



2014

ANNUAL REVIEW

ASSOCIATION OF SALMON  
FISHERY BOARDS

(ASFB)

RIVERS AND FISHERIES  
TRUSTS OF SCOTLAND

(RAFTS)

STRUTT  
& PARKER

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The Association of Salmon Fishery Boards is the representative body for Scotland's 41 District Salmon Fishery Boards (DSFBs) including the River Tweed Commission (RTC), which have a statutory responsibility to protect and improve salmon and sea trout fisheries. The Association and Boards work to create the environment in which sustainable fisheries for salmon and sea trout can be enjoyed. Conservation of fish stocks, and the habitats on which they depend, is essential and many DSFBs operate riparian habitat enhancement schemes and have voluntarily adopted catch and release practices, which in some cases are made mandatory by the introduction of salmon conservation regulations. ASFB creates policies that seek, where possible, to protect wider biodiversity and our environment as well as enhancing the economic benefits for our rural economy that result from salmon and sea trout fisheries.

Formed in 2005, Rivers and Fisheries Trusts of Scotland (RAFTS) is an independent freshwater conservation charity representing Scotland's national network of 25 rivers and Fisheries Trusts and Foundations. Our members work across over 90% of Scotland's freshwaters to protect and develop our native fish stocks and populations by undertaking a range of activities including freshwater, river habitat restoration, fish and fisheries monitoring, research and education programmes. RAFTS is the membership organisation of the Fisheries and Rivers Trusts operating in Scotland and is, itself, a charity and company limited by guarantee.

# Chairmen's introductions



ALASDAIR LAING - ASFB

Having succeeded Alan Williams as Chairman in the autumn I would like to thank him for the considerable energy he has devoted to the Association over the past three years. Alan has overseen significant changes, including the introduction of Alan Wells as Policy Director, the development of the Code of Practice for Boards and the passage of the Aquaculture and Fisheries (Scotland) Act.

2013 is perhaps not a fishing season which will leave a warm glow in our memories, even if the weather put some warmth in our bones. The sunshine played havoc with water levels for much of the late spring and summer and many rivers, particularly those closing at the end of September, never saw decent runs of fish during the season. I live on the Findhorn, which yielded only 52% of its 10-year average catch, and I suspect that there is a similar picture elsewhere.

The management of freshwater migratory fish is firmly under the spotlight. The newly enacted legislation clarifies and codifies the way in which Fishery Boards operate, while the recently announced independent Governance Review under the Chairmanship of Andrew Thin will be wide-ranging. It may be appropriate to remember that the Boards represented by the Association have statutory responsibility to protect and improve salmon and sea trout fisheries. Our primary responsibility is to the fish and their environment, so we must work in support of Boards to create an enhanced natural environment for the benefit of the fish.

The year ahead will be an interesting one, and I am only beginning to get my feet under the table, but two things have already struck me. The first is the impressive output coming from a very lean organisation – Alan Wells, Brian Davidson and the office staff deserve our thanks for what they do. The second is the benefit of the close working relationship with RAFTS – the two organisations together have a breadth of knowledge and ability which is probably unrivalled in fisheries management.



ANDREW WALLACE - RAFTS

2013 was a year of significant change for RAFTS, not least as a result of the recent departure of our Director, Callum Sinclair, who has taken up the prestigious post of UK Northern Director for the Trust for Conservation Volunteers. Callum came to RAFTS when it was a small, relatively disparate collection of Trusts but, with the previous chairman Roger Brook, turned it into the representative body of a credible, national network of environmental delivery organisations.

It is often hard for environmental charities to demonstrate what they actually do. The environment, with all its challenges, rarely lends itself to quick-fix solutions. However, it is a testament to Callum and his team that over the relatively short period of RAFTS' existence, working closely with the Fishery Board network, 1100km of riparian habitat was protected; 114,000 trees were planted; over 500km of riparian fencing was erected; 210 barriers to fish migration were assessed; and 100 barriers were removed, resulting in 2250km of upstream habitat made available to salmon and sea trout.

Furthermore, 1300km of watercourses were treated for invasive species, including the commissioning of one of the largest invasive species management programmes in Europe, which is steadily removing mink from northeast Scotland. In 2012/13, RAFTS distributed £458,000 to its members to help deliver this work. We thank Callum for all his immense hard work on behalf of RAFTS and the Trust network in Scotland and wish him all the best in his new career.

We also welcome Dr Chris Horrill as his replacement. Chris is well-known to RAFTS, having worked in the area of project development for the organisation for a number of years. We have every confidence he will ably fill the big gap Callum has left behind in the organisation. Finally, I would also like to welcome Alasdair Laing as Chairman of ASFB, with whom we work closely. Alasdair will bring a huge amount of experience to the Association and I greatly look forward to working with him and maintaining and developing a productive working relationship with the Fishery Board network.



ASFB/RAFTS acknowledges and thanks the following for their support of their work:

Worshipful Company of Fishmongers

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## RAFTS news

Chris Horrill - *Director, RAFTS*

It gives me great pleasure to be writing this article as the newly appointed Director of RAFTS. As mentioned in the introduction, this is a period of change for RAFTS – in addition to me taking the tiller, there have been several other staff changes and we've moved office. We have also had an eventful year, with a new project starting and another coming to a close. These developments are described below, along with an overview of the opportunities and challenges we face.

### Staff changes

I took over as Director from Callum Sinclair, with whom I enjoyed a close working relationship in my previous post of Project Development Manager, and I wish him well in his new role at the Trust for Conservation Volunteers. During this last year we have also lost the services of Donna-Claire Hunter, who took up a post with Marine Scotland. Three mink project officers also left us in August, when the previous phase of the Scottish Mink Initiative came to an end, and I would like to thank them all for their work.



Freshwater pearl mussel surveying.

RAFTS is now hosting our first TCV Natural Talent Apprentice, Fiona McKenna, who will be with us for a year-long apprenticeship. Fiona's main focus will be on freshwater invasive non-native species and communications, and she regularly updates an interesting blog at [www.rafts.org.uk/category/fionas-blog/](http://www.rafts.org.uk/category/fionas-blog/)

### RAFTS board

Five new members have joined the board during 2013 and we would like to welcome Dr Lorraine Hawkins from the River Dee Trust, as the Trust network representative; Dr Melanie Smith from the University of Highlands & Islands; Alasdair Laing, chair of ASFB and trustee of the Findhorn, Nairn & Lossie Trust; Dr Marshall Halliday from the Esk Rivers Fisheries Trust; and Luke Comins from the Tweed Forum. In the same period we also saw the retirement of two board members, Mark Bilsby and Dr Shona Marshall, and we would like to thank them for their valued contributions.

### Relocation

As many of you will now know, RAFTS relocated from Canning Street to Commercial Street, in Leith, at the turn of the year. This created twin benefits – reduced costs and increased space – and RAFTS shares the new office with ASFB and Forth Fisheries Trust staff.

### Governance

During 2013 RAFTS completed a suite of internal policies to enable the good governance of the organisation and its members. This is captured in the Code of Good Governance. The code summarises the legal obligations of charities and companies to help guide member Trusts on sound legal operational practice and gives general guidance on how this is best achieved. This will be reviewed regularly and advice provided where necessary. These policies, implemented effectively by management, contributed significantly to RAFTS being completely exonerated when a complaint about the organisation was made to the charities' regulator, OSCR.

### Barriers

The Barrier Prioritisation Strategy has moved on significantly since the last annual report, and is now in its final stages. Of the total of 2334 man-made in-river structures identified across Scotland, 182 were classified as partial or total barriers to fish passage by member Trusts and 84 of these were highlighted as being high priority for action, as they were denying salmonid access to high quality habitat. If eased or removed, these high priority barriers would improve the ecological status of at least 45 sub-catchments (from poor/moderate to good/high, based upon current WFD classification). This work is now being included as part of the second generation of River Basin Management Plans.

In addition, work is now underway on structural and sediment surveys of seven barriers on the River Almond; feasibility and option identification for two barriers in Galloway and Speyside; and physical works on the Beaulieu. There have also been funding proposals submitted for easing barriers on the River Avon (Clyde) and a tributary of the Don.

The removal of barriers is one of the more direct means to improve salmon numbers and the RAFTS barriers programme creates genuine opportunities to improve salmon and sea trout stocks.

### Invasive non-native species (INNS)

This year saw a slowing of the rapid expansion of our programme to combat INNS, due to the closure of the first phase of the Scottish Mink Initiative and the rejection of the LIFE+ project proposal for a volunteer-based multi-species INNS project. Although this was disappointing, we are pleased that the mink work is still continuing, with the support of SNH. More information on INNS work is presented on pages 12-13.

### Fisheries management and aquaculture

As mentioned in last year's review, support for work on fisheries management planning has ended, but work at a local level implementing the priorities identified continues. The key achievement of this work has been that all the major freshwater catchments in Scotland now have published fisheries management plans, which can be viewed at [www.rafts.org.uk](http://www.rafts.org.uk). The aquaculture work being conducted by RAFTS is covered in more detail on page 10.

### Genetics

The end of 2013 saw the conclusion of the Focusing Atlantic Salmon Management on Populations (FASMOP) genetics programme, with member Trusts each receiving an individual report. These reports have all been published as part of the Marine Scotland Science Report Series and can also be found on the RAFTS website. This work, described in more detail on pages 14-15, delivered a wide range of results across the Trust areas and highlighted differences in the ability to distinguish individual breeding populations, both within and across catchments. This collection of baseline data can now offer the opportunity for staff from individual Trusts and RAFTS to decide on future projects and the role genetics can play in fisheries management. In addition to the baseline data, at least two other areas have highlighted the role genetics can play in management: (1) the contribution of hatcheries to stock abundance and (2) the development of genetic tools to address questions related to introgression of farmed strains into wild stocks.

### Pearls in Peril LIFE+ project

Commencing in January 2013, this four year project includes a programme of riparian enhancement on the River Dee, with tree enclosures now in place along the banks of two tributaries. Plans have also been confirmed to plant or protect native riparian woodland along several kilometres of the Dee, Spey and the Rottal Burn in Glen Clova. These aim to establish areas of wooded buffer strips to create dappled shade, improve the nutrient status of the watercourse and help stabilise banks. These improvements will have knock-on benefits for biodiversity – in particular aiding freshwater pearl mussels and Atlantic salmon. Other potential sites for in-stream habitat restoration to improve freshwater pearl mussel and salmonid habitat have been identified on the Dee, Mallart, Naver and South Esk. We hope to commence in-stream works this autumn.

The project also employs a River Watcher, who has recently completed his first season combatting illegal activities concerning pearl mussels, such as pearl fishing and pollution. Working closely with Police Scotland, the National Wildlife Crime Unit, District Salmon Fishery Boards, Fisheries Trusts and landowners, he is collecting evidence of suspected crimes and setting up river watch schemes to inform river users about illegal activities, what to look for and how to collect

evidence. The schemes have been well received and have greatly raised awareness of the issues surrounding pearl mussels. Unfortunately, evidence of poaching was found at a number of sites last summer, with reports of suspected incidents elsewhere.

### Future opportunities and challenges

Over the last seven years RAFTS has expanded rapidly, with an annual turnover in the region of £1 million and employing up to 12 full time equivalent staff across Scotland. This expansion was largely driven by securing a wide range of projects, many of which were implemented by, and brought benefits to, our member Trusts. At first our approach to project development was opportunistic, but latterly we have been successful in developing more strategic projects that are effectively implemented by our members over wider geographical areas. This has resulted in a broad diversification of activities and is increasingly contributing to, and complementing, government policy.

The importance of RAFTS and its members in frontline delivery of key policy objectives is being increasingly recognised in agency strategy and policy statements. Examples of this are the inclusion of RAFTS in the SEPA River Basin Management Plan (RBMP) strategy statement and the inclusion of RAFTS's invasive species work in the supplementary plan for the current Scotland RBMP. RAFTS is also a member of the Scottish Working Group on INNS.

By using similar approaches for fisheries management, barrier removal and combatting INNS, there is a good opportunity for RAFTS and its members to take advantage of forthcoming opportunities in fields such as river restoration, climate change mitigation and natural flood risk management.

However, in order to do this, there are a number of challenges that need to be addressed. Among them is the need to address staff and financial capacity – issues to ensure we can meet current and expected demands from members and partners – and we also need to improve our internal and external communications to ensure that we can explain our work more effectively.

To address the sum of these challenges, RAFTS is developing a vision and core business strategy that will set out a road map for the organisation for years to come. This will also position RAFTS, alongside the Fisheries Trust network, as the principle organisation aimed at improving the environmental quality of Scotland's rivers and lochs.



River lamprey (*Lampetra fluviatilis*).



## ASFB news

DR ALAN WELLS - Policy and Planning Director, ASFB / BRIAN DAVIDSON - Operations Director, ASFB & RAFTS

### Aquaculture and Fisheries (Scotland) Act

The Aquaculture and Fisheries (Scotland) Act was passed by Parliament in May 2013 and came into force in September. Part 1 of the Act, which deals with aquaculture, includes: a requirement for all operators to be party to a farm management agreement or statement; a power for Scottish Ministers to take samples of fish or material from fish or the purposes of ascertaining the origin of fish known, or believed, to have escaped from fish farms; a power to prescribe technical requirements for fish farm equipment; and powers for the control and monitoring of wellboat operations.

Part 2 of the Act, which deals with salmon fisheries, includes various provisions relating to the governance of DSFBs; a duty to consult prior to making applications for various conservation measures and a power to require monitoring and evaluation of the effects of such measures; a power for Scottish Ministers to introduce carcass tagging for salmon and sea trout in Scotland; powers to take samples for analysis and obtain information; and a power to modify DSFBs functions on fish introductions.

ASFB worked closely with members of the Rural Affairs, Climate Change and Environment Committee during the Parliamentary scrutiny of the Bill, and we continue to engage with committee members as the various provisions are taken forward. We have worked closely with Marine Scotland in developing detailed guidance for the DSFBs in relation to the new provisions relating to governance and we continue to support the DSFBs in ensuring that the new provisions are fully understood and delivered. At the time of writing, we are awaiting further details on salmon carcass tagging, which has the potential to be a major factor in the reduction of wildlife crime.



Marine salmon farm, Sutherland.

### Fisheries management review

At the opening of the River Tay, the First Minister announced a review of wild fisheries management and Andrew Thin has been appointed to chair this review. ASFB welcomes the initiative and we look forward to engaging with this process in a positive and constructive manner. During the Parliamentary passage of the Aquaculture and Fisheries Act a number of questions relating to funding, salmon conservation, exploitation and management were identified as being key issues to be covered. It is anticipated that the review, which will start in March, will take around six months before reporting to Ministers.

### North Atlantic Salmon Conservation Organisation (NASCO)

ASFB attended NASCO's annual meeting in Drogheda, Ireland, as part of the Scottish Government delegation. There was a discussion in the North-East Atlantic Commission on mixed stock fisheries, with the parties giving presentations on mixed stock fisheries in their areas. The Council decided that next year it would hold a theme-based special session on management of single and mixed stock fisheries, with particular focus on stocks that are below their conservation limits. For the first time, under the West Greenland Commission's regulatory measure for an internal use only fishery, Greenland permitted landings at fish factories; a quota of 35 tonnes was imposed on these landings. The total reported landings for the 2012 fishery at West Greenland was 44 tonnes. Of this, 19 tonnes was harvested for private consumption and sale to open-air markets, and 15 tonnes was harvested against the allocated 35 tonne quota. Several Commission members, notably USA and Canada, expressed concern about setting a commercial quota of this type, on the basis that it facilitated internal market expansion.

### Aquaculture

ASFB is involved in a number of stakeholder working groups relating to aquaculture and we continue to engage with the Scottish Government and the industry in an attempt to develop a more constructive working relationship between the two sectors. ASFB sits on the Ministerial Group for Sustainable Aquaculture and on several sub-groups which form part of this process, including the Interactions Working Group and the Containment Working Group. ASFB is also represented on the board of the Scottish Aquaculture Research Forum and we are closely involved in scoping a research programme into interactions between aquaculture and wild fish.

2013 saw a commitment by Marine Harvest to put all its UK fish farms through the Aquaculture Stewardship Council (ASC) accreditation process by 2020. Subsequently a large proportion of the industry announced that they have joined the Global Salmon Initiative, which has a similar objective. The ASC standards, as currently drafted, will require fish farm operators to publish weekly site-specific sea lice data, undertake a phased withdrawal from smolt production in freshwater cages and maintain sea lice levels below specific thresholds – key issues identified in our policy on salmon aquaculture. We will monitor progress on these initiatives with interest.

ASFB held a further workshop with DSFBs and Fishery Trusts in order to help to ensure that wild fisheries organisations engage with the planning process for aquaculture in the most effective manner.



## Mixed stock fisheries

The exploitation of salmon and sea trout continues to generate both national and international interest. ASFB have initiated discussions with the Salmon Net Fishing Association of Scotland to develop and maintain a constructive dialogue and we continue to encourage all net fisheries to play a full and active part in fisheries management through the DSFB system. We also urge all netting interests to engage with their local DSFB to work together to develop and implement local agreements continuing the significant support that has been shown by both netmen and anglers to protect vulnerable early stock components.

New powers for Scottish Ministers to introduce carcass tagging for salmon and sea trout in Scotland were included in the 2013 Act. We expect a consultation on the detail of the system in early 2014 and we hope that the system will be in place in time for the 2015 season.

Marine Scotland's South Esk Fisheries Management Demonstration project and work undertaken on the north coast relating to marine renewables have shown some interesting results, with fish tagged in Montrose being tracked to the Tay, Dee, Don and Spey in addition to the North and South Esk.

## Offshore renewable energy

ASFB has joined the steering group for Marine Scotland's research strategy on diadromous fish and marine renewable energy. This was formed in response to the difficulties in assessing the potential negative impacts on migratory fish species of offshore renewable energy developments. ASFB welcomes this opportunity and strongly supports the process undertaken so far. Whilst the research strategy is still in the scoping stage, some aspects of research have already been initiated, including satellite tagging of returning adult salmon on the north coast of Scotland and a research project to identify and collate the available data on Atlantic salmon smolt output across Scotland.

## National bailiff co-ordination

The ASFB Bailiff Development Group was formed to ensure better co-ordination of training and operational matters in relation to salmon fisheries enforcement across Scotland. This initiative also includes Scottish Government and those areas without Boards – the group welcomed participation from bailiff teams on the Clyde and Loch Lomond in the past year. The group has allowed a range of skills, experience and information to be shared on a national basis. One idea which came into fruition was the concept of ASFB providing a warrant card service for all Boards in Scotland. ASFB is grateful to Fishmongers' Company for their financial support in helping to set up this system. More information on ASFB enforcement initiatives can be found on page 16.

## Governance

As stated above, governance featured heavily during 2013, with a number of provisions in the 2013 Act – relating to transparency, public involvement and reporting – directly affecting the way Boards operate. The second review of the members Code of Good Practice will take place during 2014, and this will reflect the new obligations. A process of assessment of compliance against the code will be introduced later this year.

## The Scottish Game Fair

For the first time ASFB, with RAFTS, presented the work of the Boards and Trusts at the Game Fair, at Scone Palace, on 5-6th July. This was part of a wider Scottish Fisheries Management 'Hub', co-ordinated by the University of the Highlands and Islands. Whilst ASFB and RAFTS do not have a broad membership base like angling organisations, this was a valuable opportunity to work with like-minded organisations in presenting to the public how fisheries are managed in Scotland. We thank the Game & Wildlife Conservation Trust for giving us this opportunity.



Offshore wind turbines.



## Catch and release

DR LORRAINE HAWKINS - Trust Manager, River Dee Trust

A catch and release policy means that any fish caught is quickly unhooked, perhaps photographed and weighed, and then returned to the river. The fish may need to be held in the flowing water for a minute or two until it has recovered, but a flick of the tail will send it out of the angler's hands and off upstream. It effectively means that the angler generates revenue for the fishery and the local community as a whole and takes nothing out.

In the last 20 years catch and release has become widespread in Scotland, particularly in the spring, primarily in response to a decline in numbers of salmon entering the rivers. Marine Scotland reports that, in 2012, 74% of rod caught salmon in Scotland were released, compared to just 8% 20 years ago. The figure is higher for spring salmon (before 1st May), with 91% released in 2012 compared to 1% 20 years ago. 71% of sea trout were also released in 2012.

The benefits of catch and release are clear: it increases the number of salmon able to spawn, which allows eggs to be deposited for subsequent smolt production. Most catch and release policies are implemented on a voluntary basis, relying on buy-in from fishery owners who then implement this advice. A voluntary practice works most effectively when any fish that are landed but accidentally killed become the property of the fishery owner.

After 20 years of practice, some people still question the effectiveness of catch and release, citing a concern that salmon will die after being released. In reality there has been a litany of studies carried out to look at in-river migrations of salmon, based on catching salmon by rod and line and then releasing them; these studies clearly show that the vast majority of salmon survive after being released.

On the Aberdeenshire Dee, for example, 140 salmon were radio tagged between 2008 and 2010 to investigate their ability to survive and migrate to spawning grounds after being caught by rod and line and then released. These fish were not selected, but represented the typical rod catch on the river. 94% of the salmon were successfully tracked for several months and demonstrated they did survive and continued to migrate, of which most (84%) were followed right through their spawning period. The remaining 6% appeared to have lost (regurgitated) the tag and thus a cautious estimate of survival is 94-100%.

An earlier radio tracking study on the Dee found that at least 96% of salmon caught by anglers survived and migrated upstream for spawning. On the River Eden, in Cumbria, a study where more than 200 salmon were captured by anglers and then tagged and released showed 98% survival. Further research in Canada demonstrated that rod caught Atlantic salmon recover from the stress associated with angling within four hours, survive to spawn and have subsequent egg survival of 98%.

For the few fish that do not survive, the most likely cause of mortality is being hooked in an area that results in severe bleeding, particularly deep hooking in the gills or oesophagus (gullet). This in itself can be affected by the use of natural bait or artificial lures. Incorrect handling of salmon during unhooking is also important, the longer the fish is out of water, or if it's poorly handled, its chance of survival will decrease. Environmental conditions can exacerbate the risks from poor handling, with high water temperature and low oxygen content putting the fish at further risk.

With only 6% of the salmon smolts that go to sea currently returning, compared to nearly 20% in the 1980s, each returning salmon is more valuable than ever, both for the survival of its own population, and in terms of its contribution to the fishery. Furthermore, over the last 20 years the condition of salmon returning from the sea has declined, meaning females are now producing fewer eggs. Given this situation, it begs the question why anyone would not return a salmon.



Returning a salmon.





# Catch and release: an angler's guide

BRIAN DAVIDSON - Operations Director, ASFB & RAFTS

With stocks on many salmon rivers under pressure, catch and release (C&R) is now widely practised by anglers. In 2012, 74 per cent of rod caught salmon were released by anglers in Scotland. When carried out correctly, catch and release is an extremely effective conservation measure. However, it is vital that the correct technique is used to ensure that released salmon survive to spawn and boost future stocks.

To this end, ASFB and RAFTS – in partnership with the Wye and Usk Foundation, the Angling Trust, Atlantic Salmon Trust, Natural Resources Wales, Environment Agency, the Rivers Trusts, Salmon and Trout Association and Scottish Anglers National Association – have produced a new leaflet which provides advice on C&R for anglers. This leaflet can be downloaded from the ASFB and RAFTS websites and hard copies are available from the office on request. Information from the leaflet is summarised below.

