ANNUAL REPORT 2014

Spey Fishery Board

www.speyfisheryboard.com

Top Cover Photo: *The River Spey at Grantown-on-Spey, July 2014 (Photo: Roger Knight)*

Bottom Left Cover Photo: *Leaping Salmon (Photo: Ian Neale)*

Bottom Right Cover Photo: *A sea-liced fish caught at Delfur, River Spey, during 2014 being voluntarily released (Photo: Mark Melville, Head Ghillie, Delfur Fishings).*

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by

Roger Knight
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and

Brian Shaw
Biologist

January 2015

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Spey Fishery Board

Chairman:
Alan Williams, Carron Fishings (Chairman until May 2014)
Brian Doran, Mandatory for Craigellachie Fishings (Chairman since May 2014)

Proprietors:
Sir Edward Mountain Bt., Delfur Fishings
Oliver Russell, Mandatory for Ballindalloch Trustees
Angus Gordon Lennox, Gordon Castle Fishings & Mandatory for Brae Water Trust
Peter Millar, Orton Estate
Dr. Catherine Wills, Knockando, Phones and Lower Pitchroy
Toby Metcalfe FRICS, Mandatory for Crown Estate Commissioners
Peter Graham, Mandatory for Rothes & Aikenway and Laggan Fishings
James Carr, Wester Elchies Fishings
Alan Williams, Carron Fishings

Co-optees:
Grant Mortimer, Strathspey Angling Improvement Association
Melville McDonald, River Spey Anglers Association

Invitees:
Councillor Douglas Ross, Moray Council
Gavin Clark, Scottish Natural Heritage
Grahame Newman, Scottish Environment Protection Agency

Clerk:
William Cowie, R. & R. Urquhart

Spey Foundation Committee

Chairman:
Peter Graham, Mandatory for Rothes & Aikenway and Laggan Fishings

Members:
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Sir Edward Mountain Bt., Delfur Fishings
Angus Gordon Lennox, Gordon Castle Fishings & Mandatory for Brae Water Trust
Alan Williams, Carron Fishings
Brian Doran, Mandatory for Craigellachie Fishings & SFB Chairman
James Carr, Wester Elchies Fishings
Dr. Alastair Stephen, Scottish & Southern Energy
Roger Knight, SFB Director
Brian Shaw, SFB Biologist
Polly Burns, SFB Assistant Biologist
Duncan Ferguson, SFB Operations Manager
Sandy Smith, Ghillie, Knockando Estate
Steve Brand, Ghillie, Ballindalloch Castle

Publicity Committee

Chairman:
Sir Edward Mountain Bt., Delfur Fishings and SFB Board Member

Members:
Brian Doran, Mandatory for Craigellachie Fishings, SFB Board Member
Roger Knight, SFB Director
Brian Shaw, SFB Biologist
Dr. Malcolm Newbould, Wester Elchies Fishings
Frank Clark, Spey Foundation Whisky Ambassador
Duncan Ferguson, SFB Operations Manager
Sally Worsdall, SFB Administrator

Spey Fishery Board Staff

Director:	**Roger Knight**
Accounts Manager:	**Alison Maxwell (Part-Time)**
Office Administrator:	**Sally Gross (Part-Time)**
Hatchery Manager:	**Jimmy Woods**
Operations Manager:	**Duncan Ferguson**
Head Bailiff:	**Richard Whyte**
Bailiffs:	**Jason Hysert**
	Lindsay Grant
	Alistair Grant
Research:	**Brian Shaw** (Biologist)
	Polly Burns (Assistant Biologist)
	Steve Burns (Assistant Biologist)
Spey Foundation:	**Kirsteen MacDonald** (seasonal)

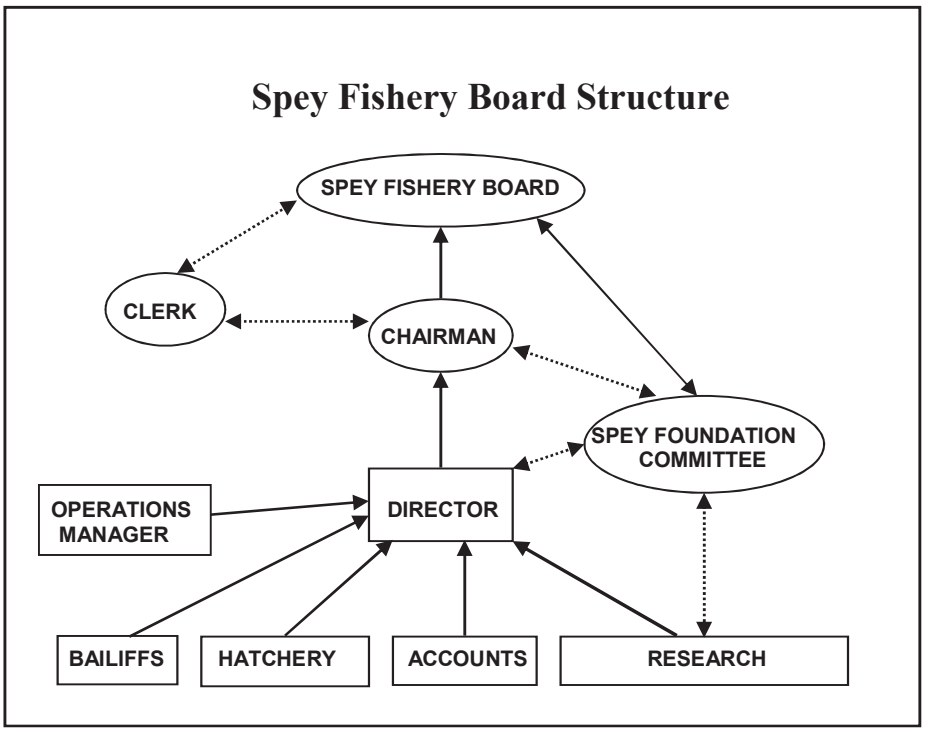


***Figure 1**: The Spey Fishery Board Structure*

Chairman's Foreword

The 2014 season was the most challenging season for anglers since records began in 1952. Following two poor years, 2014 continued the decline in the number of returning adult fish with only 4,563 Salmon and Grilse caught. This figure represents 50% of the 10 year average of 9,100 fish. Although this result is very disappointing, the Spey performed better than many, with some rivers reporting catches of only 20% of their 10 year average.

A review of results from other regions shows that we are not alone, however. Most Scottish rivers, together with rivers in Norway, Russia, parts of Iceland and North America, have all reported catches well below expectations. It is clear that this is a global problem and almost certainly not the result of any in-river deficiencies.

On a more positive note, Sea Trout catches in 2014 were much improved with 2,511 fish being caught. Anglers also supported the Board's Conservation Policy extremely well with 92% of Salmon and Grilse caught and 81% of Sea Trout being voluntarily returned to the river alive. This is a remarkable achievement and a clear indication that Spey anglers take conservation very seriously indeed. The Board's policy for 2015 is set out later in this report.

A great deal of debate has taken place within fisheries management groups and the scientific community regarding the reasons behind this decline in numbers. The consensus view is that the problem lies in the marine environment and is probably the result of a number of separate factors. Climate change has caused an increase in average sea temperature in the North Atlantic of circa 1˚Centigrade. This has the effect of moving the cold water loving Sand Eels, Plankton, Capelin and other small fish, which form the major part of the migrating Salmon's diet, several hundred miles further North. This makes the Salmon's already hazardous journey to the feeding grounds and back even more challenging.

Many returning Salmon are intercepted by netsmen operating mixed stock coastal nets, before they can return to the rivers of their birth and spawn. This has a particularly serious impact on the rod and line fisheries surrounding the Scottish coastline. The effect of West Coast salmon farms on Smolts going to sea to feed should also not be underestimated. The Scottish Governments' current, short-sighted enthusiasm to support both these activities is placing the future of our wild Salmon at serious risk. Thirty to forty years ago, some 20-25% of Smolts leaving the river returned as adult spawning Salmon; nowadays, this number has reduced to around 6%. Any further decline in the numbers of adult Salmon returning to our rivers to spawn will put the future of fragile rural economies and the full-time jobs which angling supports at even greater risk.

Concerns over water abstraction have been a constant theme in these Annual Reports. It remains a major threat, particularly in the Upper Catchment. Rio Tinto Alcan is licensed to divert significant volumes from Spey Dam, some 12 miles from the source of the river, to Fort William via Loch Laggan for power generation. The Board believes that the compensation flows released at Spey Dam are insufficient to allow adult salmon to migrate up to and above the dam to spawn, or to allow Smolts to migrate downstream to the sea. The Board is also concerned that the fish pass at Spey dam is not fit for purpose. Other concerns in that area include the heck on the River Markie and the effectiveness of the screen at the off-take in preventing juvenile fish from exiting the Spey and its catchment, and gaining access to Loch Laggan. Indeed this year, 2014, there appear to be no Salmon fry above the Dam. This is covered in section 1 of this Report.

