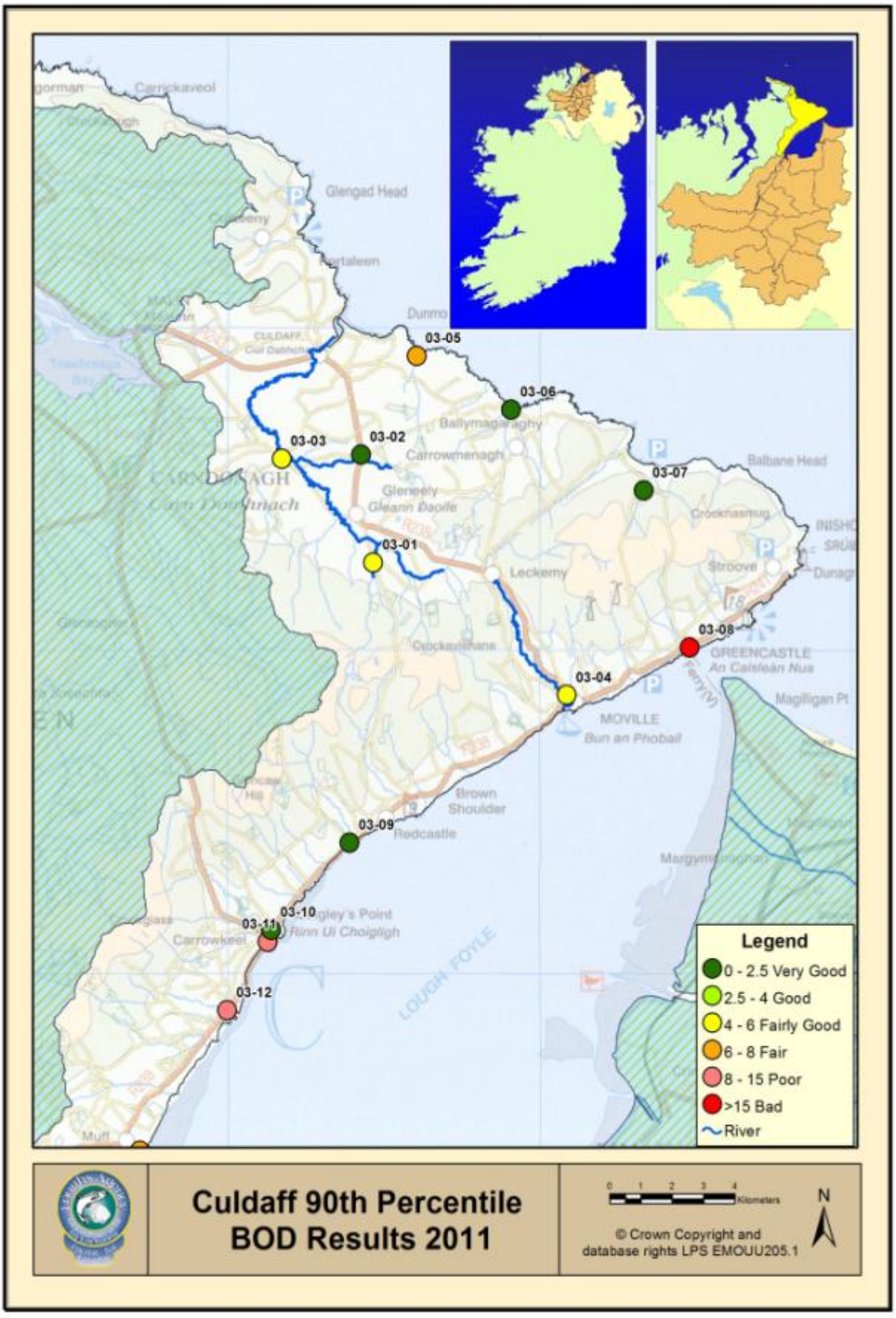

Fig 17. 2011 BOD classifications

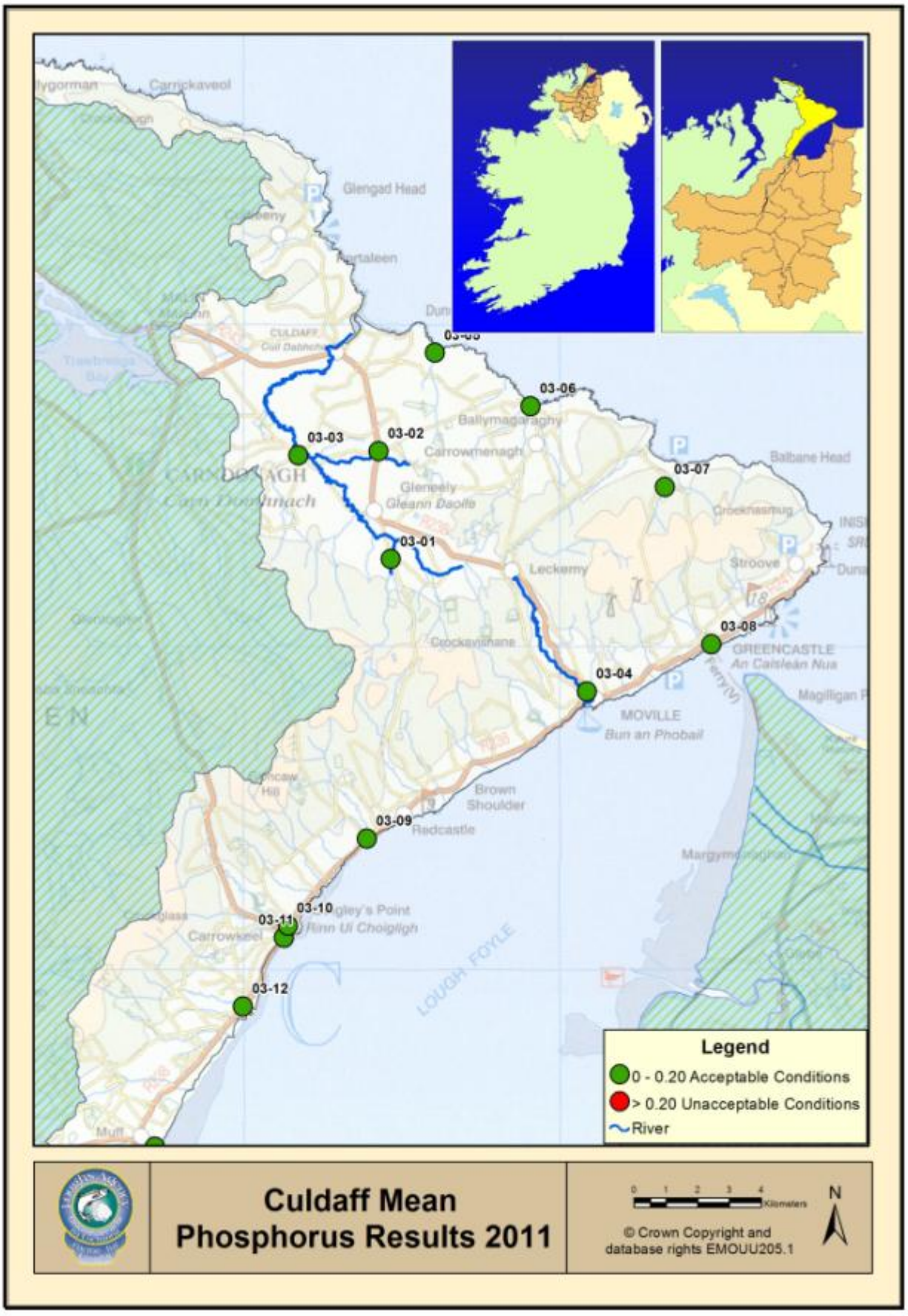

Fig 18. 2011 Phosphorous classifications

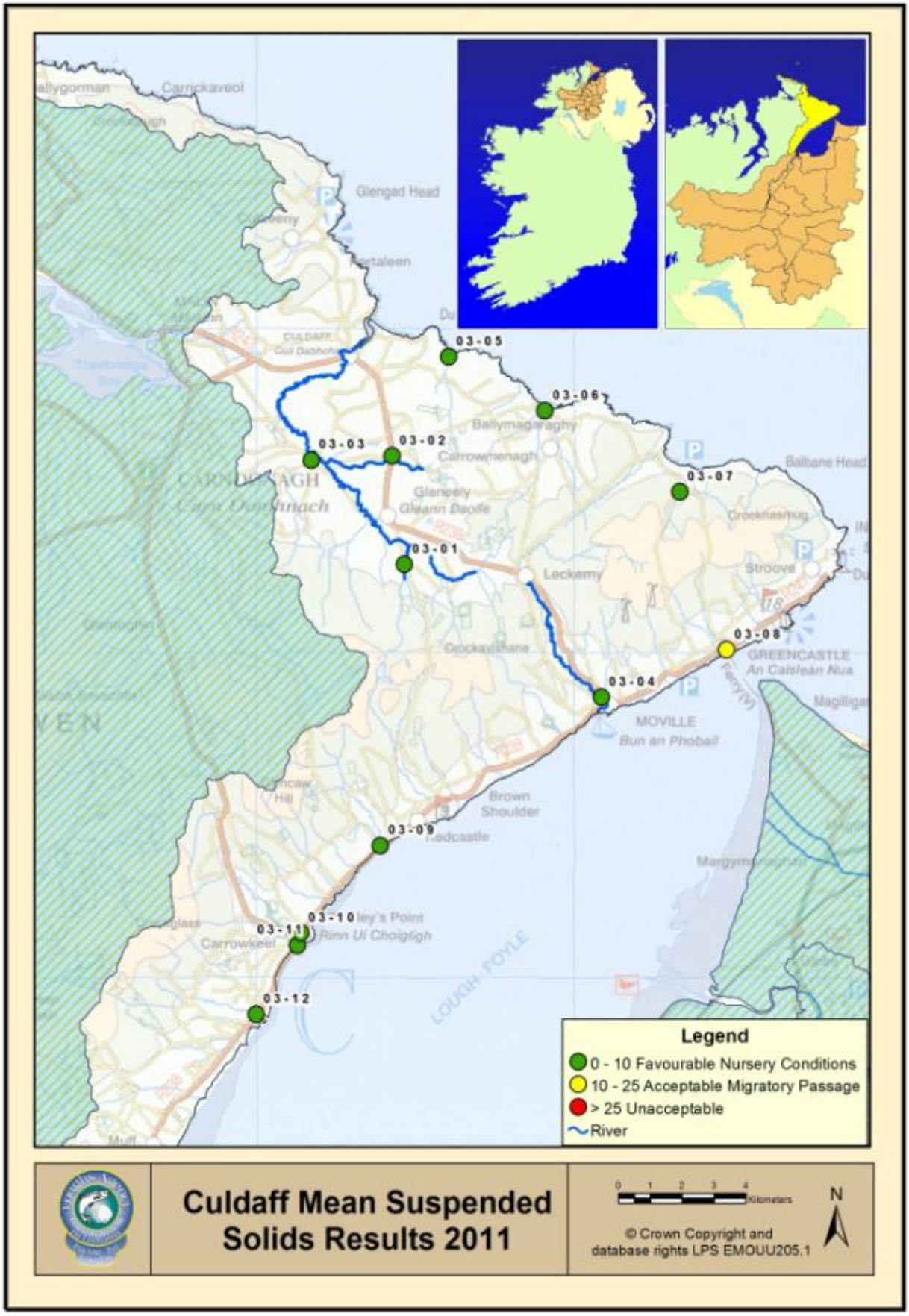