## Tackle

Use small, barbless hooks, singles or doubles (size 8, or preferably smaller) – these do less damage and unhooking is quicker. It is illegal to use certain types of hook on some rivers. Always use as strong a leader or line as possible. This will ensure the fish can be brought to the net quickly and safely. Where worm fishing is allowed, using a circle hook will reduce the chances of deep-hooking.

## Planning ahead

Before fishing a pool, always identify where a fish can be safely landed without risk of damage on rocks or stones. If fishing alone, take a net. Traditional large mesh salmon nets can cause split fins and tails. Have long-nosed forceps or a similar tool close to hand for prompt hook removal. If you want a photo of your salmon before release, have your camera ready, for example, on a neck lanyard. Fish should be played quickly and as firmly as possible so that they can be released before becoming too exhausted.

## Landing fish

We urge you not to lift the fish out of the water by any means if it is at all possible. At the very least, never lift your salmon from the water by its tail, or gill cover: you will cause internal damage. Avoid taking them onto the bank or dragging them over stones or gravel. Use a soft, knotless net with small mesh size with a shallow, wide bottom to allow the fish to lie flat. Knotless mesh is a legal requirement.

## Fishing from boats

If fishing from a boat, where convenient, take the boat to the shore to land the fish. If the fish is landed in a boat, ensure it is laid on a flat, wet surface for unhooking. A soaking wet towel or unhooking mat is ideal for this purpose. Laying the fish upside down will often calm it for unhooking. Fish produce most of their energy from their tails, and so holding down the tail on a flat surface will keep a fish still.

## Unhooking & recovery

When the fish is quiet, remove the hook carefully and promptly with forceps. Fish should be allowed to recover and returned in steady clean water, but not in a fast flow. Recovery may take some time. If fish are deep-hooked, particularly in the gills, it may not be possible to remove the hook – snip the line close to the hook. This will cause less harm to the fish than removing it. As an additional precaution, it is wise not to fish at all during extended periods of hot weather.

## Recording your catch

Only lift the fish from the water for the minimum time necessary. In order to take a photograph, keep the fish in, or briefly just above, the water. Support the fish gently under the belly and loosely hold the wrist of the tail. To weigh the fish, if possible, use a weigh net, or scales hooked on to a conventional net. Measure the fish in the water. Take a tape measure or mark up your wading staff or the butt section of your rod as an easy indicator. Fish should be measured from the nose to the fork of the tail.

## Catch & Release for Salmon An Angler's Guide



The new leaflet.



# The Beaver Salmonid Working Group (BSWG)

SEAN DUGAN - Beaver/Salmonid Working Group Project Officer

The BSWG is tasked with improving the understanding of beaver/salmonid interactions, in order to ensure that the Minister for Environment and Climate change is fully aware of the potential positive and negative implications that a reintroduction of beavers could have for fish communities.

A decision will be made in 2015 about the future reintroduction of beavers to Scotland as a whole. The BSWG, which is chaired by Roger Wheeler and comprises Scottish Government, Marine Scotland Science, SNH, SEPA, ASFB, National Museums of Scotland and Royal Zoological Society of Scotland, was set up in 2009 to examine the outstanding questions relating to beaver/salmonid interactions. The BSWG will draw upon the available literature from Europe and North America to better understand the interaction this ecosystem engineer may have with Scotland's salmon and trout communities. The group is also required to consider beavers' impacts on other species, including lamprey and eel.

## Knapdale and Tayside beavers

Beavers were released at the licensed Scottish Beaver Trial at Knapdale in 2009. There are few migratory salmonids present at the site, which means it is not possible to study the beaver/salmonid issue in detail, although a programme of fish monitoring and wider habitat, species and socio-economic monitoring is taking place.

During the lifetime of the BSWG it became clear that beavers had either escaped or been deliberately released into the wild in Tayside. In March 2012, the erstwhile Environment Minister, Stewart Stevenson, took the decision to monitor these animals and their effects. The latest SNH report estimates there are 39 beaver groups present in Tayside. Beavers have now begun maintaining dams on streams occupied by salmon in Tayside, and the BSWG advocates that these provide a timely opportunity for gathering data to improve our limited knowledge.

The Scottish Beaver Trial, Tayside monitoring, Beaver/Salmonid Working Group and other beaver initiatives will culminate with the collation of the various outputs being submitted to the minister by the end of May 2015.

## Management

On reporting to the Minister, the BSWG will attempt to predict the scale of intervention likely to be required and the associated resource implications if it is proposed that beavers be reintroduced to Scotland. Currently, the available information relating to intervention by fisheries interests in European countries is limited. However, in some catchments of eastern North America, dam removals in autumn and the lethal control of North American beavers – reportedly to maintain free fish migration passage – are both routine. SNH will shortly be starting a major review of beaver management practices, with the BSWG being invited to contribute. The BSWG advocates that a clear beaver management plan is developed, with particular provisions relevant to salmonids, before any decision can be taken on whether or not beavers are to return. The aforementioned research is essential in providing a basis upon which to target adaptive management action to where it is necessary in Scotland, and equally to advise where it is not.

## New research

The BSWG will deliver a beaver/salmonid research strategy to focus scientific research programmes with the view that these will inform future management decisions. Ongoing baseline monitoring of beaver/salmonid interactions in Tayside is an essential aspect of this strategy, requiring a significant resource investment.

The first study of fish movements in a beaver populated stream in the UK was completed in December 2013 by Marine Scotland Science in collaboration with the BSWG. One hundred trout were tagged and monitored over an 8-week period, with the aim of assessing whether a series of beaver dams has an impact on fish movements. These data are currently being analysed and their preliminary results have already provided additional novel findings on both the positive relationship between trout length and their tendency to return to their home patch of river after being displaced and on trout growth rates within the beaver impoundment. In Norway, a 2-year fellowship will commence in April 2014 to research whether beaver activity has an effect on the local salmon and sea trout resource. This study is led by Rachel Malison and hosted by The Norwegian Institute for Nature Research.

In collaboration with SNH, The Game & Wildlife Conservation Trust, and The Salmon & Trout Association, The University of Southampton are also shortly to begin a PhD project, entitled: *Quantifying structural and hydrodynamic properties of beaver dams and their impact on the movement of migratory fish.*



A European beaver.



Electro-fishing below a beaver dam in Tayside.



# The Scottish Fisheries Co-ordination Centre (SFCC)

SEAN DUGAN - *Scottish Fisheries Co-ordination Centre Manager*

Formed in 1997 in response to salmonid population decline, the objectives and aims of the SFCC are to help its member Fisheries Trusts and others to effectively and co-operatively collect, collate, analyse and communicate information relating to salmon and freshwater fish. Through ongoing collaboration with Marine Scotland Science, the SFCC provides a unique public/private partnership to ensure cross-pollination between local and national-scale fisheries management.

In a bid to further these goals, the centre established a number of new initiatives during 2013, under the broad aim of becoming more innovative, forward looking and inclusive. Significant progress has been made in the last 12 months, including the launch of new continuous professional development (CPD) courses and the expansion of online and video technology in order to disseminate resources more efficiently.

## CPD training

The management committee has developed a vision whereby the SFCC will become a centre of excellence for providing cost-effective training. In 2013 members benefitted from courses in fish autopsy, database design, Geographic Information Systems (GIS), scale reading, habitat surveying and electro-fishing. 2014 will see the launch of new and updated courses, with electronic resources currently being developed for GIS and scale reading, in order to facilitate remote learning. Links are also being forged with the Institute of Fisheries Management (IFM), to allow course attendees to be awarded CPD points within the IFM chartership scheme.

The SFCC electro-fishing database, which currently holds data from over 19,000 events, allows input, storage and export of electro-fishing data, with training support provided by phone and online. GIS and spatial data continues to be provided, with key data sets for map production and data analysis delivered at a lower cost through group membership licence agreements.

## Communication

Our new website, [www.sfcc.co.uk](http://www.sfcc.co.uk), will be live in March 2014, and will provide a valuable and innovative resource for members and other parties engaged in evidence-based fisheries management. Our YouTube channel is also being developed as a means to disseminate fisheries-related training and information in an instant and accessible manner.

## Smolt data collation

The SFCC was recently awarded a major contract from Marine Scotland Science (MSS) to collate all available data sets on smolt runs in Scotland. With assistance from Fisheries Trusts and Boards, 29 smolt monitoring locations have been identified to date. The aim of this project is to assess the potential of identifying migration run times in the context of planned offshore renewables developments. An improved understanding of migration run timings is essential in designing development mitigation strategies, if these are so required.

The current SFCC Management Committee comprises:

Tweed Foundation  
Marine Scotland Policy  
Marine Scotland Science  
Galloway Fisheries Trust  
River Annan District Salmon Fishery Board  
Cromarty Firth Fisheries Trust  
River Dee Trust

Other organisations invited to SFCC Management Committee meetings include:  
Rivers & Fisheries Trusts of Scotland  
Scottish Natural Heritage  
Scottish Environment Protection Agency  
Scottish & Southern Energy



SFCC habitat surveying course.



Scottish Fishery GIS course delivered by the Westcountry Rivers Trust.





# Managing interactions with aquaculture: MIAP

CRAIG MACINTYRE - Argyll Fisheries Trust & Argyll DSFB

The Managing Interactions Aquaculture Project (MIAP) seeks to understand the impacts of aquaculture on the wild salmonid populations of the west coast of Scotland and translate this knowledge into practical management tools that can assist Trusts and Boards to inform the aquaculture planning process.

MIAP was developed by RAFTS with six west coast Trusts and three DSFBs to inform the on-going debate about interactions between aquaculture and wild salmonid fish. The key output of this work since 2011 has been the development of a locational guidance tool, designed to allow Trusts and DSFBs to present consistent, evidence-based input to the aquaculture planning process. The other workstreams, which feed into the locational guidance – and also provide important, stand-alone information – are designed to determine sea lice infestation pressure on post-smolt sea trout and to understand the genetic impacts of escapes.

For those of us who have been at the coalface of planning applications in recent years, there is a strong perception that wild fisheries interests have failed to influence decision makers in relation to the potential impact and risks from poorly sited marine fish farms. In addition, the sometimes conflicting advice from DSFBs/Trusts, Marine Scotland Science and SNH, can make the job of council planners extremely challenging.

The Locational Guidance tool was developed as a sensitivity analysis of inshore waters in the Aquaculture Zone using the best available data. At its simplest, it is a visual representation of the most sensitive locations for wild salmonids to aquaculture development. The GIS output is coupled with context information utilising rod catch analyses, which allows flexibility for Trusts and Boards to reflect local circumstances and priorities when considering aquaculture planning applications. There is also a clear need for additional research into interactions between aquaculture and wild salmonids, and ASFB and RAFTS are actively engaged in scoping such work. Details about the Locational Guidance tool can be viewed on the RAFTS website, which includes a briefing paper and a technical report on how it was developed.

Monitoring post-smolt sea trout to assess infestation of sea lice (*Lepeophtherus salmonis*) takes place annually between April and July, with survey sites selected at varying distances from active fish farm locations. This work, which was initiated as part of the Tripartite Working Group, contributed to an analysis conducted by Marine Scotland Science. This established that, on average, the risk and magnitude of an effect on sea trout of sea lice from salmon farms can be expected to be higher the nearer the farm is to the home river (Middlemas *et al* 2012). Annual reports on the sweep netting activities and results are available from the RAFTS website.

Analysis of salmon parr samples collected across the west coast of Scotland provided some surprising and concerning results: around 25% of wild salmon sampled contained genetic material from salmon of Norwegian origin (Coulson, 2013). The implications of these results for managing west coast rivers are profound, especially for rivers that operate a wild salmon hatchery in the Aquaculture Zone.

## The next steps for MIAP and Locational Guidance

It is important to continue the sweep netting programme, which provides vital information – for some sites over an extended time series – on the health of our sea trout, and by extension an indication of the environment sea-going salmon encounter. We intend to refine and develop the genetic programme, to understand and ultimately quantify the impacts of introgression of farmed salmon genes into wild populations. As stated above, Locational Guidance provides a visual representation of the most sensitive locations for wild salmonids to aquaculture development – an aspect which has been missing to date.

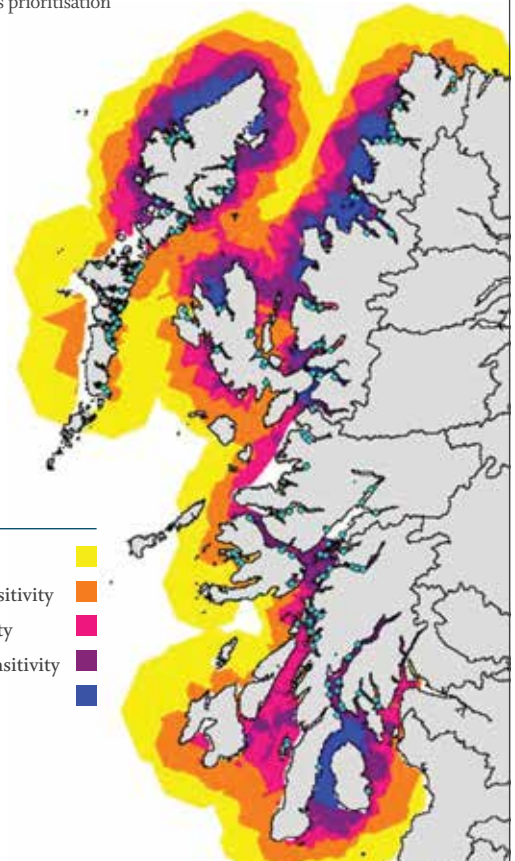
This will allow planners to assess the importance of a potential development area to wild fish, but does not provide information on whether the management of the site in question is appropriate to that risk. The next stage for the Locational Guidance tool is to develop an additional layer for existing aquaculture sites, and this is what will be explored in 2014. Ultimately what we want to achieve is a shared understanding – between wild fisheries interests, government and industry – as to the most appropriate locations for new developments and to facilitate the relocation, where appropriate, of those farms currently in the most sensitive locations to wild salmonids.

For further information see:  
<http://www.rafts.org.uk/aquaculture/>

Rivers and fisheries prioritisation

### KEY

- Low sensitivity
- Low-Medium sensitivity
- Medium sensitivity
- Medium-High sensitivity
- High sensitivity





## To stock or not to stock?

NICK CHISHOLM - *Director, Annan Board and Trust*

For many years there has been a debate amongst anglers and river owners about whether or not stocking is required on our rivers to sustain and improve fisheries. On the face of it the basic argument that putting more fish in the river via a hatchery, resulting in more fish returning, is an attractive proposition. Many rivers throughout Scotland have been operating hatcheries on this basis for decades and there has always been a lot of pressure, from some quarters, on fisheries managers to build new hatcheries.

There is no doubt that, in certain circumstances, hatcheries do play an important role, but for several decades there has been mounting concern from fishery scientists and fishery managers about the ramifications of widespread fish introductions. This led to RAFTS commissioning a technical paper to help to develop a policy statement on the stocking of Atlantic salmon in Scotland.

Historically, the majority of hatcheries in Scotland have been built to supplement or enhance an existing population. There is growing evidence that, at best, this can have little effect, other than wasting hard won resources. At worst it can actually do real damage to wild stocks of salmon and suppress the natural ability of fish to adapt to an ever-changing environment.

Other reasons for stocking that have been explored include mitigation or restoration schemes and, on the face of it, these appear to be good reasons for considering a hatchery as one of the tools of fisheries management. However, even under these circumstances careful consideration must be given to the potential negative consequences of such management action. For example, stocking above man-made barriers is cited as a good thing, as it maintains a stock in a place it can no longer use, but the removal of the barrier, where feasible, would be a more sustainable approach.

Restoration of locally extinct populations is regarded by many as an example of a good use of a hatchery, but if the reasons behind the extinction have not been resolved is there any point? There are also many examples of rivers that have re-colonised naturally after the suppressing pressure has been released. Classic examples include the Whiteadder in Lothian and Berwickshire, where many of the dams were removed and the fish soon established a natural population. Another example is the Clyde – following years of industrial pollution changes in the type of industry in that part of Scotland and stronger measures against pollution have resulted in the recolonisation of the river, and the formation of a very viable fishery.

As we gain more knowledge about the importance of the many different genetic structures within fish populations and even sub-populations within rivers, and the breeding strategies that support these, it becomes apparent that in nearly all cases the downsides of hatcheries outweigh the benefits. It is impossible to select fish in hatcheries that would have bred together in the wild. For example, it seems highly likely that siblings can detect each other and avoid breeding with each other in the wild. In a hatchery situation no such consideration can be made and siblings may be forcibly paired.

We know that the lifetime fitness of fish from hatcheries is suppressed significantly in the first, F1, generation. Those that do survive and then breed with wild spawning fish may then suppress the wild spawned population if inappropriate traits are introduced.

Anyone who is considering a new hatchery should carefully read the RAFTS technical paper to understand the scientific basis behind RAFTS's stance on hatcheries. Wild fisheries are under incredible strain at the moment and the generally poor performance of Scottish rivers in 2013 may lead to an increased call for hatcheries from some proprietors, some anglers and large sections of the written media. Such pressure will rise if catches, for whatever reason, are also poor this year. It is important that Boards and Trusts are able to withstand this pressure and ensure that their management practice follows the best scientific advice. Hatcheries are relatively straightforward (albeit costly) to operate, if they really worked as well as some thought in the past every river manager would use one.

On the Annan, the hatchery issue came to a head after the 2003 season, which had suffered from drought conditions, yielded a particularly low catch of 450 fish. Whilst many of the Board members were uncomfortable with the idea of a hatchery, a programme of stocking was initiated in response to strong calls from some. There was no evidence to suggest that the programme made any headway in improving stocks or catches, and the following year was especially wet and we recorded the highest rod catch since records began. It was becoming patently clear by 2010 that significant resources were being wasted by operating the hatchery, a resource that could be put to better use in removing barriers and improving habitat. The hatchery was closed in 2011, hopefully to never reappear again.



Stripping eggs for a hatchery. Image Nick Chisholm.





## INNS: turning back the tide?

CHRIS HORRILL - *Director, RAFTS*

RAFTS and its member Trusts have been working in partnership to prevent the introduction and spread, as well as undertake the control and eradication, of freshwater and riparian invasive non-native species (INNS) since the advent of the Biosecurity Planning project in 2009.

This initiative helped our member Trusts to produce biosecurity plans, which have in turn led to the formulation of the largest INNS programme in Europe. This has seen the establishment of work to manage INNS riparian plants throughout much of their range in Scotland, implementation of mink control over 30,000 km<sup>2</sup> of northern Scotland, and the organisation of numerous awareness and training events for INNS, including the production of awareness-raising and training materials.

Five years into this Programme we are now able to start assessing its impact. This article presents an overview of two of the main work streams undertaken as part of the INNS Programme – the Scottish Mink Initiative (SMI) and the prevention and control of riparian invasive non-native plants (INNPS).

### Scottish Mink Initiative

The SMI<sup>1</sup> was unique at the time of its inception, in 2011, as it aimed to establish community-based control of mink over two million hectares (20,000 km<sup>2</sup>) of mainland Scotland. As such it was Europe's largest and most ambitious community-based project addressing the economic, social

and environmental impacts of mink. Although the scale of the project was undoubtedly challenging, it represented the most effective means of dealing with mink and possibly other problem species. Furthermore, the proposal was endorsed by Scottish Natural Heritage as an important part of its mink control strategy and was supported by other associated, but smaller, projects.

The SMI built upon the experiences of previous work and used Game and Wildlife Conservation Trust (GWCT) mink rafts as the primary means of detecting mink and then subsequently facilitating their capture. Key to the strategy was to keep expanding the controlled area, while retaining a network of detection behind the expansion front. The SMI model was based on a team of full-time project staff operating in defined geographical areas, providing support, training and co-ordination to a wider network of volunteers, fisheries staff and other wildlife professionals responsible for operating the mink raft network. Throughout the project there was a close link with research, the results of which were used to fine-tune management strategy – for example the production of a habitat suitability map by the University of Aberdeen, which was used, along with sites of female captures, to identify priority hotspots for raft coverage.

The SMI expanded mink surveillance and control from its original target area of 20,000 km<sup>2</sup> to just under 30,000 km<sup>2</sup>, through the inclusion of the northwest of Scotland (Fig 1). As a result the SMI now covers 24 designated catchments that encompass 45 sub or smaller catchments, over an area of 28,441 km<sup>2</sup>, with a water body length of approximately 20,970 km (excluding lochs) and including a significant length of coastline. A total of 1,019 rafts have been deployed throughout the area, the vast majority of which are being monitored by 480 volunteers. Coverage of known sensitive areas and overall coverage throughout the project area was comprehensive, if not optimum.



American mink. Image John McAvoy.



The effect of the SMI on mink populations can be considered as its impact on removing resident mink from catchments and on overall population density. According to capture data, 15 (63%) out of the 24 designated catchments can now be assigned mink-free status, while 5 more have achieved possible mink-free status (Fig. 1). Most of the mink-free catchments are clustered in the north of Scotland, whilst of the nine catchments that are classified as still containing resident mink, four are bordering areas where there is no mink control (Gruinard and Ness), two are catchments where control has recently been initiated (Findhorn and Lossie) and three (Ugie, Don and Dee) are in or adjacent to the northeast extremity of Aberdeenshire, which is a known reservoir of mink. In the latter, mink were only caught in lower reaches, far from the main biodiversity assets in the headwaters.

In summary, the raft coverage, capture data, work by the University of Aberdeen and anecdotal reports of the recovery of previously extinct water vole populations within the SMI area all suggest that the SMI has had a significant impact on mink populations and has continued and extended the work of previous projects. However, this should not engender a sense of complacency, as research on mink migration has demonstrated that there is still significant risk of reinvasion from remnant populations/ individuals within and adjacent to the SMI area.

Since September 2013 ten Trusts within the SMI area have taken up the challenge of mink control, supported by a project coordinator employed by RAFTS. This model better enables the Trusts to develop their own capacity and partnerships for mink control work, including working with volunteers. It also better reflects the relative roles of RAFTS and its member Trusts in implementing this type of work. Further information on the work undertaken by the SMI is available at [www.scottishmink.org](http://www.scottishmink.org) and [www.rafts.org.uk](http://www.rafts.org.uk)

### Controlling invasive non-native riparian plants

Prior to 2008, although the Tweed Forum had developed a successful catchment-based approach for giant hogweed and Japanese knotweed control, most actions against invasive riparian plants in Scotland had been isolated and disjointed. However, the wide geographic coverage of the Trust network and the biosecurity planning process enabled the development of a multi-catchment approach that was strategic, co-ordinated and systematic at the local and national level. The work being undertaken by RAFTS and its 15 partner Trusts from 2009-2014 has a total economic value in excess of £3 million<sup>2</sup> and is:

- implementing control and eradication measures in over 125 catchments/ sub-catchments in the Highlands and northeast, south and southwest Scotland;
- establishing an interactive INNPS reporting website;
- developing monitoring and data management protocols and systems to enable better understanding and presentation of the impact of this work;
- promoting awareness through over 60 local events as well as national media coverage and [www.invasivespeciesscotland.org.uk](http://www.invasivespeciesscotland.org.uk);
- assessing the cost-effectiveness of treatment regimes;
- and identifying lessons for long term control.