These concerns over water abstraction have caused the Board staff, led by Alan Williams and Roger Knight, to work tirelessly, largely behind the scenes, for the past 8 years to address them. So it is with considerable pleasure that I am able to report that as a result of their efforts, Scottish and Southern Energy (SSE) have withdrawn their application to vary their existing Tummel Scheme Controlled Activities Regulations (CAR) Licence. This variation would have enabled SSE to divert even more water than they currently do from our upper tributaries, the Tromie and the Truim, into the River Tay catchment for the production of electricity. Any further reduction in water volume would almost certainly have resulted in a reduction in the number of juvenile fish these important Spring Salmon tributaries could support. Our Director, Roger Knight, will cover these issues in more detail later in this report, but I should record that a representative of the Scottish Environment Protection Agency now attends meetings of the Spey Board, as well as a representative of Scottish Natural Heritage. This has had a number of benefits; it has further enhanced our ability to communicate with these Government agencies and has improved working relations. It also provides government officials with a clear insight into our concerns and activities, to our mutual benefit.

Many people will be aware that First Minister Alex Salmond, when he opened the River Tay in January 2014, announced that the Scottish Government had commissioned a review of the manner wild fisheries are managed throughout Scotland. Andrew Thin, former Chairman of Scottish Natural Heritage, was appointed to chair this review, with the requirement to report to Ministers within six months.

An intensive period of briefings and meetings took place during the six months leading up to the Scottish Referendum on Independence and the review team's report was submitted to Ministers on the 6th October 2014. The report contained 53 separate recommendations, which, if implemented, could bring about significant change in the way wild fisheries are managed in Scotland. Board members and particularly staff were heavily involved throughout the process.

Although we have considered the implication and impact of each recommendation carefully, we will wait to hear how Scottish Ministers react to them before submitting our response. Details of progress on these critical issues will be reported throughout the coming year.

Our 5-year Stocking Programme is continuing and has been enhanced for the last two years by a fin-clipping programme. This fin-clipping enables stocked fish to be more readily identified, either by subsequent electro-fishing in the burns, or once adult fish return and are caught in the Mainstem River. The behaviour, survivability and range of movement are more easily monitored as a result, which provides better understanding of the effectiveness of our stocking programme. The fin-clipping programme is very labour intensive and would not have been possible without the support of the Riparian owners and the Ghillies. I am very grateful to them for their commitment to this important effort.

Alongside our stocking policy, the Board has maintained its programme of habitat enhancement, principally through its management and administration of the Spey Catchment Initiative. The delivery of such sustainable environmental projects would not have happened without the Spey Fishery Board being its driving force and it is a prime example of a successful Public/Private Partnership. In these times of political uncertainty, when the whole nature of the way we go about managing our fishings is under the Government spotlight, the politicians and the bureaucrats need to know that such work simply would not happen without the private element; the cost of undertaking it would be prohibitive for the public purse alone.

In October 2014, the Scottish Government consulted on proposals to make a conservation regulation to protect early-running spring salmon in Scotland. The proposed conservation measure sought to require the release of all rod-caught salmon, together with a delay in the start of the net fishing season, until 1st April across Scotland. The Board made representations to the Scottish Government about this and contested the suggested date of 1st April, which it felt did not go far enough to protect the fragile spring stock component. Indeed, the Board recommended that exploitation be delayed until the 1st June and has amended its own Conservation Policies to reflect this. Nonetheless, as I write this, the Government's proposals have now passed into law and anglers should note that it is now illegal to kill any wild Salmon caught in Scotland before the 1st April.

Before closing, I should extend the Board's sincere thanks to Alan Williams, who stepped down as Chairman in May 2014 after over eight years in post. Throughout his time in office, Alan devoted a tremendous amount of time and effort addressing the Board's concerns, particularly with regard to the complex issues surrounding water abstraction. Alan made a major contribution to this, as well as to many of the other issues with which the Board engages. Alan remains a member of the Board and I have asked him to continue his engagement over our concerns regarding water abstraction.

In conclusion, although a difficult and disappointing year for anglers, much progress has been achieved in 2014 on a number of important fronts. I look forward to reporting further progress on these issues during 2015. I would also like to record my thanks to my colleagues on the Board and our staff for their continuing commitment and support throughout my first year in office.

In the meantime I wish you all tight lines for the upcoming season.

Brian Doran
Chairman

Part 1

Statutory Remit of the Spey Fishery Board

1.1 Constitution

The Spey District Salmon Fishery Board (SFB) was established under the 1860s Salmon Fisheries legislation as subsequently amended and stated in the Salmon Act 1986 and the Salmon Conservation (Scotland) Act 2001. This legislation was later streamlined into the Salmon and Freshwater Fisheries (Consolidation) (Scotland) Act 2003, which has recently been amended by the Aquaculture and Fisheries (Scotland) Act 2013. The SFB is empowered under the legislation to take such acts as it considers expedient for the protection, enhancement and conservation of Atlantic Salmon and Sea Trout stocks and their fisheries (Table 1). The SFB is responsible for the Spey Fishery District (Figure 2), which includes 52 rod fisheries within the mainstem of the Spey and its tributaries. The District covers 107 miles of Mainstem River, approximately 560 miles of main tributaries and 20 miles of coastline in the Moray Firth, from Lossiemouth to the west of the Spey estuary to Cowhythe Head in the east. The District extends 3 nautical miles out to sea.

1.2 Aquaculture & Fisheries (Scotland) Act 2007

The Aquaculture & Fisheries (Scotland) Bill was passed by the Scottish Parliament on 1 March 2007 and received Royal Assent on 5 April. It has three main purposes: to provide a statutory basis for regulating previously unregulated practices in aquaculture; to enhance emergency powers for controlling Gyrodactylus salaris (a parasitic disease in salmon); and to make a number of miscellaneous amendments to salmon, freshwater and sea fisheries legislation.

The Act also brought changes to restrict the introductions and transfers of fish. Whilst this legislation does not specifically affect Salmon hatcheries on rivers which have District Salmon Fishery Boards, it led to the Association of Salmon Fishery Boards (ASFB) and Rivers and Fisheries Trusts Scotland (RAFTS) producing more robust guidelines for stocking which have continued to play an integral part in the SFB's stocking policy since 2011 (see section 3.3).

1.3 Aquaculture & Fisheries (Scotland) Act 2013

In December 2011 the Scottish Government went out to consultation on a draft Aquaculture & Fisheries Bill. Recognising that aquaculture production and Salmon and freshwater fisheries are both equally important sectors, it sought to manage them effectively as part of the wider marine and freshwater environment. The Bill was introduced to Parliament on 3rd October 2012 and the Aquaculture and Fisheries (Scotland) Act 2013 received Royal Assent in June 2013. It came into force on the 16th September 2013.

The Act consists of six parts, the second of which relates to Salmon and Freshwater Fisheries. There are a number of provisions relating to duties of openness, transparency and accountability, including:

- a duty to publish and copy to Scottish Ministers the Annual Report and audited accounts;

- a duty to hold at least one public meeting, with all other meetings held in public unless there are good

reasons for them to be held in private;

- a duty to maintain and keep under review arrangements for dealing with complaints;

- and a duty to maintain, and keep under review, arrangements for the registration and declaration of relevant financial interests of board members.

Aside from aquaculture issues, the Act also provides powers for Scottish Ministers to include changes to annual close time orders as part of a salmon conservation measure and to impose requirements on DSFBs and proprietors relating to monitoring and evaluation of the effect of annual close time orders and salmon conservation regulations (and on DSFBs for baits and lures regulations) - the contravention of which may become a criminal offence. It also provides an enabling power for Scottish Ministers to modify, by regulation, DSFBs functions under the 2003 Act with respect to consenting to stocking.

The SFB has put in place measures to ensure it is in full compliance with the latest legislation. Furthermore, since November 2013, the Board has conducted the major part of all of its meetings in Open Session to enable members of the public to attend.

1.4 Complaints Procedure

Section 24 of the Aquaculture and Fisheries (Scotland) Act 2013 amended the 2003 Act to place a number of new duties on DSFBs relating to openness and accountability. The new section 46D requires a DSFB to: *'maintain, and keep under review, proper arrangements for dealing with complaints made to the board about the way in which the board have carried out, or propose to carry out, their functions under this Act or any other enactment'*

The SFB has published its complaints procedure on its website. Full details can be found at: http://www.speyfisheryboard.com/spey-fishery-board-complaints-procedure/

No complaints were received by the SFB during 2014.