Fig 19. 2011 suspended solids classifications

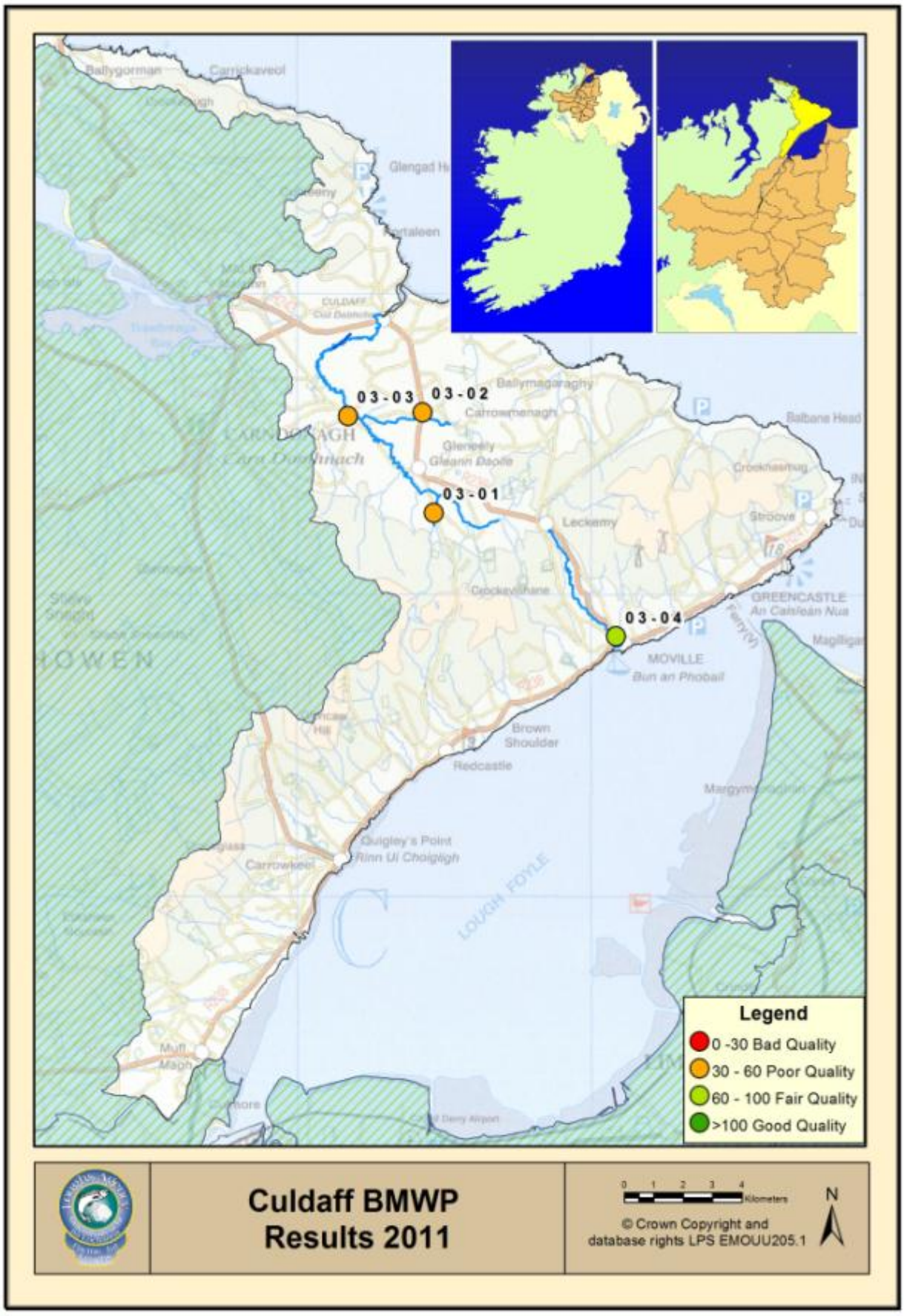

Fig 20. 2011 BMWP macro invertebrate classifications

6.0 CONSERVATION AND PROTECTION SUMMARY

- In 2011 within the Culdaff catchments there were 86 patrols
- There were 2 angling license checks within the Culdaff catchment in 2011.
- There were 2 joint patrols in the Culdaff catchment in 2011.
- There were 30 site/premise visits within the Culdaff catchment in 2011.
- There were no In-channel and riparian habitat improvements within the Culdaff catchment in 2011
- 14 nets were seized in the Culdaff catchment in 2011.