RAFTS is currently working with its partner Trusts to evaluate the extent and impact of work on INNPS during 2009-2014. However, a survey undertaken in 2012 showed that approximately 1,600 km of river corridor had been surveyed, with control activities – principally of giant hogweed, Japanese knotweed and Himalayan balsam, along with some rhododendron – being undertaken along 1,200 km. Over 30 staff had been trained in qualifications for INNPS control and these figures are expected to be exceeded in 2014.

Mink Population Status by Catchment

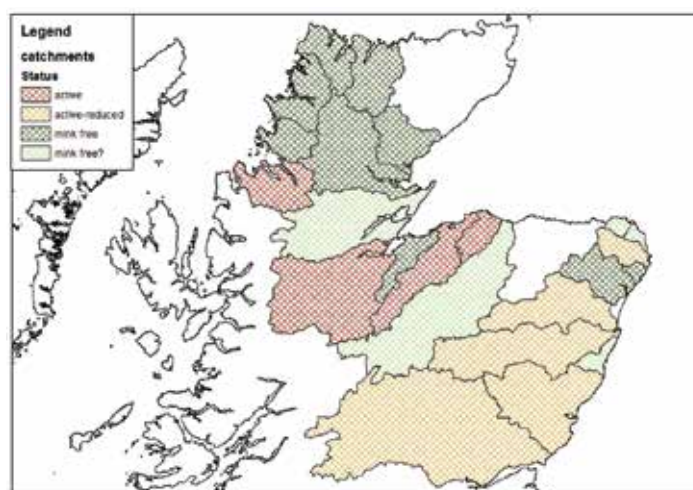


Figure 1: extent of SMI area and mink population status by catchment. Note that the Deveron catchment was not included in the SMI.

### Summary

Strategic management of mink and INNPS has been possible as the network of Trusts enables prevention and control of these species at appropriate geographic scales. The work has had the support and contribution of researchers and policy makers in Scotland and the UK and, building on the Tweed Forum experience, Trusts have been able to act as honest brokers – gaining the agreement and participation of diverse groups as well as delivering objectives on the ground. A contributing factor to the Trusts being able to perform this role is that INNS were, and still are, an issue shared by all groups and that no other organisations were able or willing to take the lead. Using these circumstances the Trusts have been able to utilise and expand their local networks as well as develop their existing and potential capacity for INNS management. A further factor was that the Trust network covers over 95% of Scotland and this, coupled with national level representation, has enabled not only local level co-ordination but also national level support and co-ordination through RAFTS.

The success in establishing such a large-scale programme in Scotland has led to considerable interest from other sectors and other parts of the UK and Europe, in using the Scottish experience as a model for the development of their freshwater and riparian INNS work. RAFTS and its member Trusts are now recognised as the biggest implementers of INNS work in Scotland.

1. The SMI was funded by Scottish Natural Heritage, Tubney Charitable Trust, the Cairngorms National Park Authority, the Peoples Trust for Endangered Species (PTES), the Kyle of Sutherland Fisheries Trust, the Cromarty Firth Fisheries Trust, the Ness and Beauly Fisheries Trust, the River Don Trust, the Tay Foundation and the Scottish Government and the European Community Cairngorms, Highland, Moray, Rural Aberdeenshire and Rural Tayside Local Action Groups LEADER 2007-2013 Programme.

<sup>2</sup> Funding sources include, but are not limited to, the European Interreg IVA Programme, the Water and Environment Fund, Highland Council, other local authorities, RAFTS and member Trusts.



# Genetics of salmon populations

MARK COULSON - Population Geneticist, RAFTS

The end of 2013 saw the conclusion of the Focusing Atlantic Salmon Management on Populations (FASMOP) genetics programme, with each of the member Trusts receiving their individual report. FASMOP was a partnership between RAFTS, Marine Scotland and individual Fisheries Trusts and Boards, funded by the Scottish Government, participating Trusts, Boards and SNH. This project involved an unprecedented co-ordination of effort and interest from both the public and private sectors and has been fully integrated with the concluded SALSEA-Merge and other internal Marine Scotland Science projects. The results demonstrated a wide range of outcomes across the different Trusts and highlighted differences in ability to distinguish genetically different breeding populations, both within and across catchments.

The project began in May 2009 and has analysed thousands of samples of salmon from the 24 Trusts taking part in the wider fisheries management planning programme. Along the way the project had to adapt to new situations and arrangements. Firstly, in some cases, the

application and testing of new genetic markers – single nucleotide polymorphisms (SNPs) – that had not been available or intended during the initiation of the project was required. Additionally, the project said goodbye to two members of staff, Dr Lucy Webster and Anja Armstrong, who both moved onto new positions. Also, Dr Eric Verspoor, the line manager for the project, retired from Marine Scotland Science to set up the Rivers and Lochs Institute at the University of Highlands and Islands.

With the initial overview of genetic differences within each of the participating Trusts now completed, a large baseline is now available on which to focus future efforts on how to best apply genetic technology to answer questions relevant to fisheries management.

## Genetics and salmon management

The main objective of FASMOP was to establish genetic maps for rivers, with the aim of determining how many genetically different breeding populations of salmon exist. The identification of different breeding groups can allow for local, targeted management policies. The FASMOP results demonstrated a wide variety of outcomes, with some systems showing well defined breeding populations, while many others were less well defined. Each Trust has received a genetic report summarising the resolution of genetic differences resolved to date within their system(s). In some cases, such as the Ness, Loch Lomond and Loch Awe systems, the resolution of distinct breeding populations was readily resolved. At the other end of the spectrum, several large systems – such as the Spey, Dee and Tweed – showed low levels of genetic differentiation. In these latter cases it was decided to pilot a set of SNPs developed by the Centre for Integrative Genomics (CIGENE) in Norway to help further clarify levels of genetic



River Dee: showed low levels of genetic differentiation.



The resolution of distinct breeding populations was readily resolved on the Loch Awe system. Photo: Danny Brazier, AFT.

differences within rivers. In these situations, SNPs demonstrated a greater resolution of genetic differences compared to the microsatellite markers initially employed. However, levels of genetic differentiation were still not high enough to allow for robust assignment of fish to breeding location within these systems. Such a result may imply that either: (i) there is a moderate degree of dispersal and genetic similarity among populations within systems or (ii) that the markers employed are not associated with adaptive differences known to exist among different breeding locations among different environments.

Once a genetic map is developed, it can be used in a variety of management-based applications. The most widespread interest is to determine the origin of rod-caught adults returning to the river. By obtaining a genetic fingerprint of each adult returning, we can compare their genetic signature against each of the baseline samples and establish where individuals are most likely to have originated. Such applications are possible to the most well resolved situations reported across the FASMOP results. With the overview of most Scottish systems now completed, another application is to identify the origins of fish in recently recolonized rivers, such as the Clyde.

### Answering management questions

In addition to the primary aim of FASMOP, the project initiated two particularly high-profile management applications. The first used genetic paternity and maternity testing to assess the contribution of hatchery stocking to the rod catch, which is currently being tested with the Spey Foundation. In this case, genetic fingerprints were obtained for all broodstock used since 2003 and compared to samples of fish caught by anglers from 2008-2012. By comparing the genetic fingerprints from the two groups it was possible, with great certainty, to assign parentage to any offspring produced in the hatchery. The results demonstrated that a small proportion of the total rod catch (< 1%) could be genetically identified as hatchery-origin and confirmed by breeding records. The application of this tool has resulted in alteration and reduction of the stocking strategy employed by the River Spey and has huge potential to quantify the hatchery contribution in other systems.

The second application used genetics to differentiate between wild and farmed fish. With microsatellite genetic markers, we can reasonably identify direct escapees. However, resolving possible levels of interbreeding

between wild and farmed fish required the use of specific sets of SNPs in collaboration with CIGENE, where the markers for this purpose were initially developed. The use of these markers is aimed at developing the ability to identify individuals of not only pure, but also mixed, ancestry. To this end the Managing Interactions Aquaculture Project (MIAP) helped to develop these genetic markers in the Scottish context while the current collaboration with CIGENE and the Norwegian Institute for Nature Research (NINA) is focused on the continued use and improvement of this technology. Initial surveys within the Scottish aquaculture zone have shown the potential for significant levels of introgression, highlighting the need for refinement and development of a robust genetic approach to monitor interactions between wild and aquaculture strains.

### What next?

We are therefore at a critical point for genetics work delivered through RAFTS for our member Trusts. Where do we go next? Currently, RAFTS is seeking funding for several projects using genetics in areas such as aquaculture/wild interactions, possible mixed-stock fisheries, and work involving brown and sea trout. While potential projects can and may involve individual Trusts, there is also a desire to deliver larger pieces of work, involving multiple Trusts with a common management objective.

The RAFTS genetics programme continues to work with CIGENE and other project partners to develop a more comprehensive set of markers to use in Scotland. It is also envisioned that my recent move to the Scottish Centre for Ecology and the Natural Environment (SCENE) at the University of Glasgow will help to foster ties with academic research groups to develop the technology required to apply genetics to fisheries management. Future work will allow for increased genetic resolution in regions/rivers where we have currently low or poor definition. This work is very much at the leading edge of DNA technology and will ensure that current and future projects can make use of the best genetic tools available. With the ongoing commitment of the partners we are confident that genetics can make an even more important contribution to fisheries management and to the maintenance, improvement and protection of one of Scotland's most valuable and iconic natural resources.





# Salmon fisheries enforcement – a decade on

BRIAN DAVIDSON - Operations Director, ASFB & RAFTS

This year's review presents an ideal opportunity to reflect on where we have come in the last 10 years in terms of salmon fisheries enforcement in Scotland, and report what further initiatives are on the horizon.

2013 marked the 10th anniversary of the bailiff training course, and we now have 370 individuals who are trained and qualified to exercise various powers of seizure, search, arrest and entry. This is likely to approach or exceed 400 by the time we complete the 2014 examinations. This initiative would not have been possible without close partnership between ASFB, member Boards, the Institute of Fishery Management, Scottish Government and fishery management organisations in districts where there are no Boards – such as the Clyde, Loch Lomond and Irvine & Garnock systems. The course will continue to be the entry-level standard for those who wish to become bailiffs, and gives appointing bodies, such as Boards and the Scottish Government, reassurance that individuals possess the relevant skills and knowledge to exercise various law enforcement powers.

It is worth making the point that, in many senses, completion of the course signifies the start of the training process – salmon fisheries legislation is complex and technical, much more is learned through practical and shared experience, for which there is no substitute. To recognise this, further work is planned to consider how specific skills can be developed. There is a clear demand for specialist training on a range of issues – such as interaction with suspected offenders, conflict resolution and communication – and we will be looking at how we can help deliver training on these and other areas as part of the next phase of training provision.

Looking south of the Border, innovative work is underway through a partnership between the Angling Trust and the Environment Agency (EA). A pilot project in southeast England has been launched to create a voluntary bailiff force to support to EA bailiff teams and this has gone remarkably well. There is a strong culture of volunteering in fisheries in Scotland, and there is no reason why a similar approach could not be undertaken to harness and empower local networks of angling club representatives to undertake a similar role where there is interest in doing so. This is something which will be actively considered in Scotland, and there may be scope to develop training for wardens who are empowered to enforce freshwater fisheries protection orders.

The annual bailiffs' conference continues to generate much interest, and this allows the sharing of knowledge and good practice at an operational level. We continue to attract a wide range of contributors to this event, including law practitioners, procurators fiscal, police, other enforcement agencies and training providers. The concept of moving the event around Scotland, to allow local hosting Boards to reflect their own individual circumstances, has proven invaluable in highlighting regional and local enforcement issues in Scotland and how these can be overcome with input from others.

At national level, the ASFB has forged a close working relationship with the National Wildlife Crime Unit (NWCU) and Police Scotland. This has increased the priority of fish poaching as a wildlife crime, which means



Delegates at the 2013 Bailiff Seminar.



Illegally taken sea trout. Image Bill Cunningham.

more resources will be directed at fisheries enforcement. This includes increased co-operation at local level between boards and wildlife crime officers. It also includes raising poaching issues nationally, such as Operation Salmo which was launched in February and will be rolled out across various areas in 2014. A 'Buyer Beware' leaflet campaign is being designed by the ASFB, NWCU and Police Scotland to ensure the relevant restaurant trade bodies, individual trade establishments and wider public are aware of the law relating to illegally taken salmon.

Along a similar theme, the Scottish Government will be consulting shortly on proposals for a mandatory carcass tagging scheme for net-caught salmon in Scotland (the only wild salmon which can legally be sold). Such a scheme would be a hugely effective aid for bailiffs and wildlife crime officers in helping to reduce and prevent illegally taken salmon from reaching the market. ASFB has consistently made the case for such a scheme to use individually numbered, recorded tags, and we look forward to the imminent implementation of this scheme.

As a result of these measures, we are confident that we have a solid foundation on which to build any future requirements of salmon and freshwater fisheries enforcement in Scotland.



# The long hot summer of 2013

ANDREW WALLACE - *Chairman, RAFTS*

‘No water, no fish’ seemed to be the lament on many of Scotland’s rivers in the second half of last year. But this most frustrating of seasons highlighted, once again, the impact of water conditions and weather on catches and on the perceptions anglers have of salmon abundance.

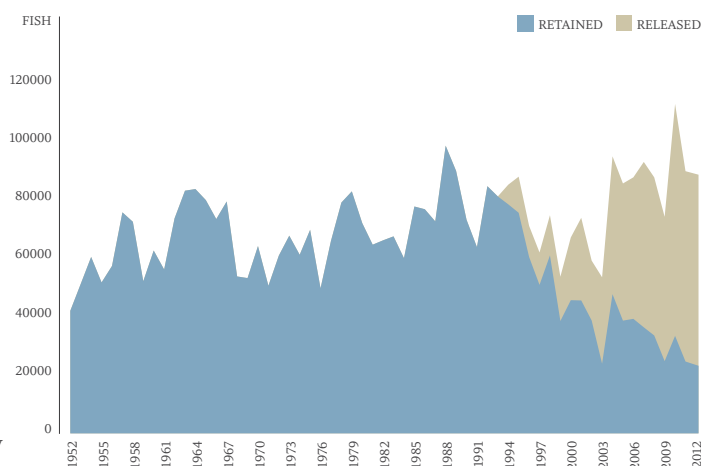
Many east coast rivers had virtually no significant rises of water from June to the end of the season, making it testing to judge the extent of any salmon or sea trout runs during the second half of the year. As far as it was possible to tell, the 2013 grilse run was deemed to be poor. This follows two previous weak grilse years, which may suggest that a trend is developing after the bonanza of 2010. The traditional grilse systems of the west Highlands and Islands largely reinforce this assessment.

This fairly gloomy overall picture was to some extent balanced out by another encouraging run of MSW salmon. Indeed, on some rivers, the salmon catch exceeded the grilse catch. The trend towards greater numbers of fish over 20lb has continued and the landing of a salmon over 30lb is now hardly a newsworthy event beyond the immediate locality. Scotland has a paucity of fish counters but some of this year’s figures indicate that the overall run was not as depleted as catch returns suggest – the Tummel had the highest recorded count since 2006. This reinforces how difficult it is to manage our salmon stocks sensibly without a more comprehensive network of counters.

The other effect of the low water levels will almost certainly be witnessed in the reported net catches for 2013. With fish unable to gain easy access to the rivers, stocks were vulnerable to nets for weeks on end. The impact of conditions enabling net fisheries to exploit stocks so heavily has further inflamed the argument over net fisheries, as did the decision by the net fishermen to remove the voluntary ban on netting in the first six weeks of the 2014 season. The response to this by ASFB was to enhance

precautionary measures on exploitation of early running fish by imposing a national voluntary catch and release measure for all rod fisheries until the middle of May. There also seems to be some progress on the implementation of numbered tags for net caught fish, which will bring us in line with the rest of the British Isles. These arguments will no doubt continue to rage, with the matter once again being considered in the Government’s recently announced Strategic Review of Scottish Freshwater Fisheries.

Estimating the annual Scottish rod catch of salmon for any season, especially one as fickle as 2013, is a notoriously dangerous game, but likely estimates suggest it will be below 70,000 fish, down from 86,000 in 2012. With very few exceptions, it is likely that the 2013 season will be remembered for the quality of its barbecues, not for any noteworthy angling events.



NATIONAL SALMON/GRILSE ROD CATCH STATISTICS SCOTLAND, 1952-2012  
SOURCE - MARINE SCOTLAND SCIENCE

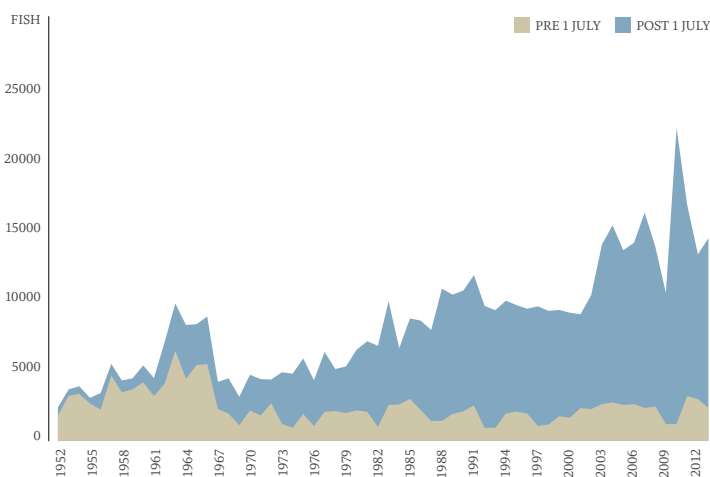
## Tweed

Nick Yonge - *Director, Tweed Foundation and Commission*

The rod catch was close to its 10-year average, although more fish over 25lb were caught than in recent years. Spring salmon were caught in all the months to June, with April having the largest rod catch, but most salmon were, as usual, caught in the autumn, when particularly significant catches were made in the upper river, while other parts of the river, including the tributaries, had slightly below average returns. In line with national salmon management policy, The Tweed Spring Salmon Conservation Measures included catch and release of all rod caught fish up until the end of June and the return of all salmon caught by the in-river nets before June 15th, which resulted in 95% of all spring salmon being returned. Additionally, payments were made to fisheries on the tributaries and upper Tweed, which had agreed by contract to additional conservation measures on their fisheries, including compliance with Spring Conservation Measures, restrictions on fishing methods and the provision of more information.

	2013 total	pre Jul 1	post Jul 1	Total nets	10yr average	Release rate	Largest fish
Salmon	14,794	2,110	12,684	5,520	15,140	95% / 72%*	45lb+
Sea Trout	1,460	n/a	n/a	3,157	1,820	58%	n/a

Season dates: 1 Feb – 30 Nov. \* spring / summer/autumn



TWEED ROD CATCH STATISTICS 1952-2013  
SOURCE - RIVER TWEED COMMISSIONERS

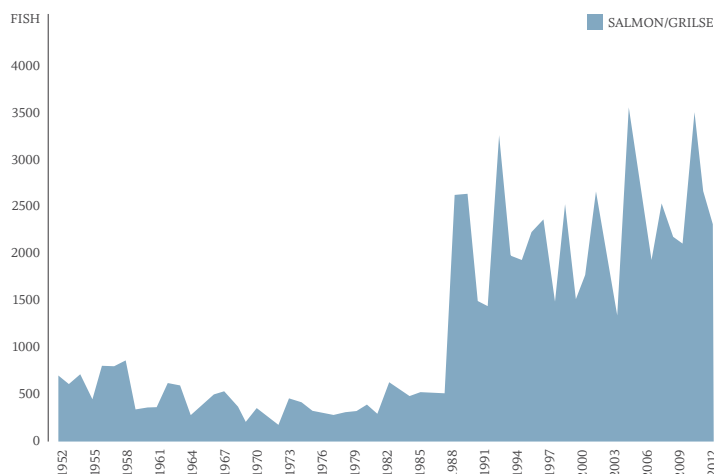
# Forth

Fen Howieson - *Chairman, Forth DSFB*

At the time of writing 2013 catch data were not available, but last season wasn't a classic, with an extended and cold spring followed by a very warm dry summer – fish that normally arrive in July did not appear within some systems until mid-September, which made fishing very concentrated at the back end. The spring fishing on the Forth and Teith was average, with fish still creeping through the system during the dry summer. Stirling Council reported 61 sea trout and 411 salmon from the Forth, 51 sea trout and 101 salmon from the Teith, while Lanrick Estate reported 100 salmon and 128 sea trout. The Carron reported good numbers of fish being seen leaping the weir at the Larbert Viaduct and their annual catches of sea trout were up on last year. The Allan Water suffered from the majority of its fish being held up in the Forth, leading to an annual return of 19 sea trout and 121 salmon. It was a similar story with the Devon, which was lightly fished throughout the season, with the majority of the fishing confined to the last two and a half weeks of the season; the submitted return was 2 salmon, 20 grilse and 14 sea trout. We can only hope that the majority of the District's fish managed to reach the spawning areas in the upper rivers once the season closed.

	2012 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	2,269	116	2153	55	2,782	*97% / 68%	n/a
Sea Trout	919	n/a	n/a	97	910	73%	n/a

Season dates: 1 Feb – 31 Oct. \* spring / summer.



FORTH DISTRICT ROD CATCH STATISTICS 1952-2012

SOURCE - FORTH DSFB

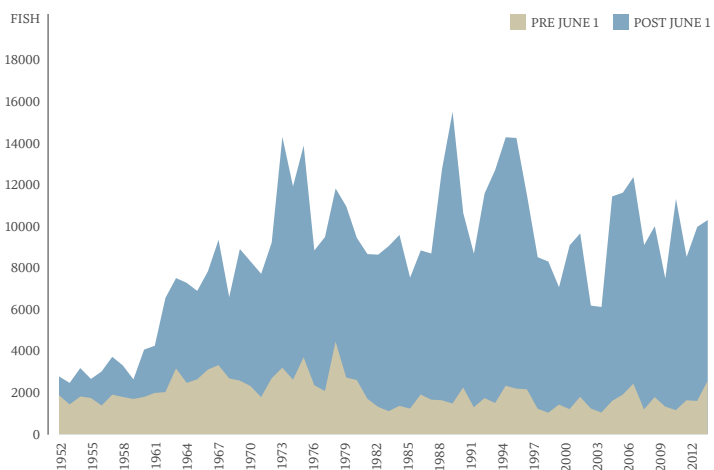
# Tay

Dr David Summers - *Director, Tay DSFB and Tay Foundation*

2013 was a season of very notable highs and lows. The reported spring salmon catch, for example, was the highest since 1980 and the excellent fishing was partly helped by low water and cold weather. The highly fortuitous coincidence of both an increased run of fish and fishing conditions which really suit the Tay, proved productive for anglers, especially in the lower reaches. However, the great spring was unfortunately followed by a poor July and August was only a little better, due to the heatwave conditions. Catches did pick up again in the autumn and it was encouraging to see numbers of larger salmon continuing to be reported throughout the season. The main focus of the Board during 2014 was in the consolidation and expansion of the ground-breaking kelt reconditioning project at Almondbank. 2013 also saw the third year of a trial season extension in the lower and middle Tay. This was due to conclude in 2013, but has been extended for an extra year. We still await SEPA's decision on an application from SSE to restore flow to the upper River Garry, which was submitted in 2010, but we have been assured that a decision will be announced early in 2014.