1.5 Wild Fisheries Review

On 15th January 2014,whilst opening the Salmon fishing season on the River Tay, Scottish Government First Minister Alex Salmond announced that a review of Wild Fisheries Management would be undertaken, led by Andrew Thin (former Chairman, Scottish Natural Heritage). This followed the Aquaculture and Fisheries Act 2013 and a Scottish National Party manifesto commitment to ensure that Freshwater Fisheries Management structures are fit for purpose for the 21st century.

The Review Team presented their report to Ministers on the 6th October 2014. It contained 53 recommendations, including the following:

- A small central team (possible called the National Wild Fisheries Unit) should be established within Marine Scotland. This should be responsible for strategic direction, effective regulation and national co-ordination.

- Local delivery should be by a network of Fishery Management Organisations, which would be neither Boards or Trusts, but rather a hybrid or merger of the two. These should operate to an agreed "all species" fishery management plan. A model constitution is recommended to be developed to ensure that these organisations are fit for purpose via "Approved Body Status".

- There was no clear explanation of the financial structures that would support these organisations, although the report recommends that the Assessment system should be retained to fund such an all species remit. Furthermore, it recommends that this should be collected centrally, rather than locally, and in two parts: a national levy, broadly based upon business rates; and a local levy. The Central Unit could then distribute funding down to those local Fishery Management Organisations achieving Approved Body Status.

- "Sustainable harvesting" via a licenced quota system for the killing of fish, linked to carcass tagging, is also recommended to be developed. This would apply to both rods and nets.

The Scottish Government has said that it will consult in the Spring of 2015 on proposals for a new wild fisheries management system, in order to lay a draft Bill before Parliament prior to the next Scottish election in May 2016. The SFB will be working closely with the Scottish Government and the Association of Salmon Fishery Boards over these developments.

1.6 EU Water Framework Directive

The European Union (EU) Water Framework Directive came into force in December 2000 and was transposed into Scottish law through the Water Environment & Water Services Act 2003. Under the aegis of the Scottish Environment Protection Agency (SEPA), the Act aims to establish a process of River Basin Management Planning to achieve "Good Ecological Status" of freshwater, groundwater and coastal water bodies by 2027. For Heavily Modified Water Bodies (e.g. those impacted by water diversion for the production of hydro electricity) such as parts of the River Spey, the aim is to achieve "Good Ecological Potential".

SEPA divided Scotland into eight sub-basins, where catchments of similar types are grouped and managed collectively. The Spey is included in the North East sub-basin, which also includes the Rivers Deveron, Ythan, Don and Dee. The SFB is part of the North East Area Advisory Group which has developed an Area Management Plan. This in turn forms part of Scotland's first River Basin Management Plan (RBMP), which was approved by Scottish Ministers in December 2009 and will conclude in 2015. The second RBMP will run from 2015 - 2021, with the third and final Plan implemented between 2021 - 2027.

Preliminary work by SEPA on the RBMP involved the categorisation of all water bodies throughout Scotland as good, moderate or poor, in order to prioritise the work necessary to implement the WFD. The SFB disputed the moderate category awarded to parts of the upper River Spey, which it believed should be categorised as poor due to the significant levels of water impoundment, diversion and abstraction and the effects that these have had upon the ecology of the area. SEPA has subsequently revised a number of these categorisations, with some Spey Water Bodies (e.g. the River Markie, just above Spey Dam) now categorised as poor.

In 2013 the UK's Technical Advisory Group (UKTAG), of which SEPA is a member, issued revised guidance for the implementation of the WFD. This has recommended that maintained elevated flows in water bodies (e.g. the compensation flows in the Rivers Tromie and Truim) are not ideal for all fish species. The revised UKTAG guidance is based upon flow variability and a "building block" approach, with site specific information incorporated. Furthermore, the guidance recommended that an adaptive management approach should also be adopted, with flows varied if the original proposals are found to be unsuitable.

The SFB will continue to work closely with SEPA on the implementation of the WFD as it approaches the conclusion of the first RBMP and development of the second Plan.

Table 1. Statutory Responsibilities of the Spey Fishery Board

1. Provide fisheries protection;
2. Set Salmon rod fishery season (11th February – 30th September);
3. Set Sea Trout rod fishery season (15th March – 30th September);
4. Police weekly rod fishery close times (midnight Saturday – midnight Sunday);
5. Police the purchase and sale of illegally-caught or unseasonable fish;
6. Ensure fish passage over obstructions to migration;
7. Protect juvenile fish and spawning redds;
8. Regulate the movement and/or introduction of adults, juveniles and ova.

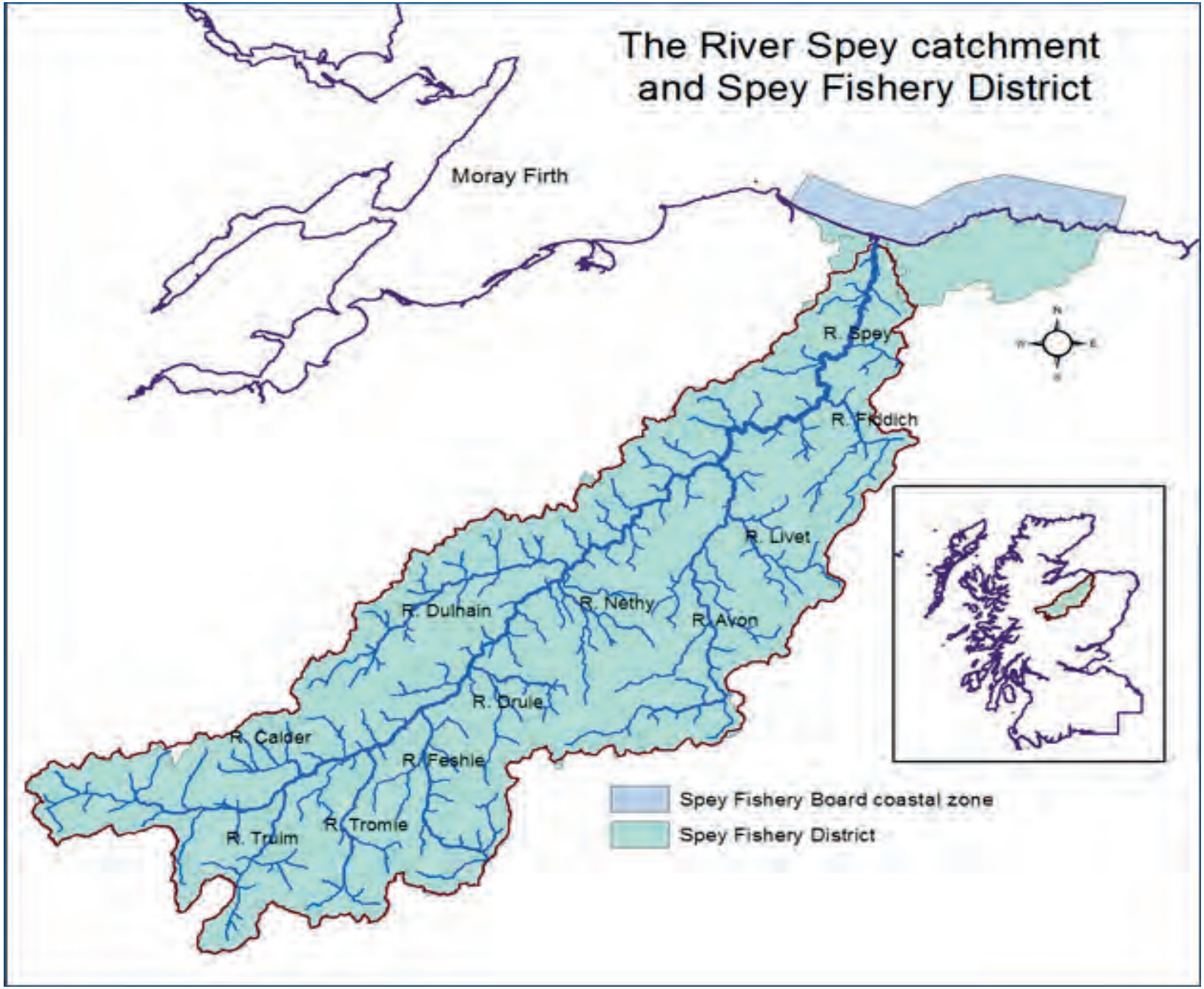


Figure 2: *The River Spey Catchment and Spey Fishery District.*

1.7 Water Abstraction Update

Above: *Spey Dam, operated by Rio Tinto Alcan, July 2014. (Photo: Roger Knight)*

1.7.1 Rio Tinto Alcan: Spey Dam

The SFB remains concerned by the significantly high levels of water abstraction, particularly in the upper catchment by Rio Tinto Alcan, which is licensed to divert substantial volumes of water from Spey Dam, some twelve miles from the source of the Spey, to Fort William. The impact of the abstraction and its associated infrastructure on the upper Spey salmon population is severe; the Board's electro-fishing monitoring above the dam in 2014 found that there were no salmon fry present at any of the ten sites visited. This was subsequently and independently verified by SEPA, which conducted electro-fishing surveys above Spey Dam. The Board is also concerned about the heck on the River Markie and the efficacy of the screens and off-take in preventing juvenile fish from exiting the River Spey and its catchment and gaining access to Loch Laggan.