Conservation and Protection

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

The Sea/Inishowen crew is composed of 1 senior fishery officer and 1 fishery officer.

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

Our priority in 2011 was to increase the number of protection patrols and hopefully eliminate the majority of poaching activity in the Culdaff River. Whilst we managed to collect fourteen nets from this relatively small catchment area, we also encountered various problems. The main point of concern is the hostility we faced when attempting to enter lands that lead to the river from local landowners. In fact the sea crew were involved in two stand offs in two separate farms over the course of the season. This issue seemed to stem back a few years when the sea crew did not cover the Culdaff catchment. There are however ongoing discussions between the landowners and the Director of Conservation and Protection John McCartney. Hopefully this issue can be solved as soon as possible in order to be able to carry out possible in stream works on the river. The electrofishing results showed a good abundance of trout in the catchment, salmon fry were sparse. Redd counts were restricted due to adverse water conditions on the River however we managed to find a few places where Salmon may have spawned.

6.2 PROPOSED HABITAT IMPROVEMENT SCHEMES FOR 2012/13

1. Sites like this picture are prevalent throughout the Culdaff River. There are at least fourteen cases of trees fallen down over the river or fences collapsed and fallen into the river. Whilst fish would be able to pass these blockages, they are unsightly and I believe it would be highly beneficial to the River if we could enter the River and remove all or the majority of these blockages.

2. Bank erosion is probably the main concern in the Culdaff River. The River floods quite quickly and drops quite quickly, this would therefore take its on toll on the banks sooner or later. In certain areas some local landowners have actually attempted to sure the bank by placing rocks and boulders against it. I think if we could decide on a stretch of water of about 25 to 30m and place some rocks and boulders on the banks, this would benefit the river for years ahead.

3. The Culdaff River is filled with long stretches of water where the flow of water is very slow. This is not ideal habitat for salmon and trout fry. Therefore it would be interesting if we could insert some groynes into the Culdaff River on one of these sections as an experiment to see if a difference could be made to the River. By inserting Groynes we would hopefully be able to create some fast flowing water and also some holding pools for the salmon and trout to thrive in. This particular piece of work would need monitoring over a few years to ascertain if the work completed was a success.

4. The Final Proposed project is to put fencing up on certain lower stretches of the Culdaff River where there is none. It is also proposed to implement a drinking device for cattle to drink out of instead of the cattle entering the River and disturbing the sediment on the River banks and also destroying the River banks when they enter the water course. This project, like the others depends entirely on getting the permission from the farmers to carry out this work.

Once it is confirmed if there is a budget to complete works, what kind of project we want to do and whether or not we have local landowner permission, these projects will be expanded with reference to direct sites for potential works and the exact details of each project.

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 Culdaff and Inishowen catchments please contact art.niven@loughs-agency.org to discuss potential projects.

8.0 ACTIONS FOR 2012/2013

- Implement actions from the Trout Strategy once fully adopted
- Encourage the development of an angling club/association.
- Encourage community organisations to instigate litter picks/river clean ups within the Culdaff and Inishowen catchments
- Conduct annual audit point monitoring programme
- Conduct habitat improvement projects as outlined above
- Conduct water quality monitoring programme
- Continue to screen all planning applications within the Culdaff and Inishowen catchments for potential impacts to the fishery and aquatic resources

- Continue to maintain the high standards of conservation and protection within the Culdaff and Inishowen catchments

- Target all areas/individuals brought to Loughs Agency attention

- Conduct annual fish population surveys and spawning surveys

- Conduct ongoing pollution monitoring and investigate areas highlighted as being of concern

- Develop potential habitat improvement projects including riparian buffer zone creation, fencing, native species planting and in-channel habitat improvements including spawning bed and nursery habitat improvement

- Monitor forestry operations adjacent to watercourses or areas likely to impact on watercourse

- Assist with Water Framework Directive fish monitoring programme

- Monitor all sand and gravel extraction sites and onsite water management practices

- Ensure all fish passes, dams and mill races meet required standards

- Continue to investigate reasons for aquatic invertebrate suppression