	2013 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	10,406	2,624	7,782	n/a	9,866	91% / 78%*	45lb
Sea Trout	596	n/a	n/a	n/a	1,314	89%	n/a

Season dates: 15 Jan – 15 Oct. \* spring / summer/autumn



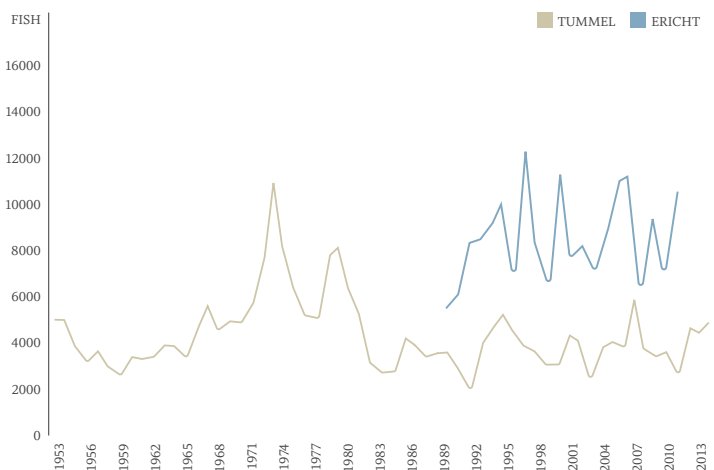
TAY ROD CATCH STATISTICS 1952-2013

SOURCE - TAY DSFB

# Tay catchment counters

Dr David Summers - *Director, Tay DSFB and Foundation*

The count of MSW salmon which passed through Pitlochry Dam had no equal since the late 1970s and a high MSW count was also recorded at the smaller Lochay Falls fish counter. It was encouraging to see numbers of larger salmon continuing to be reported throughout the season and a number of fish over 30lb were caught, including one coloured fish in October estimated at 45lb. While 2SW did dominate spring catches, a noticeable proportion were also of 3SW fish in the 12-20lb range. It is tempting to speculate that this represents a continuation of something of a trend which commenced around 2008. Prior to then 3SW fish were actually really very scarce. Perhaps the increased MSW runs are a consequence of the recent poorer performance of fish in their first year at sea? The reasonable autumn catches may have masked the fact that the runs of both summer grilse and true autumn fish may have been lower than expected, in contrast to the spring. 2013 was something like the third year in succession when the summer grilse run appeared to be below par. Some very small grilse were again apparent this year, with some fresh specimens well under 2lb being reported even as late as September.



RIVER TUMMEL (PITLOCHRY) UPSTREAM COUNT 1953-2013

SOURCE - SCOTTISH & SOUTHERN ENERGY

RIVER ERICHT UPSTREAM COUNT 1990-2010

SOURCE - TAY DSFB



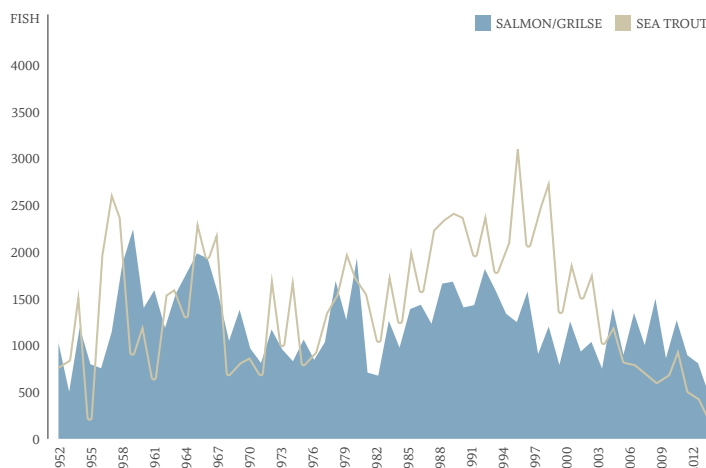
# South Esk

Dr Marshall Halliday - *Esk Fishery Board and Trust*

Conservation measures for 2104 include voluntary catch-and-release and a delay to the commencement of netting until 1st May. All healthy sea trout caught by the nets will be released. The spring catch was slightly better in the lower beats but springers were scarce in the middle river. The poor stocks of early running salmon are reflected in the very low numbers of salmon tracked upstream by Marine Science Scotland in 2012 and 2013. Sea trout and grilse runs were poor, exacerbated by prolonged low water conditions. The South Esk is a Priority Catchment, as well as being an SAC, and so is the focus of considerable improvements by SEPA to the riparian zone, which will undoubtedly pay dividends in the future through improved water quality and bank stability. The Esk Rivers & Fishery Trust is also active in the upper catchment, developing a major project involving contour-planting of trees and shrubs in Glen Clova. The Pearls in Peril LIFE project will also improve the aquatic environment in the upper catchment through the removal of old bank structures.

	2013 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	522	137	385	n/a	1,094	*97% / 77%	n/a
Sea Trout	225			n/a	735	77%	n/a

Season dates: 16 Feb – 31 Oct. \* spring / summer.



SOUTH ESK ROD CATCH STATISTICS 1952-2013

SOURCE - ESK DSFB

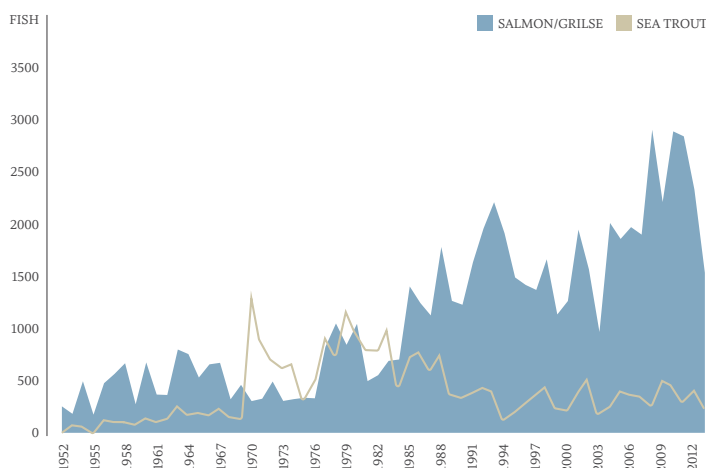
# North Esk

Dr Marshall Halliday - *Esk Fishery Board and Trust*

Rod catches on the North Esk were not unreasonable considering the cold spring and exceptionally dry summer, although sea trout were very scarce. Spring salmon were slow to appear but there was a reasonable run in May, while grilse really were delayed by the low flows which prevailed until the latter half of October. Voluntary catch and release measures to reduce the exploitation of salmon and sea trout continue to be well supported by anglers. This winter has been characterised by exceptionally high river levels, which contributed to a breach forming in Morphie Dyke. The Esk Rivers & Fisheries Trust has extended mink trapping under the Scottish Mink Initiative to the North Esk, but few have been trapped to date. Control of Japanese knotweed and giant hogweed continues and the former species is being successfully controlled on the banks of the Bervie Water, which is improving access to fishing.

	2013 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	1,557	476	1,081	n/a	3,245	*84 / 72%	n/a
Sea Trout	188			n/a	480	86%	n/a

Season dates: 16 Feb – 31 Oct. \* spring / summer.



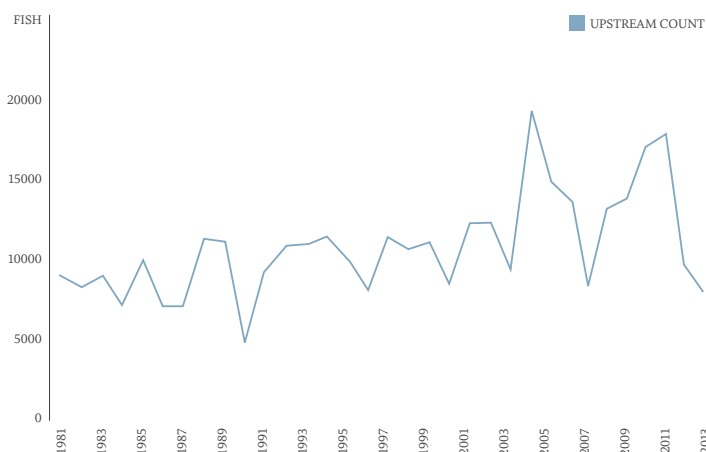
NORTH ESK ROD CATCH STATISTICS 1952-2013

SOURCE - ESK DSFB

# Logie counter (North Esk)

Dr Marshall Halliday - *Esk Fishery Board and Trust*

The 2103 count, at 8,131, was below the previous year's count of 9,715, and considerably under the 10-year average of 13,644 – reflecting a poor year, with all stock components at low levels. Spring runs were on the low side, with only the runs in May reasonable. The prolonged low water conditions from June did not help, although the spates in late October did result in an upstream count of 2813 fish, which is slightly above the 10-year average of 2172 for that month. However, these late arrivals did not compensate for the low summer and early autumn counts. It is interesting to note that there were some very small grilse about this year and these would have been unlikely to register on the counter.



NORTH ESK UPSTREAM COUNT 1981-2013

SOURCE - MARINE SCOTLAND SCIENCE

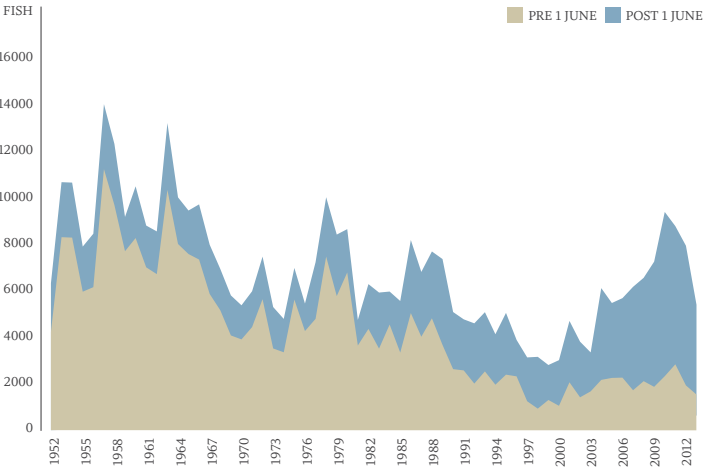
# Dee

Mark Bilsby - *River Dee Director*

A very cold spring produced a lower return, both in terms of the number of fish caught and the actual number of fish running the river. The cold spring quickly turned into a long, hot, dry summer, without a significant spate between June and September, and catches were lower than in recent years, although the redd counts carried out later in the year were average, with some areas up and others down on the period 2010-2012. A £2.6 million project to protect the riparian zone through the creation of buffer strips and tree planting was started, under the title Pearls In Peril. Four obstructions to fish migration were also eased during the year, in partnership with the Dee DSFB, River Dee Trust and Aberdeenshire Council. Disinfection facilities have been established on all fishing beats to improve biosecurity. All anglers are now asked to disinfect their waders and landing nets prior to fishing.

	2013 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	5,468	1,666	3,802	n/a	6,599	99% / 98%	28lb
Sea Trout	898	n/a	n/a	n/a	1,829	93%	5lb

Season dates: 1 Feb – 30 Sep. \* spring / summer/autumn

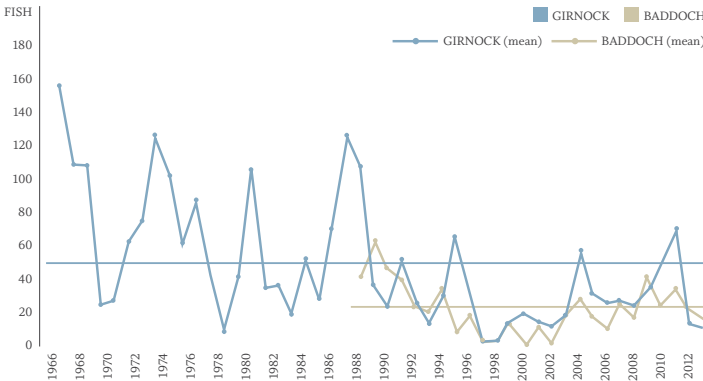


DEE ROD CATCH STATISTICS 1952-2013  
SOURCE - DEE DSFB

# Girnock and Baddoch fish traps (River Dee)

Freshwater Laboratory – Marine Scotland Science

Marine Scotland Science Freshwater Fisheries Laboratory operates two traps on the Girnock and Baddoch burns, which are upper tributaries of the Aberdeenshire Dee. These tributaries are dominated by early-running spring salmon (multi-sea winter fish), the stock component that has been of most concern in recent decades. Although numbers of male and female salmon caught at the traps show similar temporal trends, only female numbers are plotted as they are considered the fundamental spawning component. The 19 females caught in the Girnock trap and 23 females caught in the Baddoch trap in 2013, represent 35% and 78% of the long-term mean respectively.



GIRNOCK & BADDODCH FEMALE UPSTREAM BURN TRAP COUNTS 1966-2013  
SOURCE - MARINE SCOTLAND SCIENCE ©

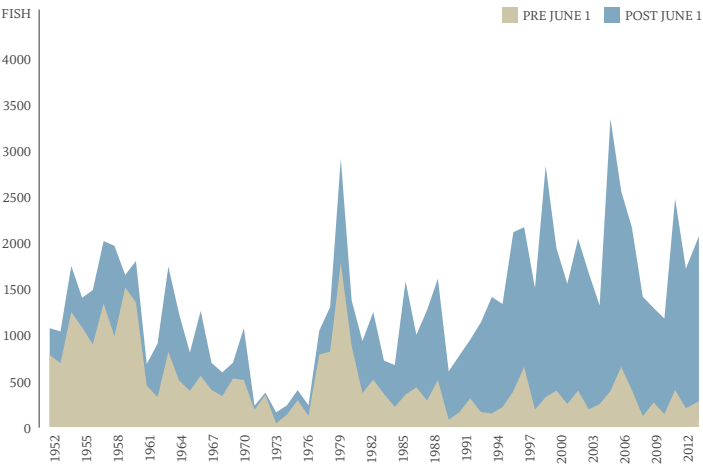
# Don

Jon Davison - *Chairman, Don DSFB*

The 2013 catch totals are not available at the time of writing, but the first 3 months of the season produced great results, with a number of fish over 20lb being landed in April. However, from May to the beginning of September catches were way below normal due to the very low water. Thereafter the lower beats, from Dyce down to the tidal reaches, achieved reasonable catches including a high proportion of grilse. When the rain finally came in early October, all beats reported both coloured and sea liced fish and anglers had a bonanza in the last 2 weeks of the season, including a fish of 35lb. Following on from 2012, Don staff installed a fish pass on a tributary of the Nocht burn, which has opened up a further 2.5 km of spawning ground. Early in the year, a PhD student commenced a study on the impact of the two Archimedes screw hydros on the main stem of the river. The eradication of giant hogweed and Himalayan balsam continues and well over 3000 plants, covering 34km of river bank from Strathdon down to Alford Bridge, were sprayed with pesticide – a programme that will run for a further two years.

	2012 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	2,029	263	1,766	n/a	1,946	93% / 77%*	35lb
Sea Trout	344	n/a	n/a	n/a	440	73%	8lb

Season dates: 11 Feb – 31 Oct. \* spring / summer/autumn



DON ROD CATCH STATISTICS 1952-2012  
SOURCE - DON DSFB

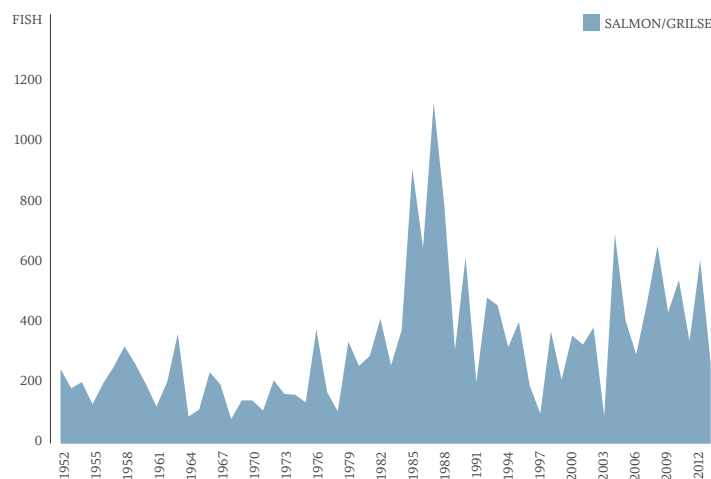
# Ythan

Mark Andrew - *Ythan DSFB*

This was a very poor year for anglers on the river, as the majority of fish were very late in moving upstream due to low water conditions that persisted until the last week of the season, while sea trout catches in the estuary were lower than usual. An experimental 2 week extension to the season (1st-16th November) produced an additional 42 salmon and grilse and 30 sea trout and finnock. A recently installed hydro-electric scheme on one of the tributaries has restricted the flow of water upstream of it and SEPA is involved in a possible prosecution of the operator, while the Board has supplied reports on the impact of the scheme and is pressing for a resolution. On a more positive note, the River Ythan Trust directors and volunteers have cleared a number of small and medium-sized obstructions from tributaries. The Board advocates a voluntary Code that encourages catch and release. The level of take-up is good, but there is room for improvement!

	2013 total	pre Jun 1	post Jun 1	Total nets	Av since 2007	Release rate	Largest fish
Salmon	256	0	256	247	430	64%	24lb
Sea Trout	1,246	n/a	n/a	10	1,616	72%	6lb

Season dates: 11 Feb – 31 Oct



YTHAN ROD CATCH STATISTICS 1952-2013

SOURCE - YTHAN DSFB

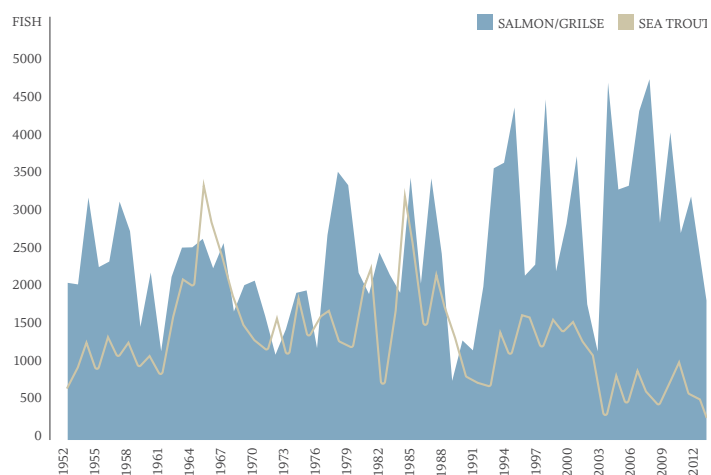
# Deveron

Richie Miller - *Senior Biologist, Deveron, Bogie & Isla Rivers Charitable Trust*

1747 salmon and grilse were caught by anglers, which was a significant decrease on the previous year's total of 3318, and well below the long-term average. Spring catches decreased by 47%, to 133 salmon, although an admirable 116 of these were returned to the river, aided by the Chivas Regal spring salmon conservation scheme. Summer catches of salmon were poor, due to the warmest and driest summer since 2006. During September and October there was a more visible presence of salmon than in previous years and catches increased during this period. The sea trout catch decreased from 550 to a total of 268, ranging from 3-8lb, of which 95% were returned to spawn. A total of 1054 grilse, 1200 salmon and 296 sea trout were landed by the commercial net-fishery operated from Gardenstown. The River Deveron DSFB asks that all salmon caught before 31st May are returned this year, to help conserve spring stocks, and also that all sea trout are returned throughout the season. The guidance on sea trout will be in place for a minimum of three years, or until stocks recover to acceptable levels.

	2013 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	1,747	133	1,614	2,254	3,283	87% / 76%*	25lb
Sea Trout	268	n/a	n/a	296	699	95%	8lb

Season dates: 11 Feb – 31 Oct. \* spring / summer/autumn



DEVERON ROD CATCH STATISTICS 1952-2013

SOURCE - DEVERON DSFB

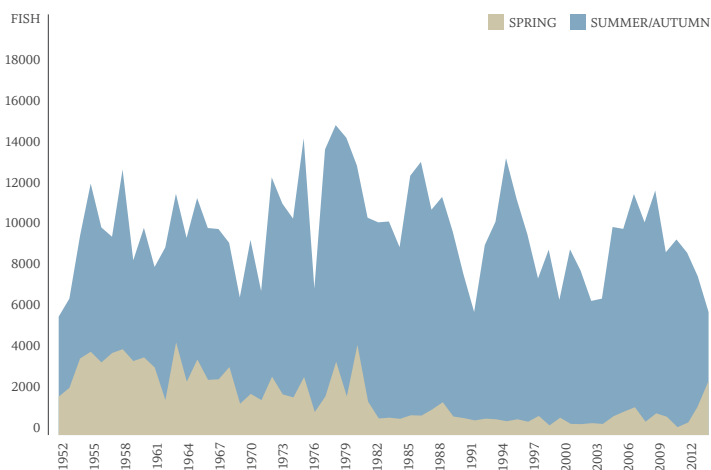
# Spey

Roger Knight - *Director, Spey Board and Foundation*

In common with many other Scottish rivers, 2013 was a challenging year – with a long, cold winter, followed by drought conditions throughout the summer – yet anglers have responded positively by returning more fish, and juvenile fish are thriving. The Board remains concerned by the water abstraction, particularly by Rio Tinto Alcan, which is licensed to divert water from the Spey Dam – some 12 miles from the source of the river – to Fort William. The Board believes that the compensation flows released at the dam are insufficient to allow adult salmon to migrate up to and above the dam to spawn, or to allow smolts to migrate downriver to the sea. The Board is also concerned about the efficiency of the fish pass at the dam, the level of spawning activity above the dam, the heck on the River Markie, and the likelihood of juvenile fish exiting the Spey and its catchment via the off-take and gaining access to Loch Laggan. Meanwhile Scottish & Southern Energy, which already diverts water from the Rivers Tromie and Truim, is proposing to further reduce the flow down these two important spring salmon spawning tributaries to improve the River Garry in the Tay catchment. Like the Spey itself, both these rivers are also Special Areas of Conservation (SACs) for salmon.

	2013 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	5,780	2,447	3,333	n/a	9,192	92% / 88%*	n/a
Sea Trout	1,190	n/a	n/a	n/a	2,248	76%	n/a

Season dates: 15 Jan – 15 Oct. \* spring (till end of April) / summer/autumn



SPEY ROD CATCH STATISTICS 1952-2013

SOURCE - SPEY DSFB



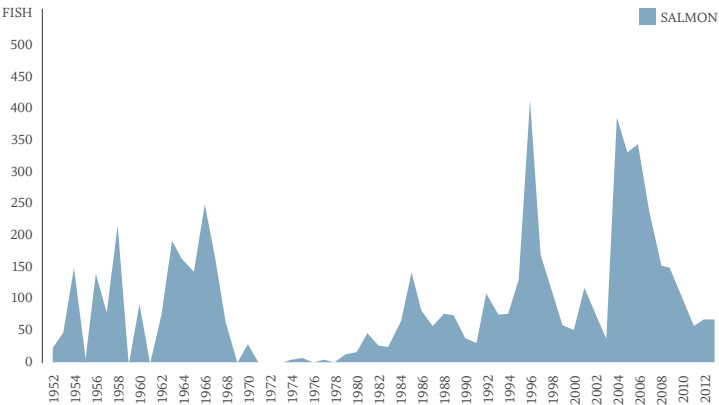
# Lossie

Valerie Wardlaw - Administrator, Findhorn, Nairn & Lossie Fisheries Trust

2013 was a very poor fishing season, due to low river levels, while extensive works by the Elgin Flood Alleviation Scheme on the lower river also limited access for anglers and may have contributed to the low catch. A smolt trap survey was undertaken near Kellas in the spring and revealed an estimated population of 5 salmon smolts per 100m<sup>2</sup>, which equates to a healthy stock of fish. A survey of juvenile fish within the Lossie and its tributaries was undertaken during September. The average densities of salmon fry showed a substantial improvement on previous surveys, conducted in 2000 and 2010, while densities of salmon parr also improved. The pattern was similar for young trout, with improved densities of fry and older parr in this year's survey. The Board supported the Findhorn, Nairn and Lossie Fisheries Trust to work closely with SEPA to remove two gabion basket weirs from the Black Burn, a tributary of the river, in September 2012. This project was funded through the RAFTS's barrier removal project. Mink control continues, with rafts and traps in place, and hogweed and knotweed control also continues.