The Board is engaging positively with SEPA and Rio Tinto Alcan to deliver improvements in this uppermost part of the river and looks forward to further progress on these issues during 2015.

Above and below: *The heck across the River Markie, a tributary that joins the River Spey immediately above Spey Dam. The heck is designed to prevent gravel transported by the River from accumulating behind the Dam. However, it also prevents spawning fish from accessing the River Markie. (Photos: Roger Knight).*

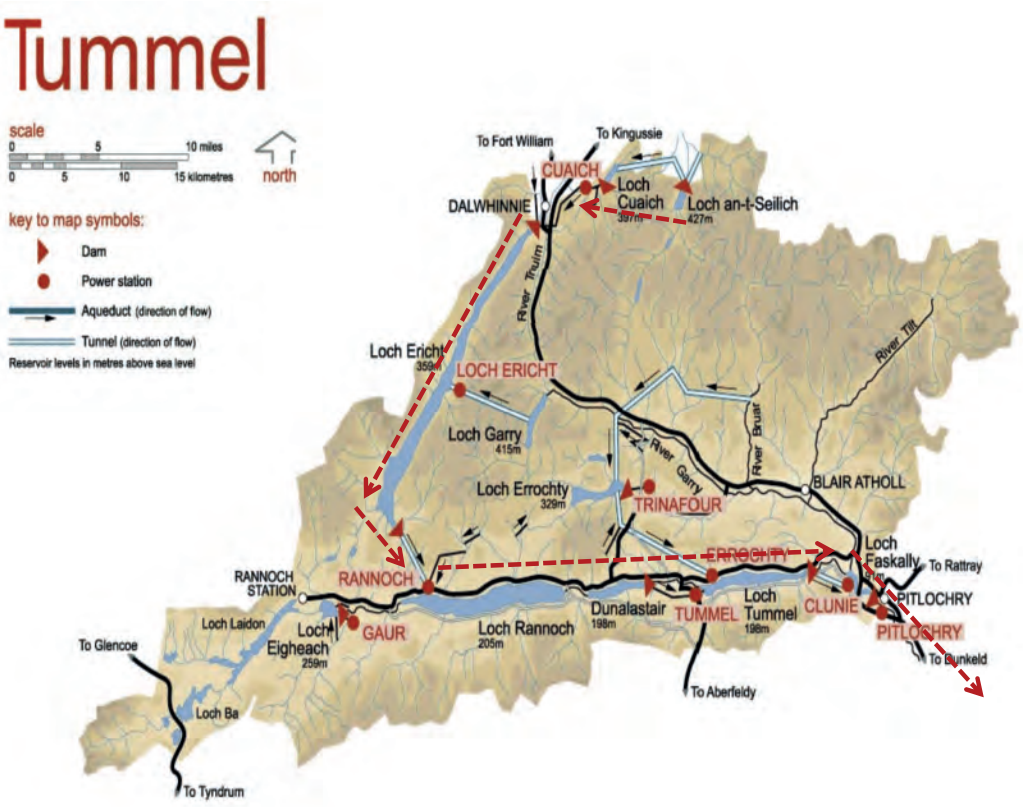


***Figure 3**: Scottish & Southern Energy's Tummel Scheme CAR Licence allows the diversion of water from the Spey Catchment into the Tay catchment. The red dotted line illustrates the current regime as water is taken from the Spey's upper tributaries, the Rivers Tromie and Truim, and transferred into the Tay catchment to pass through seven power-generating stations.*

1.7.2 Scottish & Southern Energy: Tummel CAR Licence Scheme

Scottish & Southern Energy (SSE) divert water from the Loch An-t Seilich at the top of the River Tromie and from the River Truim, both important upper Spey Salmon spawning tributaries, into the River Tay catchment as part of the Tummel CAR (Controlled Activities Regulations) Licence Scheme. Water from Loch An-t Seilich (River Tromie) is piped to a power station on the River Cuaich (a tributary of the River Truim) before being channelled to Loch Ericht near Dalwhinnie. This Spey water from Loch An't Seilich, together with water from the off-take above Dalwhinnnie at the top of the Truim, then travels through Loch Rannoch and on to Loch Tummel, passing through six further power stations at Rannoch, Gaur, Tummel, Errochty, Clunie and Pitlochry, before being disharged into the Tay system (see Figure 3). In addition, water is diverted from the Cuaich and from the Allt An't Sluie, both of which are tributaries of the Truim. This water would naturally join the Truim below the initial off-take referred to above.

Since September 2006, SSE had proposed to re-water the River Garry (in the Tay catchment, the flow from which is diverted to generate hydro-electricity) under the Water Framework Directive (WFD). However, water from Loch Garry that would be put down the River Garry to achieve this (instead of being diverted to Loch Ericht) would pass through only three power stations, instead of the five that are currently utilised under this regime. To achieve the requirements of the WFD, whilst also maintaining Scotland's renewable energy policies, SSE had therefore proposed to reduce the compensation flows down the Rivers Tromie and Truim even further, so as to enable the transfer of more water to the Tummel Scheme and thereby compensating for the minor loss in energy that would otherwise result from re-watering the River Garry.

In September 2014, SSE withdrew its application to vary the Tummel Scheme CAR Licence. This has been a considerable success for the Spey Fishery Board. It has justified the initial decision taken by the Board to object to the proposals and the considerable amount of work involved subsequently over eight years. However, there remains work to be done; the Water Framework Directive still has to be implemented. This will require the River Garry in the Tay catchment and the River Cuaich in the Spey catchment to be re-watered during the first of the three River Basin Management Plan (RBMPs), which is due to be completed by the end of 2015.

SEPA has yet to formally decide how it will respond to SSE's withdrawal. Whilst the SFB had objected to some of SSE's proposals (in particular, the Board had been keen to ensure that the compensation flow in the Truim was not replaced by a hands-off flow, i.e. one that was dependent upon rainfall) there were positives as well, such as the re-watering of the Allt Bhran and the Cuaich. The whole flow from the Allt Bhran, which is the most significant tributary of the River Tromie, is currently diverted into the Tromie Dam, thereby denying access to it by migratory fish. However, the restoration of a flow down the lower section of the Allt Bhran provides a significant river restoration opportunity and the SFB is keen to develop this.

SEPA have acknowledged that this might now present them with an opportunity to take a more holistic approach to water flow management throughout the upper Spey catchment. In this respect, any proposed flow changes to the Truim and Tromie as part of the implementation of the Water Framework Directive should also take into consideration the flow emanating from Spey Dam. The SFB will be pressing SEPA to move forwards with this and working closely with them in the process.

Above: *Scottish & Southern Electricity's Dam at Loch An't Seilich on the River Tromie, from which water is diverted into the Tay catchment to generate hydro-electricity. (Photo: Dr James Butler).*

Above: *Scottish & Southern Energy's water off-take and fish pass (with resistivity counter) on the River Truim, near Dalwhinnie. It is from here that water from the River Truim is diverted into Loch Ericht and then in to the Tay catchment, for the production of hydro-electricity. (Photo: Roger Knight).*

1.8 Angling, Canoeing and Access

A major issue highlighted by the economic survey commissioned by the Spey Catchment Management Plan was the potential conflict between angling and canoeing. This situation was complicated by the introduction of the Land Reform (Scotland) Act 2003 and the launch of the Scottish Outdoor Access Code in 2005. The Code encourages reasonable and responsible access to rivers and river banks, and has been promoted within the Spey catchment by the Moray Council, Highland Council, SNH and the Cairngorms National Park Authority.

To aid the resolution of any issues, core representatives of the Spey Users' Group (SUG), including the SFB, Scottish Canoe Association and Access Officers from the three Local Authorities, met again in November 2014. However, 2014 was another settled year between paddling and angling interests, with only one incident reported to the SFB. The principle concerns remain though, in relation to the significant numbers of paddlers between the Ballindalloch and Knockando areas of the River, which are acknowledged to be the busiest section of the River for paddlers.

Part 2

Fisheries and Conservation

2.1 Salmon and Grilse Catches

In common with many other Scottish salmon rivers, 2014 was a particularly challenging year for anglers. Despite a promising start, catches slowed from mid-April during another prolonged period of low water and warm water temperatures. Reported rod catches for the Spey amounted to **4,563** Salmon and Grilse caught, which was below the disappointing 2013 catch of 5,780 (Figure 4).