	2013 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	69	0	69	n/a	184	71%	n/a
Sea Trout	76	n/a	n/a	n/a	196	50%	n/a

Season dates: 25 Feb – 31 Oct.



LOSSIE ROD CATCH STATISTICS 1952-2013  
SOURCE - FINDHORN, NAIRN AND LOSSIE FISHERIES TRUST

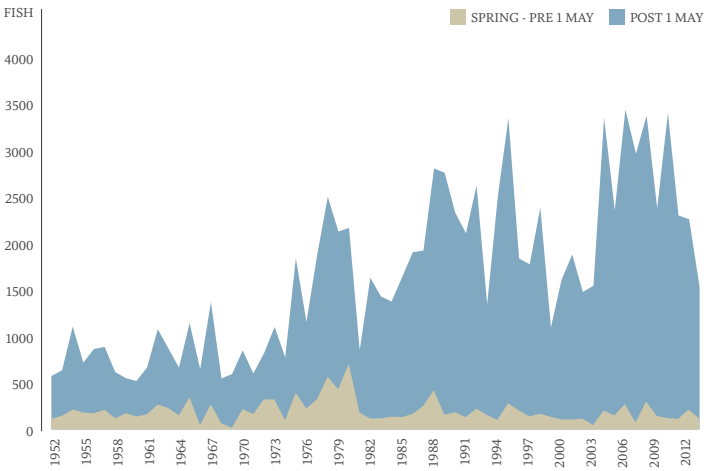
# Findhorn

Alasdair Laing - Chairman, Findhorn DSFB

The total catch was disappointing, with salmon catches at 66% of their 10-year average, and grilse right down to 43% – in part due to the dry summer. Despite this, however, the spring produced some good fishing, with one notable week of over 20 fish on Darnaway, including one of 40lb and two of 30lb. The principle environmental issue in 2013 has been the construction of the Berry Burn windfarm, which commenced in late 2012 and is now almost complete. The Board worked closely with the developer in the planning phase and the Findhorn Nairn and Lossie Trust, acting on behalf of the Board, has monitored the construction phase with excellent co-operation from the contractor. The result has been highly satisfactory in environmental terms, despite some difficult working conditions in the road construction phase. The river has instituted 100% catch and release for the period to 15th May this year and retains its previous conservation code for the remainder of the season.

	2013 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	1,541	429	1,112	n/a	2,718	73% / 73%*	40lb
Sea Trout	103	n/a	n/a	n/a	117	68%	n/a

Season dates: 11 Feb – 31 Oct. \* spring / summer/autumn



FINDHORN ROD CATCH STATISTICS 1952-2013  
SOURCE - FINDHORN DSFB

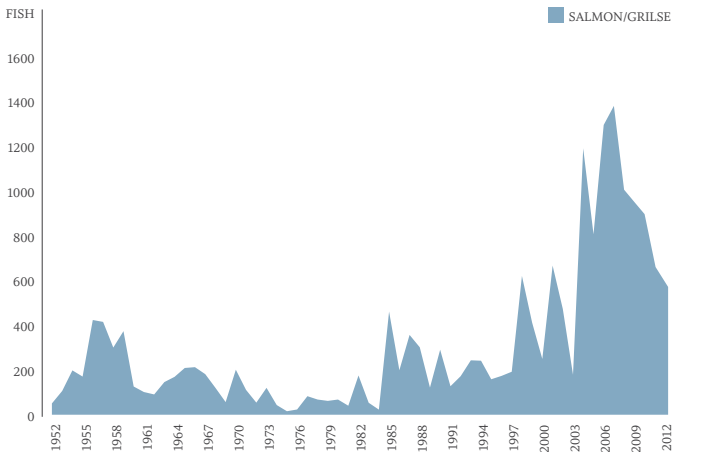
# Nairn

Valerie Wardlaw – Administrator, Findhorn, Nairn & Lossie Fisheries Trust

At the time of writing 2013 catch data were not available, but 2013 was a poor fishing season, thanks to the long warm summer. However, anecdotal evidence from anglers suggests the number of fish that entered the river from July onwards was on a par with previous seasons. A juvenile survey was completed in 2012 which indicated good juvenile salmon and trout distribution within the Nairn and its tributaries. Mink control continued, with monitoring rafts and traps in place. Crayfish control continued on the Geddes Burn, with 490 crayfish captured. To assist the Nairn AA, a PhD student from Aberdeen University will be studying control methods in the future. Hogweed and knotweed control continues upstream from the Howford Bridge. An accidental spillage of fertiliser into the Aultdearn Burn led to a significant loss of juvenile salmon and trout during September and the Board has strengthened its conservation effort by introducing a 100% release policy for fish caught before the end of May this year.

	2012 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	595	56	539	n/a	864	49%	n/a
Sea Trout	79	n/a	n/a	n/a	111	77%	n/a

Season dates: 11 Feb – 7 Oct.



NAIRN ROD CATCH STATISTICS 1952-2012  
SOURCE - NAIRN DSFB

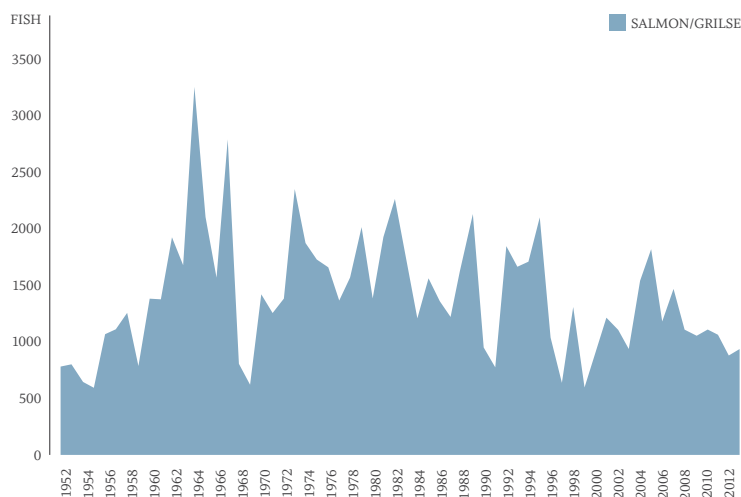
# Ness

Chris Conroy - Director, Ness DSFB

The unusually low river levels were matched by anglers' expectations but, with a total of 920 fish reported to date, the provisional rod catch indicates an improvement on the 2012 season (847 fish). Furthermore, anglers reported seeing good numbers of running fish and, coupled with above average counts through the Dundreggan and Invergarry counters, this suggests a better run than reflected in the catches. The returns received to date also indicate a total spring catch of 261, which is well above the 5-year spring average of 177 and suggests that, although the spring component is still in long-term decline, it is showing signs of improvement. Following the completion of a successful scoping study, the Ness Board and its partners are investigating ways to sustainably restore the historical stock abundance in the upper river system. We are also in the process of commissioning a wider study which will consider factors affecting the abundance of salmon populations across the Ness system as a whole and develop restoration options. The 79% overall release rate recorded in 2013 is the highest on record, as is the 98% spring release rate. Further to this, a conservation agreement was reached with two net and coble operators in 2013 which resulted in the total Ness District net fishery catch reducing from 545 in 2012 to zero in 2013 – the first time in at least 61 years that no fish have been recorded by the nets.

	2013 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	920	261	659	n/a	1,189	98% / 71%*	27lb
Sea Trout	82	n/a	n/a	n/a	65	n/a	5lb

Season dates: 1 Feb – 15 Oct. \* spring / summer/autumn



NESS ROD CATCH STATISTICS 1952-2013

SOURCE - NESS DSFB

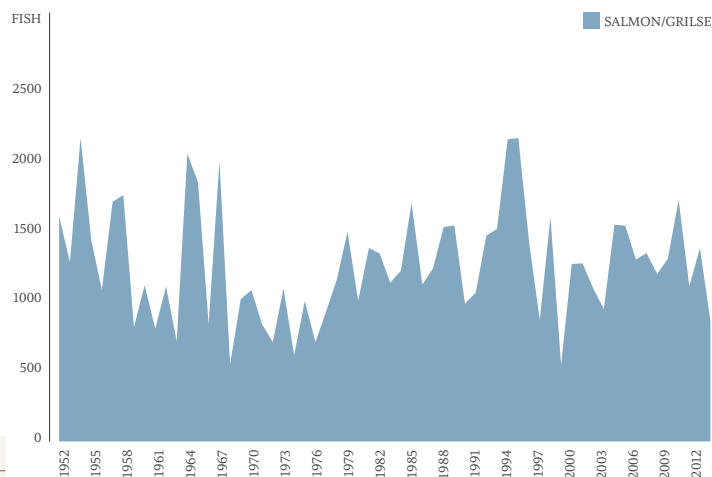
# Beauly

Alastair Campbell - Clerk, Beauly DSFB

Although spring catches were encouraging, the summer fishing was difficult, making for a disappointing season's total. As with much of the country, the prolonged drought resulted in low river levels, high temperatures, weed growth and low oxygen levels. Fish were dour and unwilling to take. The Ness & Beauly Fisheries Trust continued its work on non-native species and the treatment of Japanese knotweed on the Bridgend Burn appears to have been largely successful. Follow-up treatments will be undertaken, assuming landowner permission, in 2014. A survey was undertaken during the summer to facilitate mapping the extent of the non-native plant issue on the catchment. This also resulted in a small area of Himalayan balsam being removed. The data will be assessed and a strategy for control/removal of key species developed. The main focus of attention has been the barrier on the Culburnie Burn. Discussions continue with SEPA staff with a view to speedy removal as part of the overall RAFTS/SEPA project, although progress is slow.

	2013 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	861	93	768	n/a	1,381	90% / 80%*	n/a
Sea Trout	341	n/a	n/a	n/a	258	100%	n/a

Season dates: 11 Feb – 15 Oct. \* spring / summer/autumn



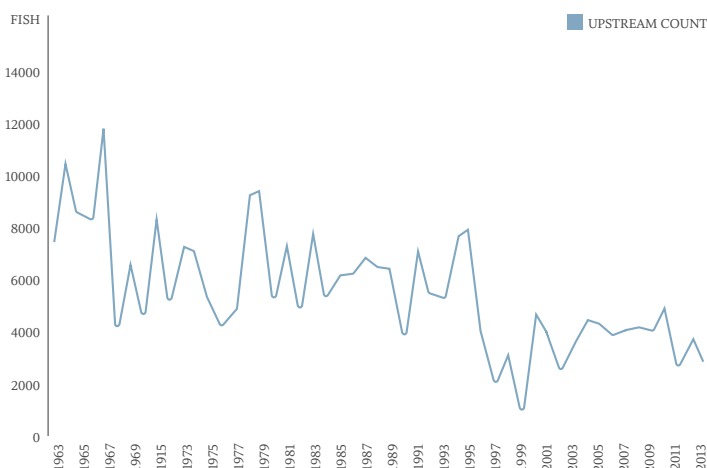
BEAULY ROD CATCH STATISTICS 1952-2013

SOURCE - BEAULY DSFB

# Beauly counter

Alastair Campbell - Clerk, Beauly DSFB

Provisional figures received from Scottish and Southern Energy (SSE) for the counter at Aigas Dam indicate a total run through the dam to the upper beats of approximately 3,002 fish, before November 3rd. This is below the 5-year average of around 3,900, primarily due to a weaker grilse run. Final year figures are still awaited from SSE, but these provisional figures indicate a lower than average run, yet one that was not quite as poor as the catches alone would suggest. As with most recent years, the grilse arrived a little later than was historically the case.



BEAULY (AIGAS) UPSTREAM COUNT 1963-2013

SOURCE - SCOTTISH AND SOUTHERN ENERGY

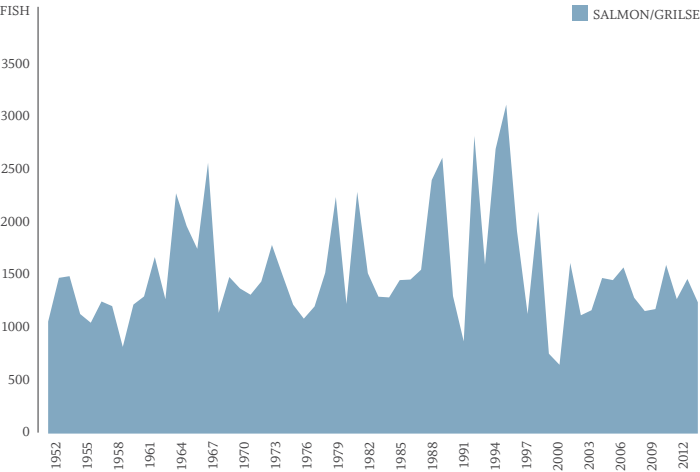
# Conon

Simon McKelvey - Cromarty DSFB

It was the driest summer since 2006, which meant that the lower reaches of the Conon fished well, while fish were reluctant to enter the tributaries. At Loch na Croic, where the entire run of the Blackwater is logged, traps recorded a high proportion of large female MSW salmon, with a much weaker grilse component – which is consistent with the trends over the last 10 years, during which time grilse have been replaced by MSW salmon as the dominant stock component, particularly in terms of the numbers of eggs deposited. A weir which acted as a barrier to migration on the River Peffery was eased and sea trout were observed spawning upstream of the weir during the autumn. Monitoring stocks above previously removed barriers is ongoing and is showing an increase in wild spawning. We are also working with the Forestry Commission and the Woodland Trust to restore riparian woodland, and banks have been replanted with native trees along the Orrin, Peffery and Blackwater, while large woody debris introduction took place to restore diversity of in-stream habitat and fish cover. The hatchery operation, to mitigate for hydro-electric development, is ongoing.

	2013 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	1,255	n/a	n/a	n/a	1,356	n/a	25lb
Sea Trout	n/a	n/a	n/a	n/a	n/a	n/a	3.5lb

Season dates: 10 Feb – 30 Sep.



CONON ROD CATCH STATISTICS 1952-2013  
SOURCE - CONON DSFB

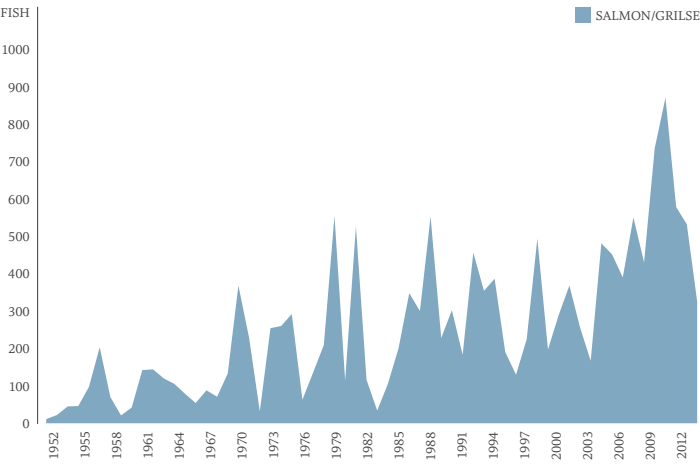
# Alness

Roger Dowsett - Novar Fishings Manager

The Alness had no significant rise in level from mid-May until mid-September – a total of 115 days – so the vast majority of fish were caught in late September and October, once water levels had improved. Most of the ‘fresh’ fish caught were coloured, suggesting that they had been waiting in the Cromarty Firth or the lower river for some time. It was difficult to assess stocks, as runs were concentrated into such a short window, but numbers of both grilse and salmon appeared poor. Major engineering repairs were carried out on the Dalmore distillery weir, starting in mid-August, which necessitated intermittent closure of the fish pass – a move that many fisheries stakeholders felt was poorly timed. There remains no salmonid access to the Allt na Seasgaic, historically one of the most important spawning burns on the entire system, due to a poorly designed road culvert. As a contingency measure to easing this barrier, which depends on fruitful negotiations with HRC Highways Dept, a small broodstock programme has started, with the aim of stocking the burn with fry each spring.

	2013 total	pre Jun 1	post Jun 1	Total nets	5yr average	Release rate	Largest fish
Salmon	316	11	305	n/a	608	100%/69%*	16lb
Sea Trout	51	n/a	n/a	n/a	72	90%	2.5lb

Season dates: 10 Feb – 31 Oct. \* spring / summer/autumn



ALNESS ROD CATCH STATISTICS 1952-2013  
SOURCE - CROMARTY DSFB

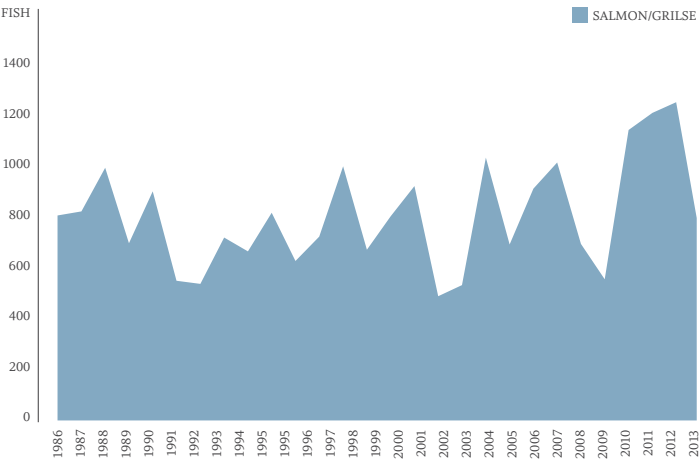
# Carron (east coast)

Nicky Griffiths - Kyle of Sutherland DSFB

Overall the year proved to be way below average, although the lower beats saw some of the best fishing they have had for many years. One good outcome of the prolonged dry summer meant that fish were able to ascend the Glencalvie Falls from the end of May to the beginning of September, which is not something we see very often. 40 redds were recorded at Glen Mhor in the vicinity of Deanich Lodge and several more below the suspension bridge. After almost a decade of negotiations between Kyle DSFB and SSE, SEPA regrettably had to inform Carron proprietors that there is no cost-effective way of modifying the Glen Beag dam, which prevents migrating fish from accessing one third of the river above Glen Mhor. Although this was a great disappointment it was agreed to focus attention on what else can be done to improve conditions in the fishery.

	2013 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	784	420	364	n/a	973	96%/90%*	26lb
Sea Trout	98	n/a	n/a	n/a	75	96%	n/a

Season dates: 11 Jan – 30 Sep. \* spring / summer/autumn



CARRON ROD CATCH STATISTICS 1986-2013  
SOURCE - KYLE DSFB



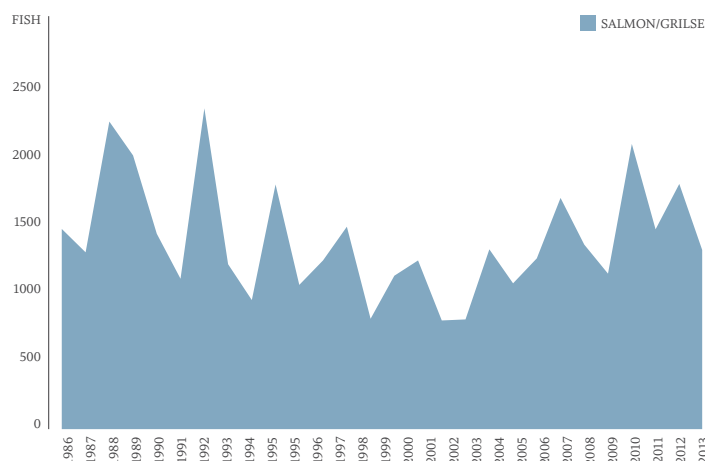
# Oykel

Richard Sankey - Kyle of Sutherland DSFB

The cold spring resulted in a slow start but when the Kyle of Sutherland fisheries did eventually get going the spring fishing was very good. In common with much of the far north the hot and dry summer weather made fishing extremely difficult and often impossible. Despite this the overall catches for the catchment were broadly in line with long-term averages. The Oykel's spring run appeared later than normal, no doubt due to the cold spring, and it suffered from a poor grilse run too, although the fishing did benefit from some occasional rain in July, and then picked up as the river rose with greater frequency from mid-August onwards. Meanwhile the Kyle of Sutherland Angling Association reported good fishing in June, with decent numbers of MSW fish, although grilse runs appeared relatively weak, with many of the fish in the 2-3lb range and in poor condition. Fish around the 6lb mark and above appeared to be in good condition, however, as did most of the 581 finnock and sea trout caught by the Association. The hot weather probably impinged on the AA's catches, with only 94 salmon caught, despite the fact that dry weather usually favours this fishery.

	2013 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	1,306	252	1,054	n/a	n/a	99%/93%*	26lb
Sea Trout	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Season dates: 11 Jan – 30 Sep. \* spring / summer/autumn



OYKEL ROD CATCH STATISTICS 1986-2013

SOURCE - KYLE DSFB

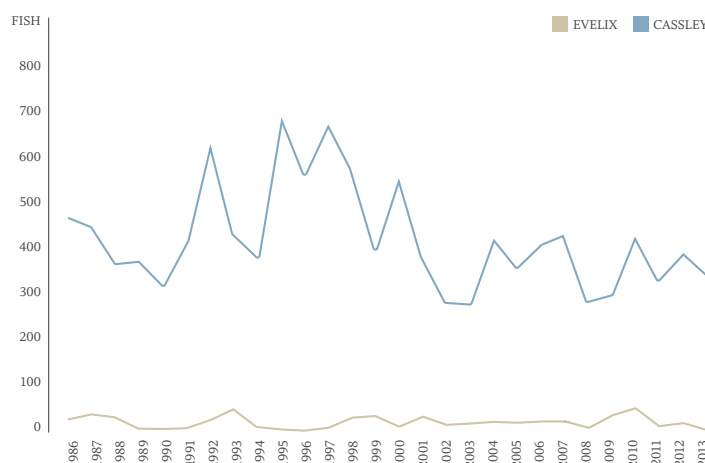
# Evelix & Cassley

Anthony Fraser & Michael Hasson - Kyle of Sutherland DSFB

2013 was a write-off on the Evelix, due to the river failing to rise more than 5 inches between April and September. Conditions in July-September, when our main run begins, were desperately dry. 2012 was not dissimilar, but had a little rain in the autumn, so we caught 7 fish in the regular season and 63 under special license in October. Clearly in 2013, all the autumn fish must have run after the end of the season. In addition to our very low water, Scottish Water continued to extract water from Loch Laoigh and Loch Lannsaigh, and applied to reduce their compensation flow in September. With a growing population in Dornoch, which now has over 2,500 homes, abstraction levels are rising and the river cannot continue to support this, especially in dry summers. The Cassley also suffered from the same problems, and the effects of the dry summer were exacerbated by water extraction by Scottish and Southern Energy, and these combined to make for a late run of fish.

	2013 total	pre Jun 1	post Jun 1	total nets	10yr average	Release rate	Largest fish
Salmon	324	116	208	n/a	308	94% / 91%*	15lb
Sea Trout	14	n/a	n/a	n/a	13	100%	3lb

Season dates: 11 Jan – 30 Sep. \*spring / summer/autumn



EVELIX & CASSLEY ROD CATCH STATISTICS 1986-2013

SOURCE - KYLE DSFB

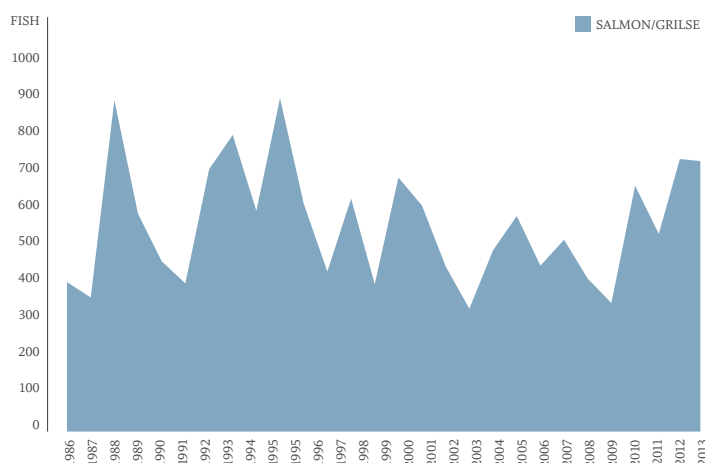
# Shin

Robbie Douglas Miller - Chairman, Kyle of Sutherland DSFB

In contrast to virtually all rivers in Scotland, and certainly in contrast to all the other fisheries in the District, the Shin benefitted from exceptionally high water flows for much of the spring and early summer, due to major engineering works on the hydro. These resulted in radically increased river flows throughout 2013 and, as a result, catches were some of the best since the hydro was installed in the 1950s.

	2013 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	733	103	630	n/a	501	100%/97%*	38lb
Sea Trout	3	n/a	n/a	n/a	n/a	n/a	n/a

Season dates: 11 Jan – 30 Sep. \* spring / summer/autumn



SHIN ROD CATCH STATISTICS 1986-2013

SOURCE - KYLE DSFB

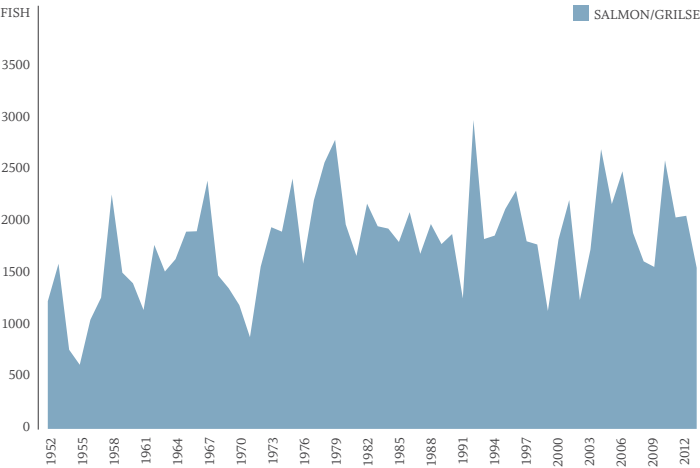
# Helmsdale

Michael Wigan - *Fishery Manager, Helmsdale DSFB*

There were steady catches throughout the season, with no real lulls apart from in April, and the season was also characterised by the appearance of heavier salmon than has been usual in recent years. Perhaps the greatest concern was the appearance of a number of escapees from fish farms, with at least three caught during the season and 6 more at broodstock capture, which will damage the native population should they hybridise. On a more encouraging note the overall release rate was higher than that set for the season.

	2013 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	1,521	478	1,043	n/a	1,930	86%/87%*	26lb
Sea Trout	n/a	n/a	n/a	n/a	n/a	n/a	7lb

Season dates: 11 Jan – 31 Oct



HELMSDALE ROD CATCH STATISTICS 1952-2013  
SOURCE - HELMSDALE DSFB

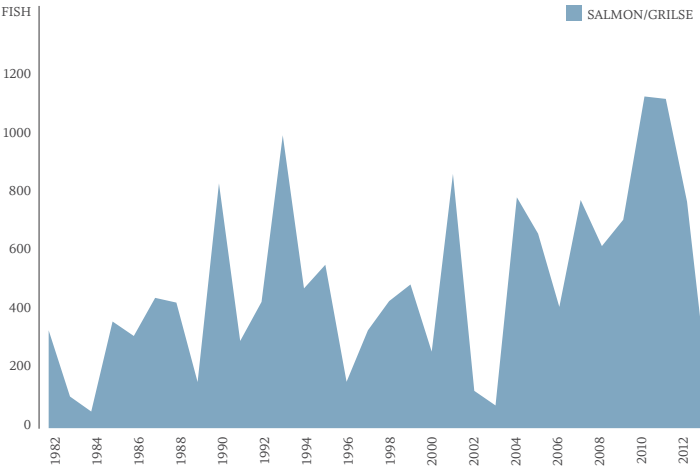
# Wick

John Mackay - *Secretary, Wick Angling Club*

We suffered from a prolonged drought throughout the season and, as a consequence, recorded our lowest catch in over 10 years. The bulk of our catch came from the lower reaches, when the fish came up with the tide. However, at spawning time there was a good stock of fish on the redds.

	2013 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	322	23	299	n/a	736	13% / 43%*	13.5lb
Sea Trout	8	n/a	n/a	n/a	n/a	n/a	3.5lb

Season dates: 11 Feb – 31 Oct. \*spring / summer/autumn



WICK ROD CATCH STATISTICS 1982-2013  
SOURCE - RIVER WICK

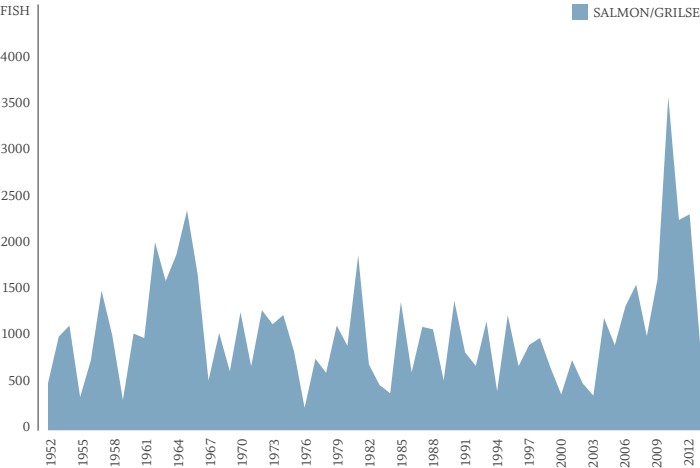
# Thurso

Eddie McCarthy - *Thurso River Manager*

For much of the year low water conditions prevailed, but when there was a slight rise in river levels there always seemed to be fish available to access the river. In very low water conditions in July and August anglers amused themselves by watching the thousands of fish gathered in the estuary. With fish unable to access the river it was difficult to assess when the grilse actually arrived in numbers but there were fish identified in the estuary from mid-June onward. Complete catch and release was practised until June 15th, thereafter, anglers were allowed to keep two fish under 8lb per week. The bag-net station at Dunnet Bay was bought out by Thurso River Ltd and they are also very active in trying to buy another netting station in the area.

	2013 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	948	282	666	n/a	1,593	100%/88%*	28lb
Sea Trout	103	n/a	n/a	n/a	47	50%	9.5lb

Season dates: 11 Jan – 31 Oct. \* spring / summer/autumn



THURSO ROD CATCH STATISTICS 1952-2013  
SOURCE - THURSO RIVER MANAGEMENT

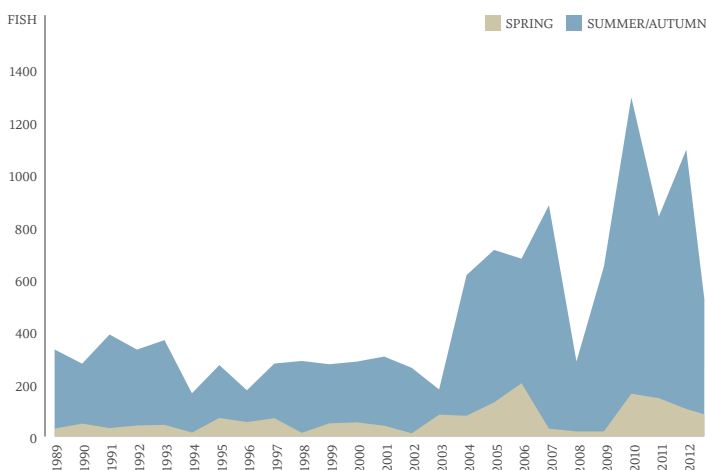
# Halladale

John Salkeld - *Halladale Partnership*

The extremely low water from mid-June to the end of the season, coupled with poor runs of fish, resulted in a disappointing year, although it was much better than 2003 and 2008 – years when conditions were similar – and most fish were in reasonable condition. As mentioned in last year's report, the extraction of almost 1 million tonnes of timber from the east of the catchment will occur over the next decade and, in addition, the RSPB will be felling a large area of conifers in the west catchment, alongside the Dyke tributary, in order to return the area to flow country bog. Limiting damage to key spawning areas from these large scale operations will be a major challenge. The catch and release code is now mandatory, with targets for returns of 90% for spring fish and 80% overall and all fish over 8lb must be returned. Major progress was made towards the spring fish target, with the return rate increasing from 69% to 85%, and the overall return target of 80% was achieved. The 2013 spawning appeared disappointing, although high water made counting redds difficult.

	2013 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	526	64	462	n/a	782	85%/78%*	20lb
Sea Trout	2	n/a	n/a	n/a	3	n/a	n/a

Season dates: 12 Jan – 30 Sep. \* spring / summer/autumn



HALLADALE ROD CATCH STATISTICS 1989-2013

SOURCE - HALLADALE PARTNERSHIP

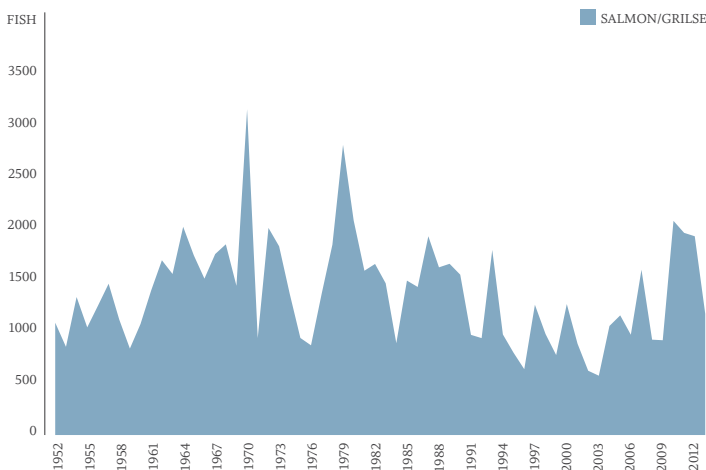
# Naver

Richard Wright - *Interim Head Bailiff, River Naver Fisheries*

The total number of salmon and grilse recorded was the lowest in the past three seasons, with catches amounting to 657 MSW salmon and 387 grilse. A total of 333 fish were recorded up to 1st June, compared to 154 for the same period in 2012. The 2011 season recorded the highest spring fish numbers over the past five years, with 341 spring salmon being recorded. Although fish numbers overall were lower throughout the season, the spring run was encouraging, and a total of 93% of spring fish were returned. Water levels dropped significantly in the early summer, to the lowest levels recorded in the 36 years since the SEPA gauging station was installed at Apigil, making summer salmon and grilse scarce, although there were still fish entering the system throughout the summer. In mid-September, river levels rose and catches picked up again, but this proved to be too little, too late.

	2012 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	1,044	333	711	n/a	1,261	93%/88%*	26.5lb
Sea Trout	279	n/a	n/a	n/a	n/a	n/a	5lb

Season dates: 12 Jan – 30 Sep. \* spring / summer/autumn



NAVER ROD CATCH STATISTICS 1952-2012

SOURCE - NAVER MANAGEMENT

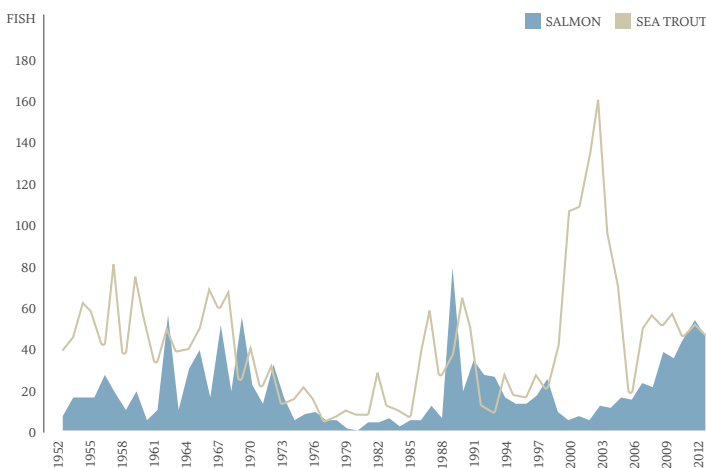
# Polla

Charles Marsham - *Chairman, North and West Sutherland Board and Trust*

2013 was a very unremarkable year on the Polla, with the only real deviation from normal being its slow start, due to the low water levels in June and July. Salmon numbers seem to be increasing nonetheless, with the 10-year average creeping up year-on-year since the turn of the century, while sea trout numbers have been relatively stable since 2006.

	2013 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	45	0	45	n/a	27	70%	n/a
Sea Trout	49	n/a	45	n/a	48	70%	n/a

Season dates: 1 Jun – 30 Sep



POLLA ROD CATCH STATISTICS 1952-2013

SOURCE - NORTH AND WEST SUTHERLAND DSFB



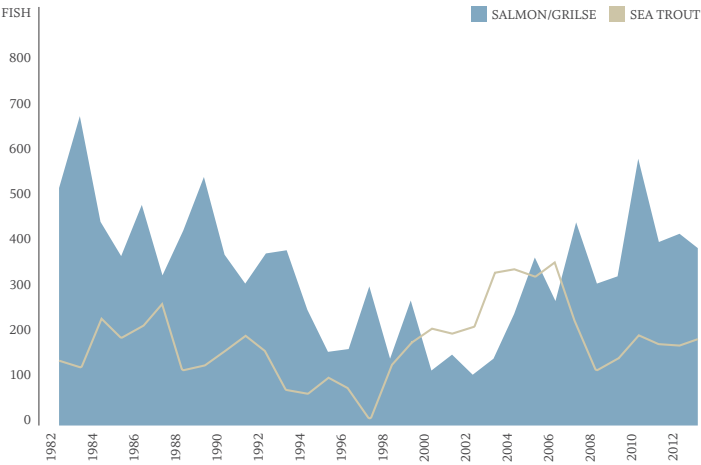
# Dionard

Jim Allingham - North and West DSFB

Salmon and grilse arrived later than usual, which seems to be a definite trend in the last 30 years, and fresh fish were seen moving up the river at the end of October. Although the catch was down on the 5-year average, it was bang on the 10-year average, and given the dry summer and the poor performance of some neighbouring rivers it was a fairly decent season – which we believe may have been helped by the catch and release policy that has been adopted on the river over the last 10 years.

	2013 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	376	1	375	n/a	376	100%/88%*	20lb
Sea Trout	186	n/a	n/a	n/a	220	95%	6lb

Season dates: 11 Feb – 31 Oct. \* spring / summer/autumn



DIONARD ROD CATCH STATISTICS 1982-2013  
SOURCE - NORTH AND WEST DSFB

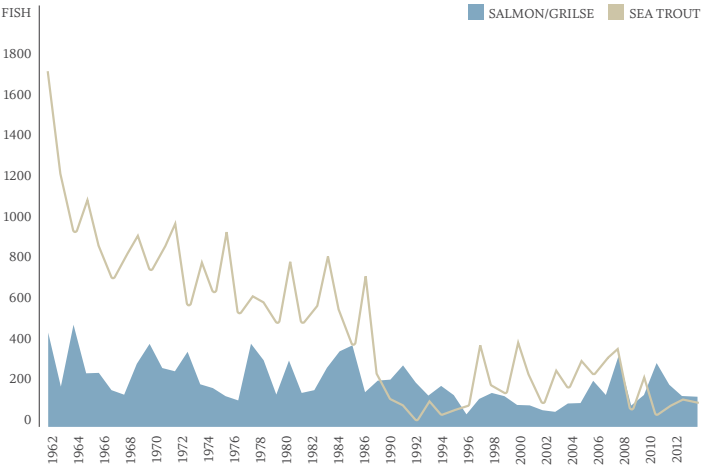
# Laxford

Shona Marshall - Biologist, West Sutherland Fisheries Trust and Reay Forest Estate

It was a disappointing season, with low numbers of both salmon and grilse, while sea trout catches were also poor. There seems to have been a shift back to a preponderance of grilse, with their proportion in the catch being higher than seen recently. The bulk of the fish were caught slightly later in the season than usual, mainly in September as opposed to the more normal August run. In a bid to improve the habitat, there is ongoing change from non-native conifer woods to indigenous woodland around riparian water. The effects of a large spate in one of the main salmon spawning burns 7 or 8 years ago may still be apparent in the population. Changes in the riparian zone of several of the sea trout spawning burns, with growth becoming extreme, may also be having a negative effect.

	2013 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	148	4	144	n/a	195	50%/81%*	20lb
Sea Trout	115	n/a	n/a	n/a	208	100%	2lb

Season dates: 11 Feb – 31 Oct. \* spring / summer/autumn



LAXFORD ROD CATCH STATISTICS 1962-2013  
SOURCE - WEST SUTHERLAND FISHERIES TRUST

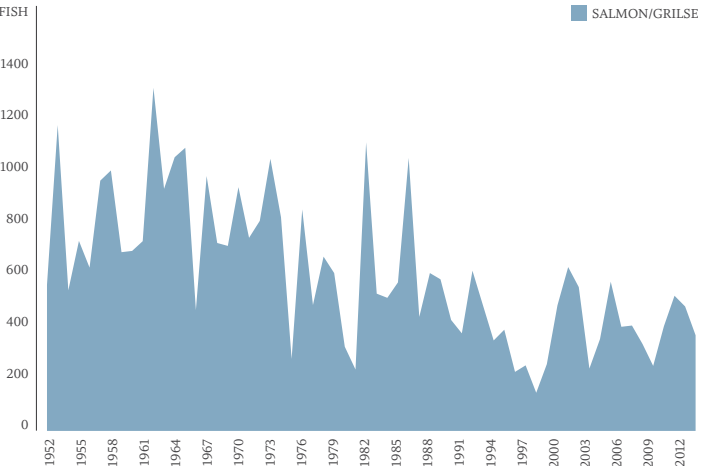
# Grimersta

Simon Scott - Manager, Grimersta Estate

It was a reasonable season, although we think the rod catch did not reflect the run of fish – several weeks of consistent high pressure and very high water temperatures meant that, while plenty of fish were in evidence, catching them was a challenge. Sea trout returns continue to recover, which is encouraging. The Management Plan for the Langavat SAC has now been published. This includes a Code of Good Practice for fishing throughout the catchment and provides a framework to inform future fisheries management planning.

	2013 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	362	4	358	n/a	406	100%/80%*	15lb
Sea Trout	301	n/a	n/a	n/a	188	100%	3lb

Season dates: 3 Jun – 15 Oct. \* spring / summer/autumn



GRIMERSTA ROD CATCH STATISTICS 1952-2013  
SOURCE - WESTERN ISLES DSFB

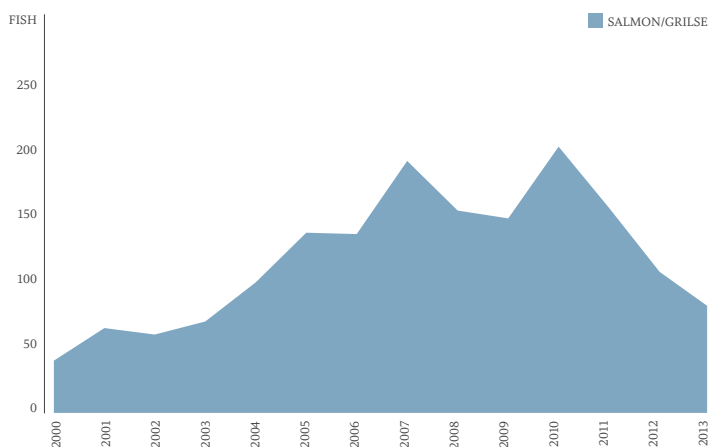
# Snizort

Derek Dowsett - *Snizort River Manager*

The 2012 season on Skye was one of the driest in recorded memory, but in many ways 2013 was even worse – although the frequency of rainfall was a little higher than in 2012 the low volumes of water produced 25% fewer spates. This was reflected by a similar percentage drop in the number of anglers attending the river and the number of salmon and sea trout caught. The average weight of salmon compared with 2012 fell by about 0.5lb, but the average weight of grilse remained the same. Average weight of sea trout improved slightly. A catch and release policy for salmon and sea trout has been in operation for 10 years.

	2013 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	82	0	82	n/a	120	n/a%/99%*	11lb
Sea Trout	52	n/a	n/a	n/a	65	95%	3lb

Season dates: 11 Feb – 15 Oct. \* spring / summer/autumn



SNIZORT ROD CATCH STATISTICS 2000-2013

SOURCE - SKYE DSFB

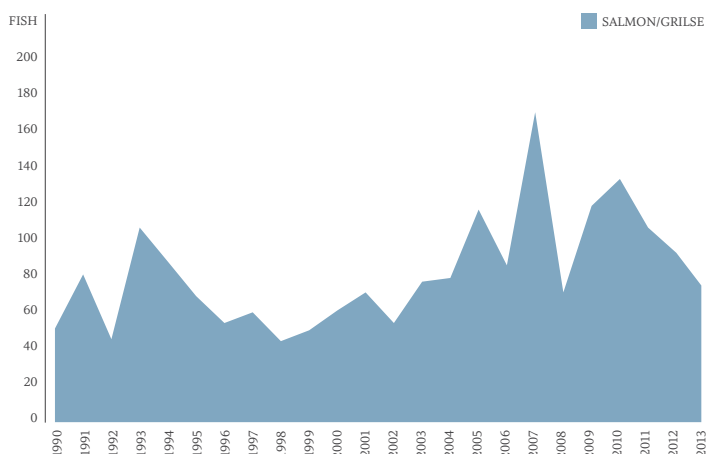
# Little Gruinard

Brian Fraser - *Manager, Eilean Darach Estates*

We had no water at the beginning of the season and, even when the rain did arrive, there were fewer fish seen than in previous years, making for a very hard year. Although there are good stocks of young fish in the river the problems seem to be in the sea and it is well documented that Wester Ross has a major problem with sea lice from the fish farms in the area – with lice numbers on the farms around Little Loch Broom and Loch Broom up to 12 times above levels suggested by the Scottish Salmon Producers' Organisation's Code of Good Practice. The Little Gruinard has been 100% catch and release for over 20 years and we no longer exercise our right to the nettings along the coast. The last netsman told me that, when they first started netting here, they had no idea what they were doing and yet caught over 3,000 fish for the year. Just about that time Ardesie salmon farm started in Little Loch Broom and, within 10 years, the netsmen struggled to catch 300 fish for the year and closed the netting station.