The early part of the 2014 season produced a spring catch (between 11th February and 30th April) of 578 fish, which was an improvement on the 437 caught for the same period in 2013. A further 457 fish were caught in May and 649 in June. This brought the catch for February – June to a total of 1,684, some way below the 2,451 caught during the same period in 2013. The prevailing low water conditions ensured that catches in July were also disappointing, at 591 (884 had been caught in July 2013 and 2,175 in July 2012). A significant spate on the 11th August, which saw the River reach its highest level since 1970, saw catches for that month climb to 1,448 (1,228 had been caught in August 2013) and a further 840 fish caught in September, although this was somewhat below the 1,217 caught in September the previous year (Figure 5).

As in previous years, the catches by river section are depicted in Figure 6, but 2014 will be remembered by many throughout Scotland as a particularly difficult year for salmon angling.

Above: *Peter Pleydell-Bouverie about to release a 16lb Spring Salmon, caught at Twa Stanes, Delfur, River Spey, in May 2014. (Photo: Mark Melville, Head Ghillie, Delfur Fishings)*

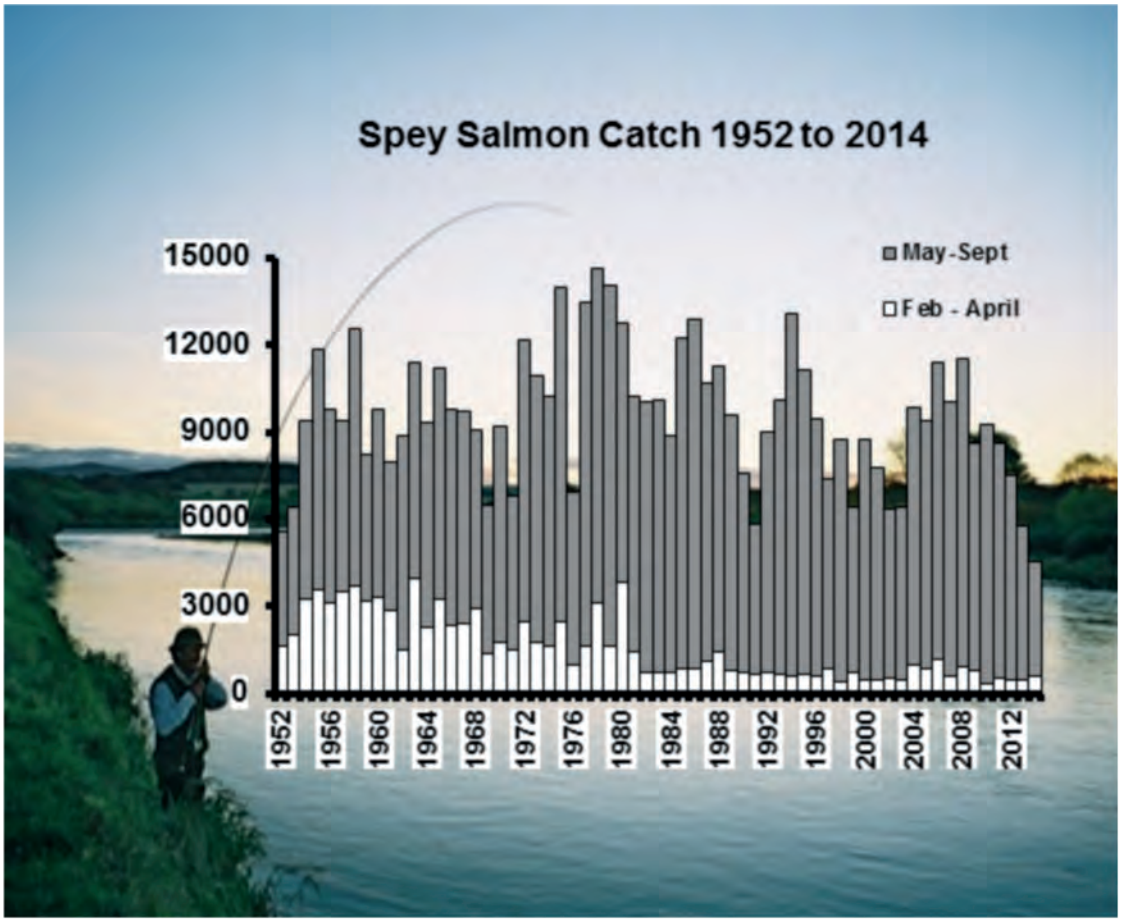


Figure 4: *Annual declared rod catch of wild Salmon and Grilse from the River Spey, 1952-2014. The 2002-2014 catches are from returns made to the SFB by proprietors.*

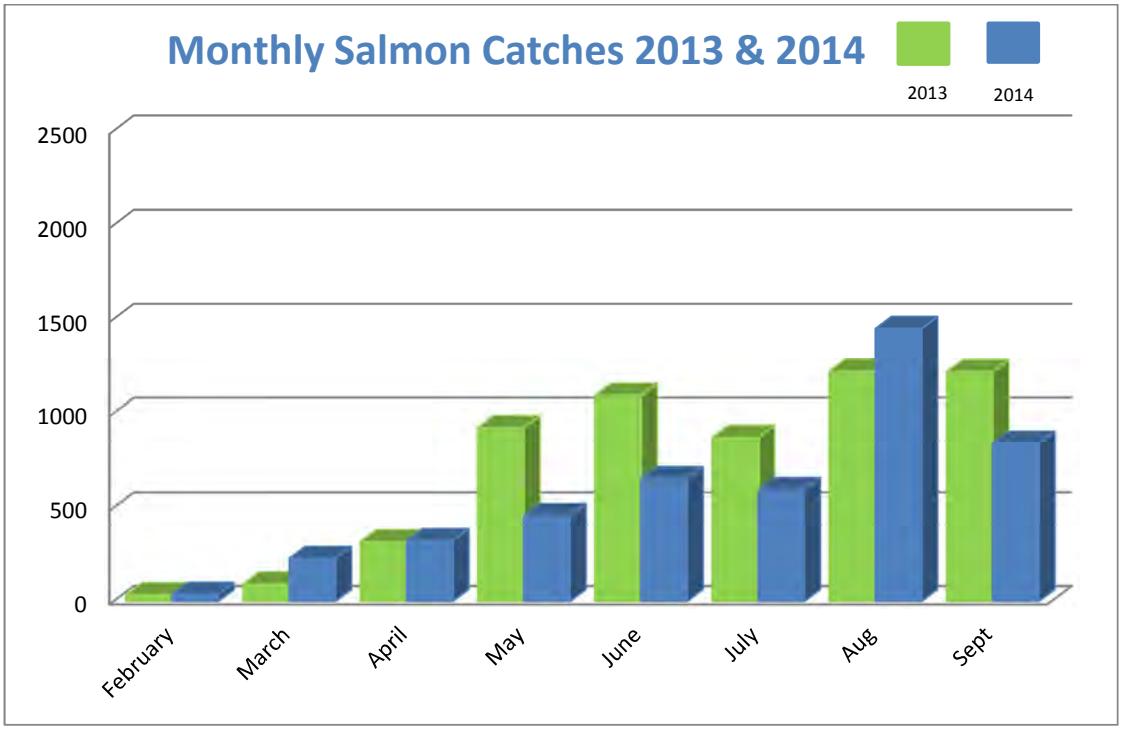
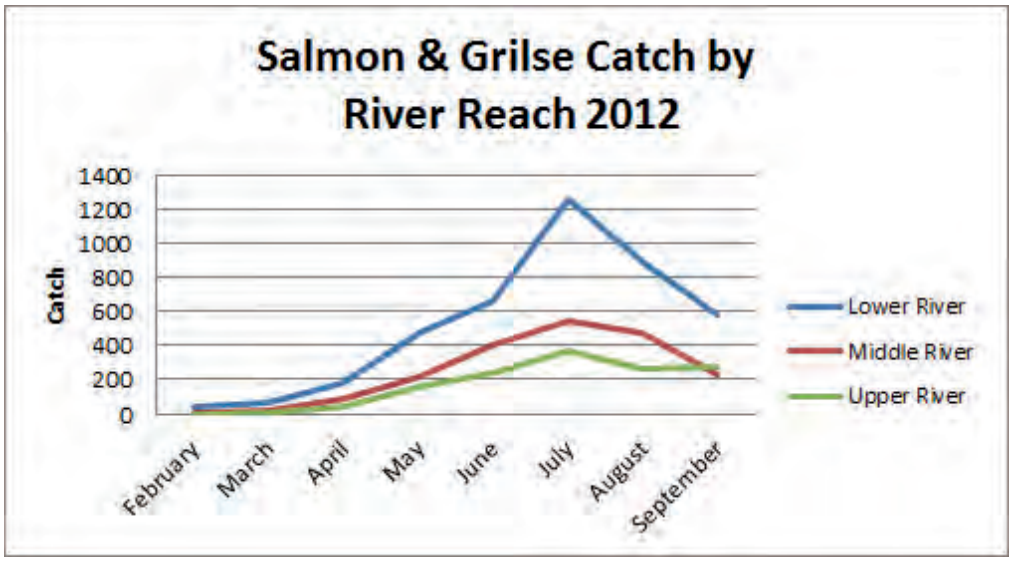
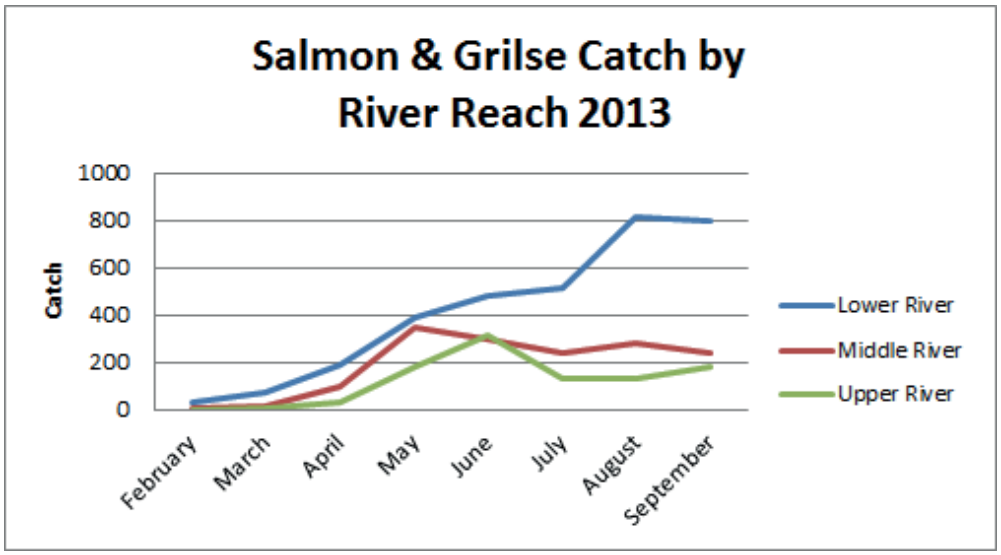