	2013 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	72	0	72	n/a	97	100%	14lb
Sea Trout	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Season dates: 11 Feb – 31 Oct.



LITTLE GRUINARD ROD CATCH STATISTICS 1990-2013

SOURCE - LITTLE GRUINARD MANAGEMENT

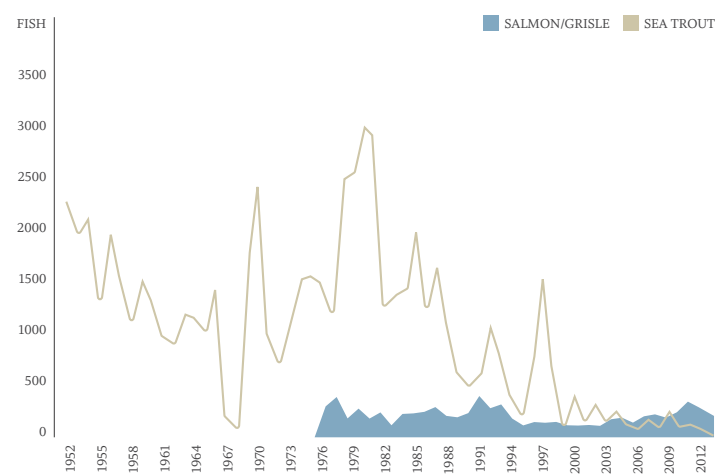
# Ewe and Loch Maree

Peter Cunningham - *Biologist, Wester Ross Fisheries Trust*

For salmon, the season was average compared to recent years, with fish being caught each week between June and the end of the season. However, the sea trout fishing was very poor; although over 220 finnock were recorded on the River Ewe, only 4 sea trout were taken here despite much fishing effort, and the most productive spot was at the head of Loch Maree. Loch Maree Hotel beats were lightly fished, but it is hoped that, since the hotel re-opened in 2013, this fishery will be revitalised. WRFT recorded modest sea lice levels on post-smolt sea trout in Loch Ewe in June, but lice levels were very much higher on samples taken at Dundonnell and in the Kanaid estuary early in the summer, reflecting lice levels far above CoGP treatment thresholds on salmon farms nearby. There was little feeding early in the year in Loch Ewe. Post-finnock and older sea trout venturing out of Loch Ewe in search of food may have been exposed to particularly high lice levels and other problems associated with a lack of food early in the summer. The proposed Northwest Sealochs and Summer Isles MPA may help to restore marine ecosystems and a higher productivity of food fish within the inshore environment. Meanwhile, the Bruachaig salmon restoration project, which has involved stocking 8-30,000 salmon fry per year since 2008 is currently being reviewed with the aim of identifying a long term solution to restoring a wild salmon population in this part of the catchment.

	2013 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	216	8	208	n/a	218	100%/91%*	20lb
Sea Trout	20	n/a	n/a	n/a	127	100%	2.5lb

Season dates: 11 Feb – 31 Oct. \* spring / summer/autumn



RIVER EWE ROD CATCH STATISTICS 1978-2013

LOCH MAREE ROD CATCH STATISTICS 1952-2013

SOURCE - WESTER ROSS FISHERIES TRUST

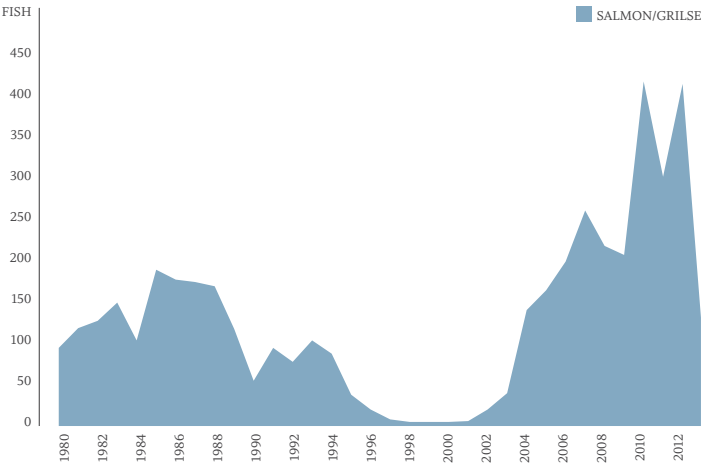
# Carron (Wester Ross)

Bob Kindness - Carron River Manager

Putting the season into context, it was poor when compared with recent exceptional returns but reasonable in terms of historical figures. Some excellent spring fish arrived in May and then the river dried up. Significant numbers of salmon, grilse and sea trout appeared in the sea pools in July but, with no water in the river, they simply disappeared – either back out to sea or up into Loch Dughaill during the night. Salmon numbers overall held up reasonably well, but grilse were almost non-existent. Sea trout, especially finnock, were evident in the sea pools in good numbers during August and were in excellent condition. The main concern for the Carron is the mobility of spawning gravels during winter spates and the potential for redd washout. This current winter has been particularly wet and it is highly likely that eggs will have been lost. Fortunately, by taking in broodstock and then stocking out the resultant fry, this problem can be alleviated. Simply allowing fish to spawn naturally may not result in the required smolt output. Another problem is the effect of bird predation – a significant number of smolts caught in the river’s screw trap have shown signs of bird damage.

	2013 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	130	12	118	n/a	246	100%/91%*	18lb
Sea Trout	60	n/a	n/a	n/a	120	100%	3lb

Season dates: 11 Feb – 31 Oct. \* spring / summer/autumn



CARRON (W.COAST) ROD CATCH 1980-2013  
SOURCE - RIVER CARRON MANAGEMENT

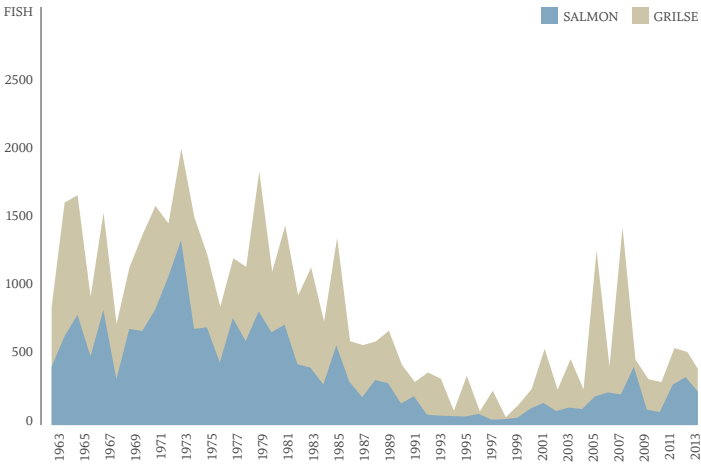
# Lochy

John Veitch - Lochy River Manager

2013 saw catches down by almost 10% on the 5-year average and over 30% down on the 10-year average – simply due to the downturn in grilse numbers over these periods. Conversely, MSW salmon figures have increased over the same timescale by roughly the same percentage, although the 2013 catches were hampered by poor fishing conditions during the months when the MSW fish enter the river. We know marine survival is at a low point, but is it just a natural cycle or are other environmental impacts having devastating effects? I think the answer is somewhere in-between. 2013 saw little or no rainfall from mid-May through July which, combined with an unseasonably dry spring, saw river levels remain extremely low for many weeks during peak time. Loch temperatures reached all-time highs, resulting in river temperatures remaining well above normal for most of the season. This resulted in poor catches, as the salmon sought refuge in the cooler, deeper sections of the catchment.

	2013 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	390	17	373	n/a	599	100%/93%*	28lb
Sea Trout	130	n/a	n/a	n/a	120	100%	6lb

Season dates: 15 May – 15 Oct. \* spring / summer/autumn



LOCHY ROD CATCH STATISTICS 1963-2013  
SOURCE - LOCHY ASSOCIATION

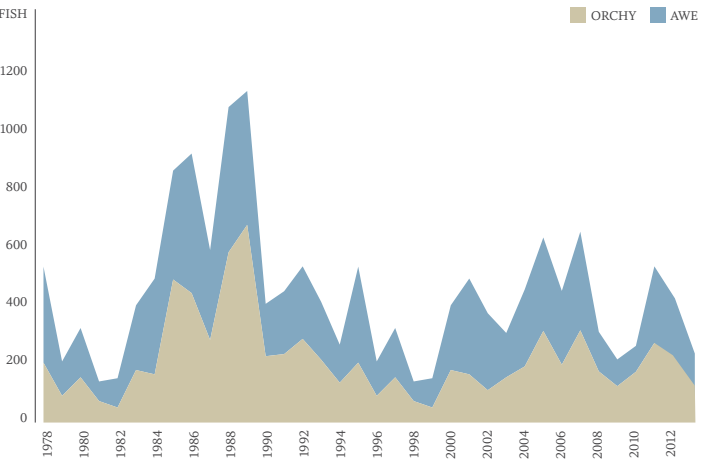
# Awe and Orchy

Roger Brook - Chairman, Argyll DSFB

The total catch of 262 salmon and grilse was 38% down on the previous year (422). It is interesting to compare two rivers fishing the same run of fish. The Awe has an artificial flow of compensation water from the hydro dam and its catches, down 29%, were slightly up as a proportion of the run. The Orchy has a natural flow and was severely affected by the low water and poor fishing conditions up to September. Orchy catches were down 45%. This was the second season of altered flow rates on the hydro-electric controlled Awe. The flow was changed to a more natural system, which favours the spawning of fish rather than to provide perfect angling conditions. Early signs are that there is a significant increase in juvenile salmon and no effect on the angling. All fish over 6lb go back throughout the season and there are limits in place on the number of small fish that can be taken.

	2013 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	262	28	234	n/a	420	100%/90%*	n/a
Sea Trout	5	n/a	n/a	n/a	n/a	n/a	n/a

Season dates: 11 Feb – 15 Oct. \*spring / summer/autumn.



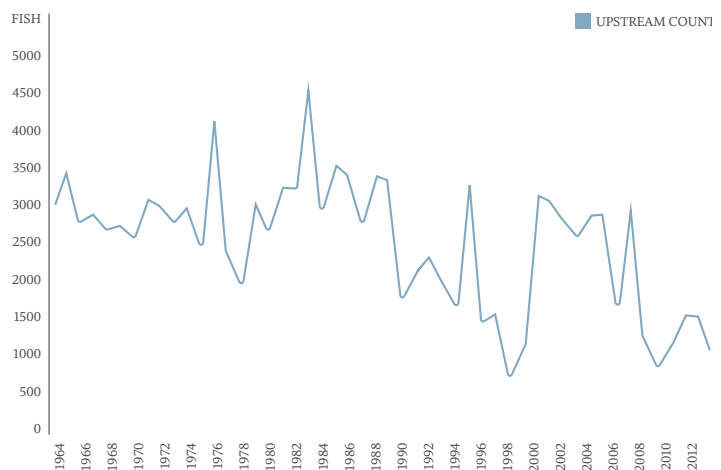
AWE & ORCHY ROD CATCH STATISTICS 1978-2013  
SOURCE - ARGYLL DSFB



# Awe counter

Roger Brook - *Chairman, Argyll DSFB*

The total run of fish as recorded on the Awe fish counter was 1066, which is down 32% on the previous year (1565) and down 17% on the 5-year average. The timing and profile of the run returned to normal after an anomaly last year.



AWE BARRAGE UPSTREAM COUNT 1964-2013  
SOURCE - SCOTTISH AND SOUTHERN ENERGY

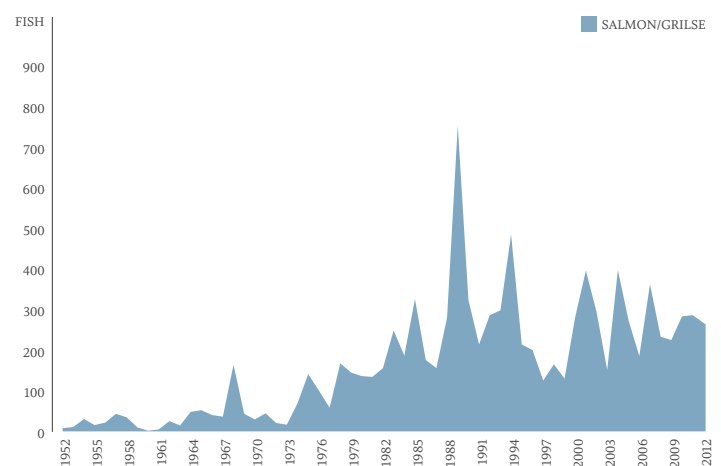
# Irvine and Garnock

Stuart Brabbs - *Ayrshire Rivers Trust*

The 2013 catch returns were not available at the time of writing, but the Irvine appeared to hold up well by comparison to other rivers in the District. From August onwards, regular rainfall improved conditions and reports indicate that some beats performed very well. With water levels holding up until the end of the season, catches remained steady, although the middle and upper beats appear to have fished better than the lower reaches, the Annick Water or the Garnock. The Blackrocks Waterfall fish passes are working well and salmon are regularly observed upstream. In the coming months, East Ayrshire Council will commence work to replace the Dean Ford (aka Lauder Ford), a short distance upstream of Black Rocks, with a new 4-section box culvert with fish pass, easing the catchment's last major obstacle and opening up many kilometres of good habitat. Poaching remains a problem but the bailiff force has again increased in numbers and commitment and is regularly patrolling the length of the river with success. The new Kilmarnock AC hatchery at Dean Castle Park is now operational and, all going well, will soon be stocking key areas. Improvements to Scottish Water's sewage systems in the Kilmarnock area are now complete and the water quality should improve.

	2012 total	total nets	10yr average	Release rate	Largest fish
Salmon	267	n/a	270	49%	n/a
Sea Trout	82	n/a	n/a	39%	n/a

Season dates: 15 Mar – 15 Nov



IRVINE/GARNOCK - ROD CATCH STATISTICS 1952-2012  
SOURCE - AYRSHIRE RIVERS TRUST

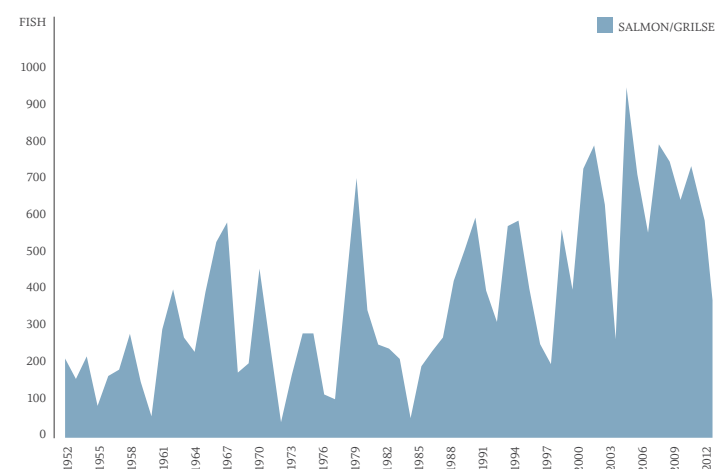
# Ayr

Stuart Brabbs - *Ayrshire Rivers Trust*

At the time of writing 2013 catch data were not available. The appearance of a number of early fish raised expectations of a great season, but these disappeared when water levels dropped and temperatures rose, from late June well into July. Several salmon were reported covered in fungus but, fortunately, this seemed to disappear when the river came into spate. Despite the conditions, catches were disappointing – at 53.1% of the 10-year average, with MSW fish and sea trout particularly scarce. Open-cast mining and intensive dairy production are features of both the Ayr and the Lugar Water and, with the recent collapse of two coal companies, the impact of these abandoned mines is a concern. Meanwhile SEPA continues to target diffuse pollution within the catchment in order to improve water quality by 2015. Long overdue improvements to the Catrine fish pass have commenced as part of Catrine Community Trust's hydro development and it will be interesting to see how things improve as a result. The DSFB has recommended catch limits of 3 salmon per angler per beat per season in order to conserve fish stocks, although individual clubs still set their own rules and catch limits. A new bailiff force has been active and several convictions have been secured, with more prosecutions pending.

	2012 total	total nets	10yr average	Release rate	Largest fish
Salmon	347	n/a	653	41%	19lb
Sea Trout	48	n/a	n/a	90%	n/a

Season dates: 15 Feb – 31 Oct.



AYR ROD CATCH STATISTICS 1952-2013  
SOURCE - AYRSHIRE RIVERS TRUST

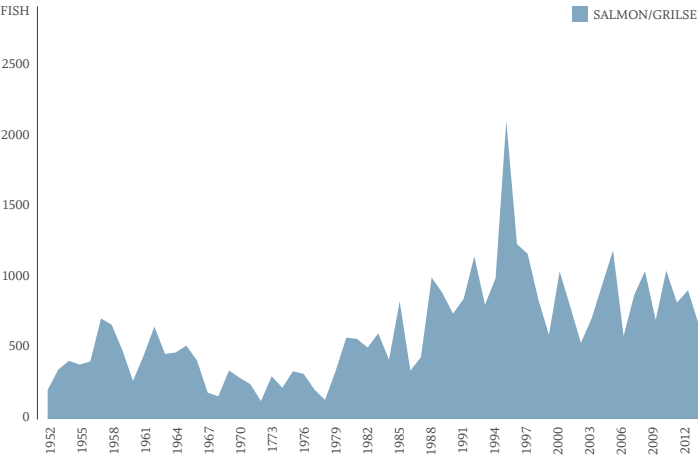
# Doon

Stuart Brabbs - Ayrshire Rivers Trust

Low water levels and warm weather made fishing conditions difficult for most of the season. Across Ayrshire, as water temperatures rose, we received a few reports of UDN but thankfully the Doon seemed to miss this, probably due to the cooler water from Loch Doon Dam. When rain fell in August catches improved, but by then everyone was complaining about the lack of fish, and September came and went without any startling catches. Smithston Beat in the upper river had its best October for several years and there was plenty of water late in the season, but most beats continued to struggle. By the end of the season, 2013 was being written off as a disaster but, on collating the catch statistics, it seems the Doon fared rather better than other local rivers. Sea trout catches were extremely disappointing, but few anglers venture out at night and there may be many more sea trout in the river than people realise. Pollution from agriculture and industry continue to affect the Doon and stocks in certain spawning burns are depressed, although juvenile production in the main stem is excellent.

	2013 total	total nets	10yr average	Release rate	Largest fish
Salmon	603	n/a	875	54%	20lb
Sea Trout	18	n/a	n/a	72%	n/a

Season dates: 25 Feb – 31 Oct



DOON ROD CATCH STATISTICS 1952-2013

SOURCE - AYRSHIRE RIVERS TRUST

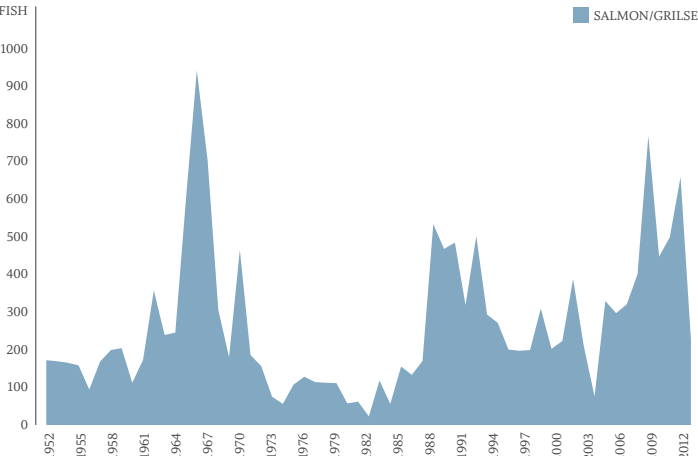
# Girvan

Stuart Brabbs - Ayrshire Rivers Trust

At the time of writing 2013 catch data were not available. The Girvan often produces the first Ayrshire salmon of the season and 2013 was no exception, with four springers reported from the middle reaches as early as March. Expectations were high, but dropped with water levels as the summer wore on. A recurring siltation problem ruined fishing conditions from the middle river downstream until the source was pinpointed to a farm near Maybole, frustrating anglers every time there was heavy rain until improvements were enforced. Grilse dominated the catch, with few MSW fish featuring, and sea trout catches proved very poor too. Angling pressure was reduced, due in part to the silt problem and in part to the lack of water. The DSFB encourages catch and release for salmon and sea trout and the salmon rate, at 75%, was the highest ever figure for an Ayrshire river.

	2012 total	total nets	10yr average	Release rate	Largest fish
Salmon	212	n/a	426	75%	n/a
Sea Trout	87	n/a	n/a	96%	n/a

Season dates: 25 Feb – 31 Oct.



GIRVAN ROD CATCH STATISTICS 1952-2012

SOURCE - AYRSHIRE RIVERS TRUST

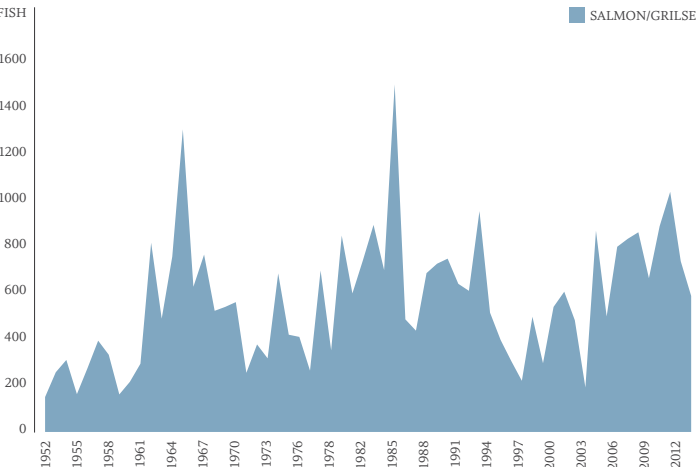
# Stinchar

Stuart Brabbs - Ayrshire Rivers Trust

The Stinchar is known as a late river but, given water, more than a handful of grilse are usually caught from late May onwards. However, low water meant few anglers were out and few fish were captured in June and July. With occasional lifts in river levels in August, a few grilse were caught and on 9th September the largest salmon in living memory was captured. Sadly this magnificent 36lb hen fish was killed, much to the annoyance of most anglers and DSFB members. A review of the Code of Practice followed and stricter guidance issued for the return of hen fish. The scales indicated that this fish had spawned previously, so hopefully its exceptional genes will continue to populate the river for years to come. For the remainder of the season there were plenty of fish in the river but few showed any interest and the final tally was the worst recorded since 2003. The Stinchar Valley has a very low population density and limited agricultural pressures, but several burns contribute to siltation in high waters and the Board is looking at ways of improving this situation. The Board is also aiming to achieve a release rate of at least 65% for salmon and 100% for sea trout but, although many beats achieve these targets, a few consistently kill more than they release.

	2013 total	total nets	10yr average	Release rate	Largest fish
Salmon	562	n/a	769	66%	36lb
Sea Trout	94	n/a	n/a	99%	4lb

Season dates: 25 Feb – 31 Oct



STINCHAR ROD CATCH STATISTICS 1952-2013

SOURCE - AYRSHIRE RIVERS TRUST

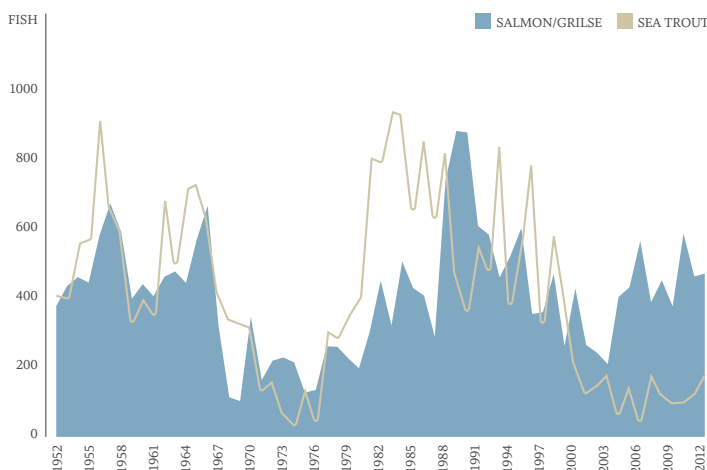
# Cree

Terence Flanagan – *Chairman, Cree DSFB*

Although full catch returns are not to hand at the time of writing, it seems that the 2013 season was the worst on record in terms of fish caught – when the rains eventually arrived the fish did not appear in their expected numbers. Indeed, one of the most prolific beats on the river reported a salmon and grilse catch of less than half that in 2012, which was itself a poor year for that beat. On a brighter note, sea trout numbers seem to be on the increase. Problems associated with large scale conifer afforestation – in particular siltation and acidification – continue to cause concern. However, it is doubted whether these problems have suddenly exacerbated sufficiently to explain the reduction in numbers of fish, and suspicion turns to problems at sea. A programme of habitat improvements continues, including bankside clearance of invasive non-native plant species. The Board's Conservation Code calls for all salmon caught before 1st June to be returned. No fixed engines operated on the Cree during the 2013 season, but three net and coble fisheries were active.

	2012 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	475	11	464	36	n/a	90%/41%*	20lb
Sea Trout	193	n/a	n/a	n/a	n/a	84%	n/a

Season dates: 1 Mar – 14 Oct. \* spring / summer/autumn



CREE ROD CATCH STATISTICS 1952-2012

SOURCE - GALLOWAY FISHERIES TRUST

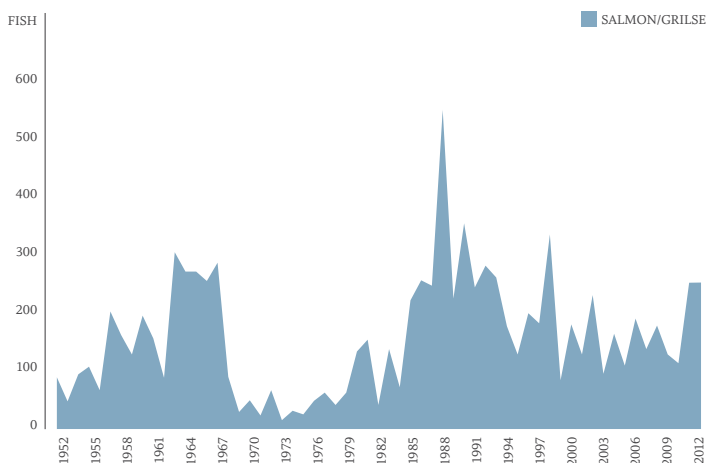
# Bladnoch

Galloway Fisheries Trust

At the time of writing 2013 catch data were not available. The 2013 season began very slowly, with the first spring fish not reported until April 10th. Things did improve in May but, overall, spring catches were very poor. Catches were sparse during the summer months – although the arrival of the first grilse by the end of June improved hopes, very low water and high temperatures throughout July meant that no catches were reported during the month. Thankfully, rain returned in August and fresh fish began to gather in the tidal stretch of the river. Conditions were most favourable during September, and from mid-month the river was fishing fairly well, with 14 salmon recorded on Clugston. In early October catches included a 16lb hen salmon on Mochrum Park and conditions improved again for the final two weeks, leading to reasonable catches on Clugston and Mochrum Park. Acidification of the headwaters continues to be a main limiting factor for salmon, but work continues to remove conifers from key acidified headwater tributaries. Recently some limited recovery of fish in the headwaters has been identified and this will continue to be monitored. A programme of habitat works continues on important spawning tributaries across the catchment.

	2012 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	249	6	243	n/a	160	100%/66%*	16lb
Sea Trout	1	n/a	n/a	n/a	2	n/a	n/a

Season dates: 11 Feb – 31 Oct. \*spring / summer/autumn.



BLADNOCH ROD CATCH STATISTICS 1952-2012

SOURCE - GALLOWAY FISHERIES TRUST

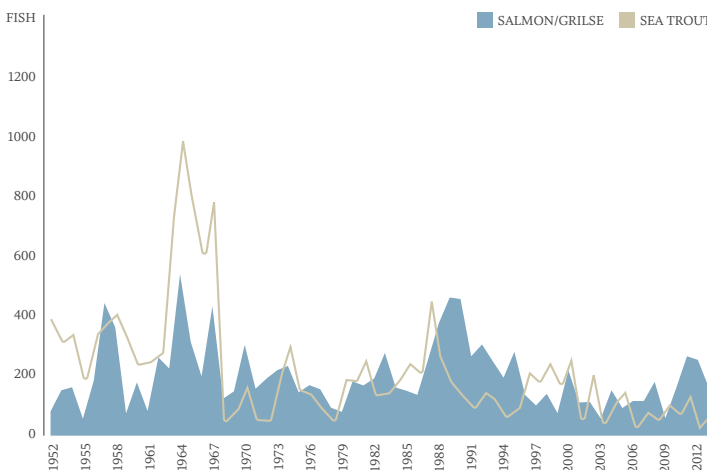
# Luce

Galloway Fisheries Trust

The river was on its bones for much of the summer sea trout run and, although a lot of fishing effort was put in on the lower beats of the main river, only 25 sea trout were recorded at this stage, and most sea trout catches came from the Cross Water of Luce from August onwards. Salmon trickled into the river from June onwards but there was no sport for these until better flows in August. In fact, the bulk of salmon catches were made during the week of 16th September, when 37 salmon were recorded, including one of 20lb. The tail-end of the season saw the river in perfect condition, but there were very few fish seen or caught. Overall, catches were very disappointing, with a noticeable lack of late running salmon. There remains some concern over acidification in the headwaters of the Cross Water of Luce. A barrier removal on a tributary of the Cross Water of Luce in 2012 has allowed sea trout to extend their range into the uppermost part of the catchment. Undertaking catch and release has improved, with over 60% of fish now being returned. All fish over 10lb must be returned and a bag limit has been set at two salmon per day or three per week.

	2013 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	146	0	146	n/a	153	68%	20lb
Sea Trout	68	n/a	n/a	n/a	101	75%	3.5lb

Season dates: 25 Feb – 31 Oct



LUCE ROD CATCH STATISTICS 1952-2013

SOURCE - GALLOWAY FISHERIES TRUST



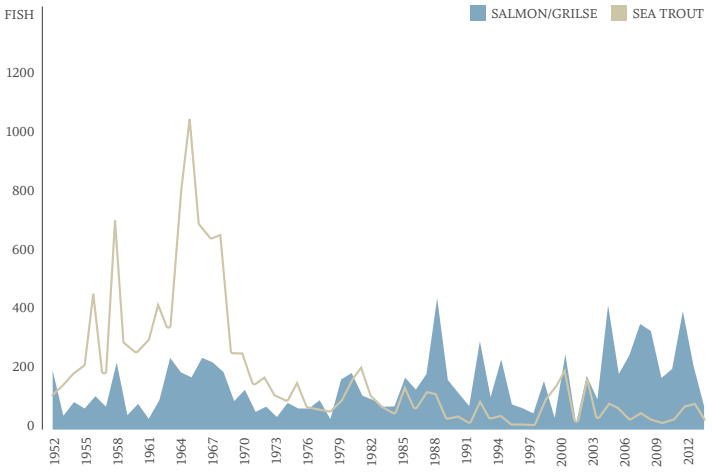
# Urr

Richard Bellamy - Secretary, Dalbeattie Angling Association  
Kenny Irving - Chairman, Castle Douglas Angling Association

The Dalbeattie and Castle Douglas beats on the lower Urr saw modest runs of summer salmon and grilse, but the autumn run basically failed to materialise. This mirrors the situation on most Solway rivers and it is worth noting that the final 2 months of the season, which used to account for 65-75% of the catches, now account for less than 30% of the annual total. Perhaps the river is now in a cycle of earlier running fish? Catches of salmon and grilse were down by around two-thirds compared to the 5- and 10-year averages. Numbers of sea trout and herling were also down a little, but this may be due to weather patterns rather than anything more sinister.

	2013 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	85	3	82	n/a	205	100%/70%*	21lb
Sea Trout	18	n/a	n/a	n/a	25	92%	2lb

Season dates: 25 Feb – 30 Nov. \*spring / summer/autumn



URR ROD CATCH STATISTICS 1952-2013  
SOURCE - GALLOWAY FISHERIES TRUST

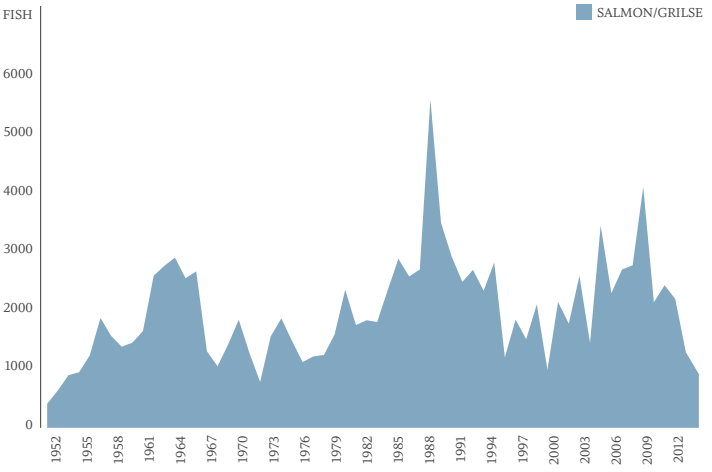
# Nith

Jim Henderson - Fishery Director, NDSFB

Although conditions were not conducive for angling, due to the warm summer and low flows, the salmon simply did not return to the river in expected numbers. The lower Burgh beat produced good catches, due to the low flows holding fish in that section of the river, but when the rains came in late summer the fish appeared to run straight through, resulting in low catches in the middle and upper beats. Large numbers of sea trout were visible during the summer but, unfortunately, the catch data does not reflect this, undoubtedly due in part to the decreased number of anglers, as individual anglers reported good catches of sea trout in the upper river. Both salmon and sea trout were present in reasonable numbers on the spawning beds prior to Christmas. Habitat improvement has continued, along with the control of invasive riparian species such as Japanese knotweed and giant hogweed. There is a general concern regarding the decrease in salmon and sea trout numbers and every effort is being made to encourage catch and release.

	2013 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	940	28	912	465	3,097	65%/59%*	22lb
Sea Trout	671	n/a	n/a	170	1,001	62%	14lb

Season dates: 25 Feb – 30 Nov. \*spring / summer/autumn



NITH ROD CATCH STATISTICS 1952-2013  
SOURCE - NITH DSFB

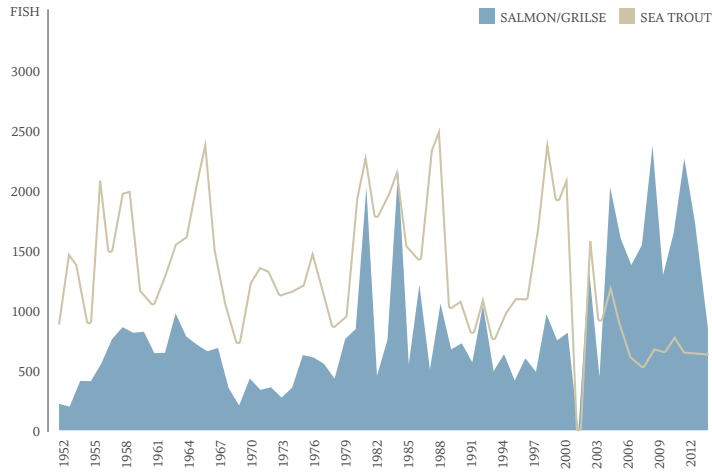
# Annan

Nick Chisholm - Director, Annan Board and Trust

The 2013 salmon run was the poorest since 2003. The run timing on the river has changed dramatically over the last few years, with summer and late summer fish becoming far more important than the traditional back-enders. Running conditions for fish were poor all summer but, even when conditions improved, comparatively few fish were caught and most of these were coloured. The sea trout run was once again poor, although there were optimistic feelings that the herling/finnock run was much improved on one fishery. Two fish passes have been constructed in 2013, which will open up 5-6 miles of good salmon habitat and 25-30 miles for sea trout. We have strengthened our community outreach work and have formed a partnership with a charity called APEX, which is delivering improved access to the river in many parts of the fishery. The depressed state of the sea trout stocks has been a concern for a number of years and has led to a public consultation about applying for a 100% catch and release regulation for sea trout across both the net and the rod and line fishery.

	2013 total	pre Jun 1	post Jun 1	Total nets	10yr average	Release rate	Largest fish
Salmon	882	48	834	828	1,665	100%/70%*	29lb
Sea Trout	624	n/a	n/a	1,236	726	83%	8lb

Season dates: 15 Feb – 15 (30) Nov. \* spring / summer/autumn



ANNAN ROD CATCH STATISTICS 1952-2013  
SOURCE - ANNAN DSFB

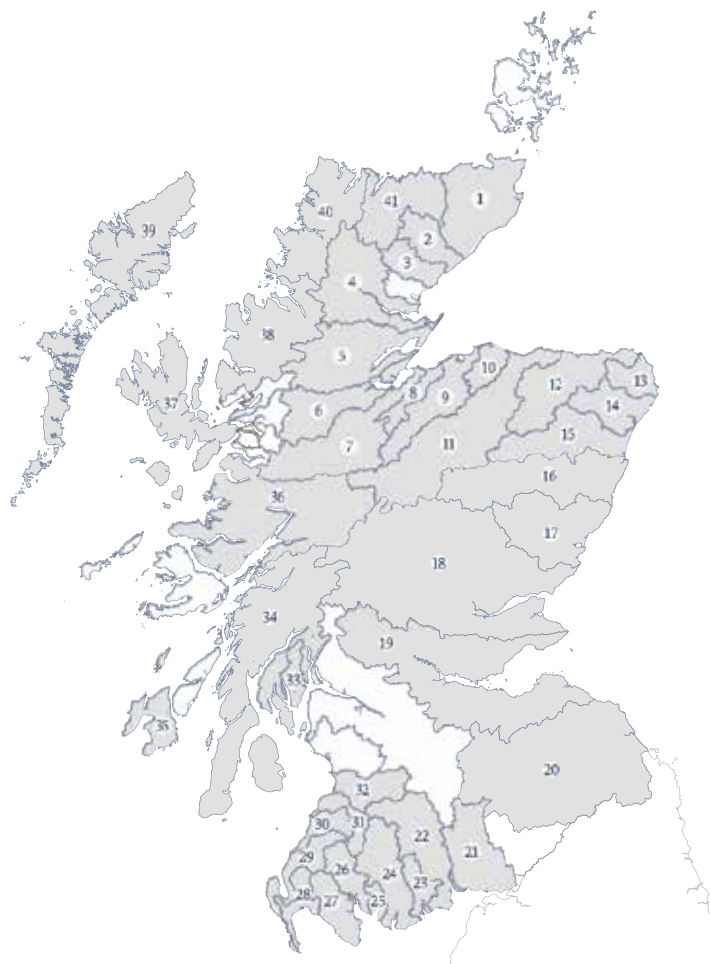
# Fisheries management in Scotland – facts and figures

	2012	2013	ASFB & RAFTS Management & staff as at 1 January 2014	
Number of District Salmon Fishery Boards (DSFBs)	41	41	ASFB Management Committee	Alasdair Laing (Findhorn) President: Andrew Douglas-Home (Tweed) Management Committee: Mark Bilsby (Dee) Andrew Wallace (RAFTS) Sir Edward Mountain (Spey) Roger Brook (Argyll) James Henderson (Nith) Nick Yonge (Tweed) Giles Curtis (Western Isles) Anson MacAuslan (Caithness)
Total revenue generated by DSFBs	£4,150,477	£4,317,339		
Income from rod fishery	£3,621,372	£3,823,358		
Income from net fishery	£43,437	£51,119		
Expenditure incurred by DSFBs	£4,371,951	£4,689,214		
Financial support provided to trusts by DSFBs	£541,434	£566,457		
Total rateable value of fisheries	£3,664, 716	£3,707,250		
DSFB staff (full time equivalents)	Remunerated - 83 Voluntary - 59	Remunerated - 87 Voluntary - 142		
Number of accredited water bailiffs	352	370	RAFTS management	Chairman: Andrew Wallace Treasurer: Roger Brook Board: Roger Brook (Argyll Fisheries Trust) Mary Nicholson (Galloway Fisheries Trust) Colin Adams (Loch Lomond Fisheries Trust) Alasdair Laing (Findhorn, Nairn & Lossie Fisheries Trust) Marshall Halliday (Esk Rivers & Fisheries Trust) Melanie Smith (Co-opted member, University of Highlands & Islands) Ron Woods (Co-opted member, Scottish Federation of Coarse Anglers) Luke Comins (Co-opted member, Tweed Forum) Diane Baum (Biologist Representative) – Lochaber Fisheries Trust Lorraine Hawkins (Network Representative, River Dee Trust)
Number of ghillies associated with salmon fishings	402	470		
Number of Scottish charitable Fisheries Trusts	25	26		
Revenue generated by Trusts	£2,712,486	£3,030,662		
Expenditure incurred by Trusts	£2,810,077	£3,195,255		
Trust staff (full time equivalents)	Remunerated - 53 Voluntary - 45	Remunerated - 56 Voluntary - 89		
DSFBs & Trusts - Operational data				
Nets seized	129	152		
Offences reported	89	106		
Stocking consents granted	41	29		
Offences reported	31	42		
Hatchery outputs consented, by life stage:			ASFB staff	Policy & Planning Director: Alan Wells Operations Director (with RAFTS): Brian Davidson Office Manager (with RAFTS): Stephen Harris Press Officer (with RAFTS): Andrew Graham-Stewart Legal Adviser: Fishlegal
• Ova	2,740,250 (2.74M)	2,086,251 (2.1M)		
• Unfed fry	3,208,750 (3.2M)	2,397,197 (2.4M)		
• Fed fry	1,524,432 (1.5M)	1,234,563 (1.2M)		
• Smolts	73,001	50,001		
Numbers of surveys conducted 2012:			RAFTS staff	Director: Chris Horrill Operations Director (with ASFB): Brian Davidson Office Manager (with ASFB): Stephen Harris Project Management Officer: Rob Mitchell TCV Apprentice: Fiona McKenna Administrator: Linda Kelly Press Officer (with ASFB): Andrew Graham-Stewart Legal Advisor: Fishlegal
• Habitat	140	603		
• Invertebrate	622	434		
• Electro-fishing	1441	1578		
• Invasive species	447	58		
Number of school projects	170	220		
Other educational projects	63	224		
	Cumulative to end 2012	2013 only		
Habitat restored/protected (km)	1102km	79		FASMOP Genetics Project: Mark Coulson
Riparian trees planted	113,329	2780		Scottish Mink Initiative Project Co-ordinator: Ann-Marie McMaster
Riparian fencing erected	508km	275km		Pearls in Peril LIFE+ Project
Cost of above schemes	£4,161,844	£217,095		Project Officers: Lorna Wilkie Flora Grigor-Wilson/Steff Ferguson (job share)
Man made barriers assessed and cost (£)	217 (£231,200)	34 (£4,500)		Aquaculture: Managing Interactions Project
Man made barriers eased and cost (£)	103 (£631,005)	21 (£35,000)		Aquaculture Officer: Diane Kennedy
Access gained above eased barriers (km)	2252km	55km		
Length of watercourses treated for invasive species	1255Km	608km		
Planning and development casework undertaken by Boards & Trusts (numbers of cases dealt with)			ASFB / RAFTS office	Suite 1F40 2 Commercial Street Edinburgh EH6 6JA
Aquaculture		91		Tel: 0131 555 1158 Web: www.asfb.org.uk / www.rafts.org.uk
Terrestrial windfarms		70		
Marine renewables		15		
River hydro schemes		93		
Controlled Activities Regulations		151		
Other (forestry, flood alleviation, land use planning etc)		73		
The Representative Bodies ASFB & RAFTS				
ASFB turnover 2012 (2011)	£168,857 (£153,480)			
RAFTS turnover 2012 (2011)	£1,237,952 (£1,179,330)			

	2012				2011			
	Rod catch	Released overall	Released spring	Net catch	Rod catch	Released overall	Released spring	Net catch
Salmon & Grilse	86,013	63,331 (74%)	4855 (91%)	16,230	87,915	63,810 (73%)	5564 (91%)	19,818
Sea Trout	22,051	15,580 (71%)	n/a	5,115	23,324	16,255 (70%)	n/a	5,675

# Salmon Fishery Districts

- |                      |                         |
|----------------------|-------------------------|
| 1 Caithness          | 22 Nith                 |
| 2 Helmsdale          | 23 Urr                  |
| 3 Brora              | 24 Dee (Kircudbright)   |
| 4 Kyle of Sutherland | 25 Fleet (Kircudbright) |
| 5 Cromarty           | 26 Cree                 |
| 6 Beaully            | 27 Bladnoch             |
| 7 Ness               | 28 Luce                 |
| 8 Nairn              | 29 Stinchar             |
| 9 Findhorn           | 30 Girvan               |
| 10 Lossie            | 31 Doon                 |
| 11 Spey              | 32 Ayr                  |
| 12 Deveron           | 33 Eachaig              |
| 13 Ugie              | 34 Argyll               |
| 14 Ythan             | 35 Laggan and Sorn      |
| 15 Don               | 36 Lochaber             |
| 16 Dee (Aberdeen)    | 37 Skye                 |
| 17 Esk               | 38 Wester Ross          |
| 18 Tay               | 39 Western Isles        |
| 19 Forth             | 40 North and West       |
| 20 Tweed             | 41 Northern             |
| 21 Annan             |                         |



## Sources:

Salmon Fishery Districts - Scottish Government 2006.

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Scottish Government GI Science & Analysis Team - January 2009, Job 4528sn.

# Fisheries Trusts

1. Kyle of Sutherland Fisheries Trust
2. Cromarty Firth Fisheries Trust
3. Ness & Beaully Fisheries Trust
4. Findhorn, Nairn & Lossie Trust
5. Spey Foundation
6. Deveron, Bogie & Isla Rivers Charitable Trust
7. River Ythan Trust
8. River Don Trust
9. River Dee Trust
10. The Esks Rivers Fisheries Trust
11. Tay Foundation
12. Forth Fisheries Trust
13. Tweed Foundaion
14. River Annan Trust
15. Nith Catchment Fisheries Trust
16. Galloway Fisheries Trust
17. Ayrshire Rivers Trust
18. Clyde River Foundation
19. Loch Lomond Fisheries Trust
20. Argyll Fisheries Trust
21. Lochaber Fisheries Trust
22. Skye Fisheries Trust
23. Outer Hebrides Fisheries Trust
24. Wester Ross Fisheries Trust
25. West Sutherland Fisheries Trust
26. Flow Country Trust

## Sources:

Fisheries Trust Boundaries, SG MS and SEPA (2011).

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Scottish Government Marine Scotland GIS team, February 2012, gj0627.





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