Figure 5: *Declared monthly rod catch of wild Salmon and Grilse from the River Spey in 2013 and 2014, calculated from returns made to the SFB.*

Detailed Catch Returns analysed by River area for the last three years are set out below in Figure 6. The Lower River refers to the River between Inverfiddich and Spey Bay; the Middle River refers to the River between Craigellachie and Ballindalloch, including the River Avon; and the Upper River refers to the River above Ballindalloch.





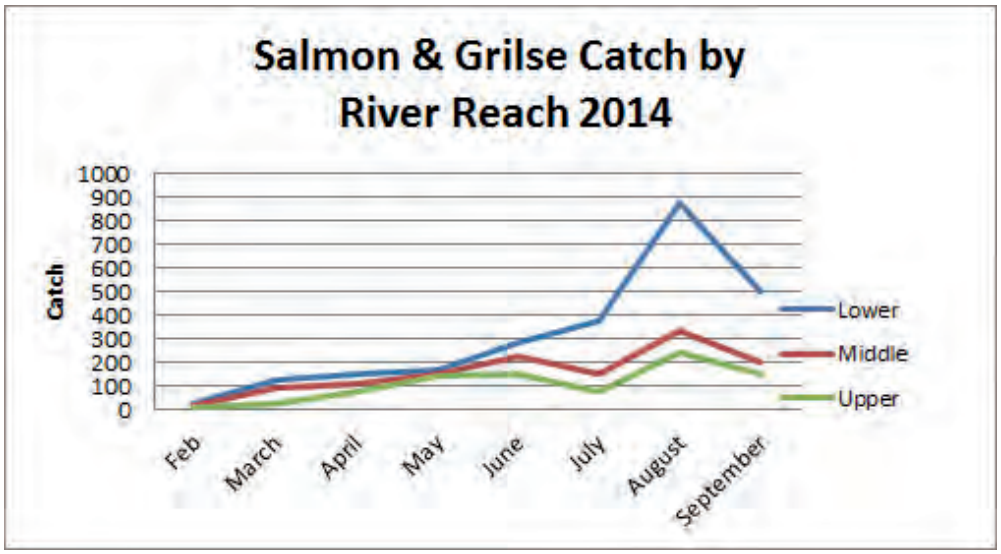


Figure 6: *Salmon & Grilse Catches by River Reach from 2012-2014.*

2.2 Sea Trout Catches

The 2014 declared rod catch for Sea Trout was **2,511** (Figure 7), which was a 110% increase on the 1,194 caught in 2013 and a significant increase on the 1,680 caught in 2012.

Monthly catches for the previous seven years showed that June had been the month when the most Sea Trout had been caught in any one month. However, in 2014 it was August that saw the most Sea Trout being caught (Figure 8), with 846 (34%) caught. July was once again the second highest month, with 817 caught (32.5%). Overall therefore, two thirds of Sea Trout caught were recorded in these two months.

Above: *This magnificent Sea Trout was one of the* ***2,511*** *Sea Trout caught on the River Spey during 2014, a significant increase on the 1,194 caught during the previous year. (Photo: Mark Melville, Head Ghillie, Delfur Fishings)*

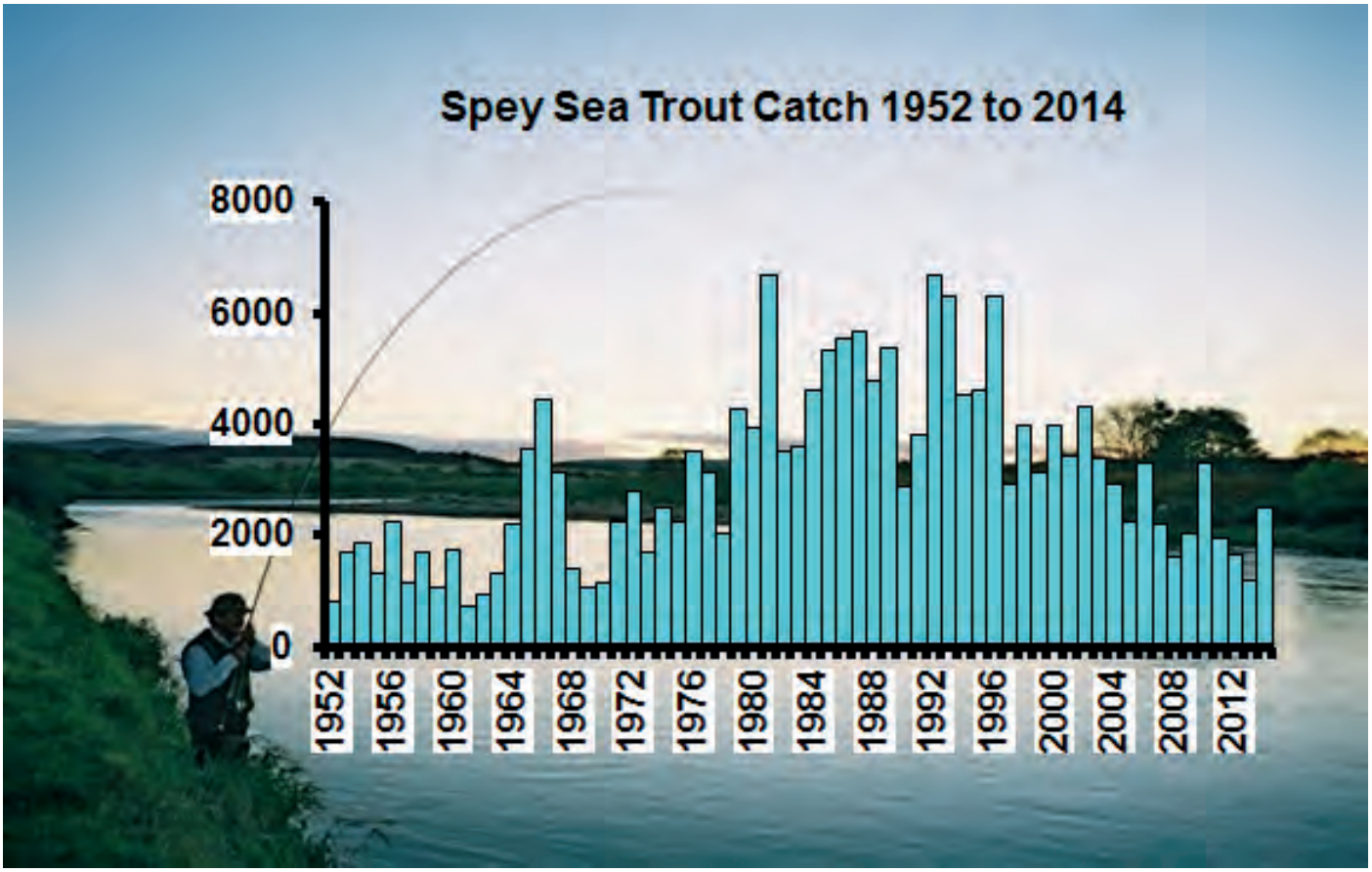


Figure 7. *Annual declared rod catch of Sea Trout from the River Spey, 1952-2014. The 2002-2014 catches are from returns made to the SFB.*

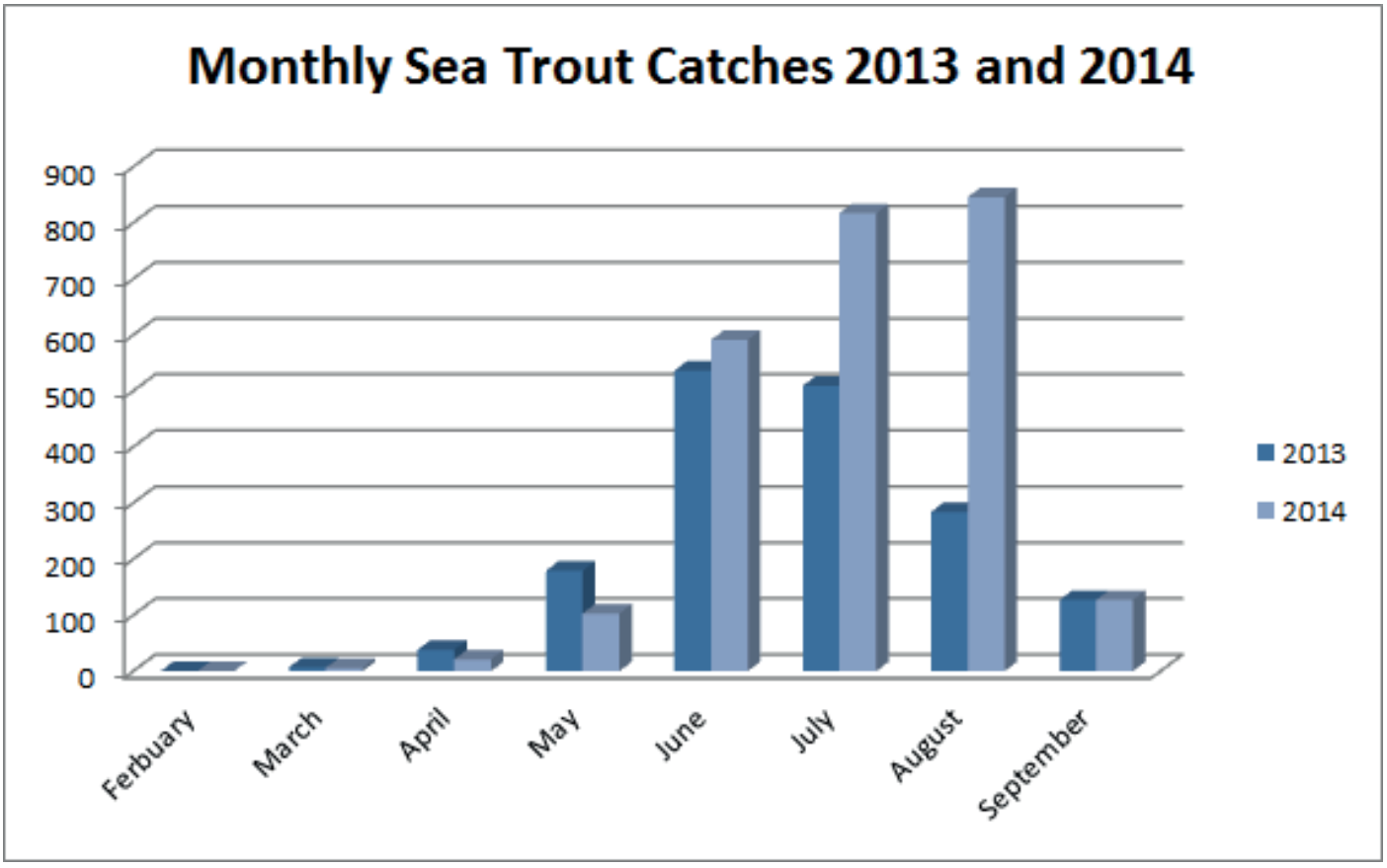


Figure 8. *Declared monthly rod catch of Sea Trout from the River Spey in 2013 and 2014, calculated from returns made to the SFB.*

2.3 Salmon Conservation Policy

As part of its long term commitment to the protection of Salmon stocks, the SFB launched a Salmon Conservation Policy in 2003. The policy aimed to achieve the release of at least 50% of Salmon and Grilse, and to protect the depleted stocks of multi-sea winter Salmon in February-June. It has now achieved a level far higher than what was originally anticipated. Most of the larger fish arrive in the river in the early months and these are the fish which have the potential to make the most significant contribution to successful spawning and are likely to be the fish which spawn in the upper reaches of the catchment. Furthermore, at least 70% of these fish are female, and therefore contribute an important part to the river's spawning stock. Studies by the former Spey Research Trust (now the Spey Foundation) have also shown that these fish are particularly vulnerable to capture and re-capture having been released.

Until 30th April 2014, **93%** of all Spring Salmon caught had been released and by the end of June, 91% of fish caught had been released, which was an increase on the 88% for that period the previous year. By the end of the season the release rate remained at **92%**, a respectable increase on the overall 88% achieved for the preceding year (Figure 10). For a voluntary policy to achieve such a significant release rate is highly commendable and we are grateful to all proprietors, ghillies and anglers for their support for the policy. In total, **4,199** Salmon and Grilse were released to spawn in 2014.

In October 2014, the Scottish Government consulted on proposals to make a conservation regulation to protect early-running spring salmon in Scotland. The proposed conservation measure sought to require the release of all rod-caught salmon until 1st April, together with a delay in the start of the net fishing season until 1st April across Scotland, with the exception of the River South Esk in the Esk Salmon District, which would be 1st May. The SFB responded to this consultation, which it felt was positive development, but one which did not go far enough to protect the fragile spring stock component. The SFB therefore recommended that exploitation be reduced until the 1st June. The Conservation of Salmon (Annual Close Times and Catch and Release) (Scotland) Regulations, as proposed, came into force on 9th January 2015 and henceforth it is illegal to kill wild Atlantic salmon caught before 1st April each year.

Figure 9: *The Life Cycle of the Atlantic Salmon. (Image courtesy of the Atlantic Salmon Trust).*

Nonetheless, with over 150 fish retained by anglers to the end of June 2014, the SFB remains increasingly concerned about the conservation of the Spring component of the Spey's stock. In order to protect the integrity of the Spey stock and to maximise their spawning potential, the SFB's policy from 2015 is that all fish caught up to and including the 31st May should be released alive. This Policy is as shown in Figure 12, although it must be stressed that from January 2015 it is illegal to kill a wild Atlantic salmon caught before 1st April each year. The life cycle of the Atlantic Salmon is depicted in Figure 9.

2.4 Sea Trout Conservation Policy

Under fisheries legislation Sea Trout have the same legal status as Salmon, and District Salmon Fishery Boards are also responsible for their protection and enhancement. Catch statistics show that the Spey Sea Trout rod fishery has historically been one of the largest in the UK.

An International Sea Trout Symposium in 2004 made the following key points, which are still valid today:

- *Sea Trout are the sea-running form of Brown Trout;*
- *Sea Trout and Brown Trout interbreed;*
- *The majority of Sea Trout are female;*
- *Unlike Salmon, Sea Trout can return to spawn up to 10 times;*
- *Because of their large size, female Sea Trout provide most of the Trout eggs laid in a river;*
- *Genetic studies show that larger, longer-lived Sea Trout produce young that are also likely to grow large;*
- *Finnock are Sea Trout in their first year after leaving the river as smolts;*
- *Some Finnock enter rivers in the summer/autumn, and some of these breed;*
- *Interbreeding with stocked 'domestic' Trout may interfere with Sea Trout genetics;*
- *Sea Trout and Brown Trout should be managed jointly;*
- *Since Sea Trout are largely coastal, they are barometers of the health of the local marine environment.*

Although 2014 showed a considerable improvement in the numbers of Sea Trout caught, catches have not been encouraging in recent years and the SFB has maintained a precautionary approach, assuming that this trend is indicative of reduced Sea Trout abundance. While the causes of this trend are still not known, the SFB introduced a Sea Trout Conservation Policy for the Spey rod fishery in 2004. The Policy is designed to encourage the catch and release of Finnock and larger adult Sea Trout.

2014 saw the rate of catch and release for Sea Trout increase to **81%**, up from 76% in 2013 (Figure 10). Whilst the overall upward trend is commendable, the SFB has been concerned by the fall in the numbers of Sea Trout being caught. In 2008 the then Spey Research Committee (now the Spey Foundation Committee) had reviewed the Sea Trout Conservation Policy in light of the reduced catch and recommended to the Board that the Policy be enhanced. These recommendations were unanimously supported by the Board and a revised Sea Trout Conservation Policy has been adopted since 2009. When it was reviewed during 2014, the Board decided that in line with its precautionary approach, the voluntary policy was working well and should remain unchanged for 2015. The SFB will continue to monitor the situation throughout 2015.

The life cycle of the Sea Trout is illustrated in Figure 11.

Spey Conservation Policy 2015

SPEY FISHERY BOARD RESEARCH OFFICE
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In order to protect the integrity of the Spey stock and to maximise their spawning potential, the Spey Fishery Board's policy is that all fish caught up to and including the 31st May should be released alive. From the 1st June the policy set out below will apply.

SEA TROUT

Release all finnock of 16oz / 35cm / 14" or less

Release all Sea Trout of 3lb / 50cm / 20" or above

Retain only 1 Sea Trout of takeable size per calendar day. Anglers are also encouraged to release their first fish and keep the second that is of takeable size

Release all stale or coloured fish

Release all unseasonable fish (smolts, kelts, over-wintered finnock)

SALMON

Each angler must return the 1st, 3rd, 5th etc... cock fish caught

All hen salmon and hen grilse must be released

Throughout the season all stale or unseasonable fish must be released e.g. gravid, kelts

Escaped farmed salmon must be retained

Figure 12: *The Spey Fishery Board's Conservation Policy from 2015.* ***N.B. With effect from January 2015, it is illegal to kill wild Atlantic salmon caught before 1st April .***

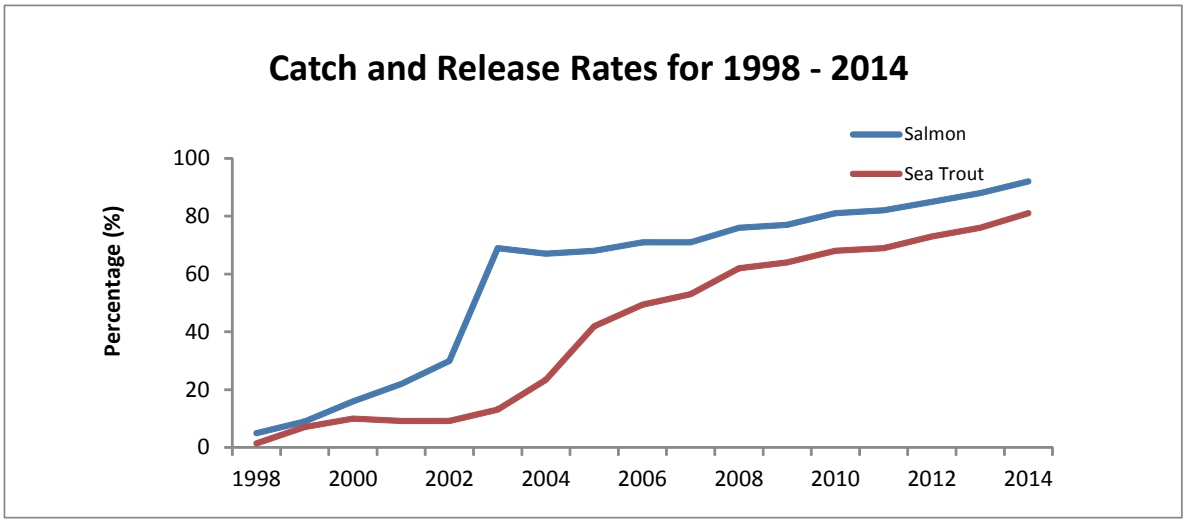


Figure 10: *The proportion of rod-caught wild Salmon & Grilse and Sea Trout released on the River Spey 1998 -2014.*

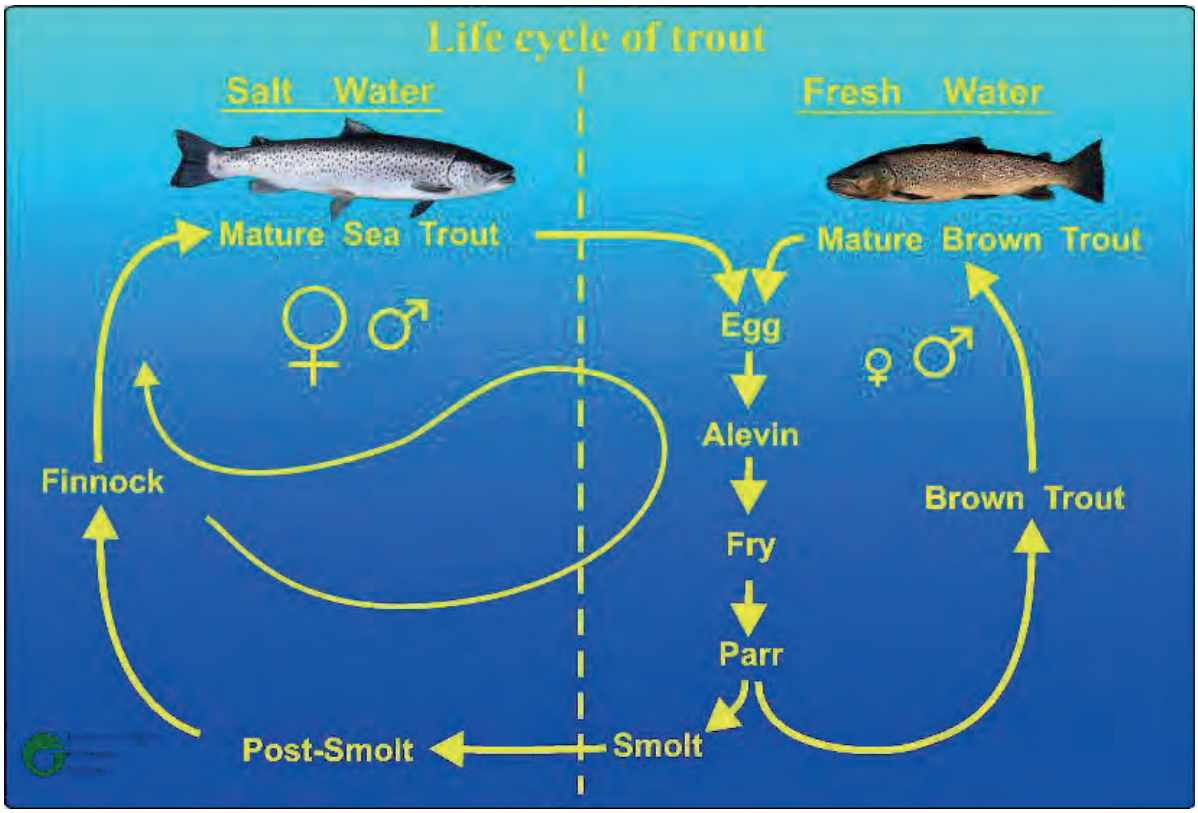


Figure 11: *The Life Cycle of Sea Trout*

2.5 Fishpal Malloch Trophy Challenge

The most prestigious and historic trophy in the Scottish angling world, The Malloch Trophy Challenge, was re-instated from the opening of the 2009 salmon fishing season after an absence of 10 years. Until 2014 it was sponsored by Savills and from 2015 will be sponsored by FishPal.

The magnificent silver model of a leaping salmon, pictured above, which for decades was the most coveted and keenly contested award in Scotland, has been acquired by The Tay Foundation. It is usually awarded annually to the angler who catches the heaviest Salmon of the season on a fly on any Scottish River and then releases the fish alive back into the water, although a range of other factors are also taken into account. In this respect, it is now also significant as a salmon conservation trophy. The full criteria for applications, together with Entry Forms, are available from the following web address:

http://www.fishpal.com/mallochtrophy/MallochTrophyentry.pdf

Part 3

Management Report

3.1 Spey Catchment Initiative

The Spey Fishery Board has continued to be the driving force behind the Spey Catchment Initiative (SCI), as well as providing it with substantial administrative and management support. Since its inception in 2010, the SCI has enjoyed considerable success delivering a range of multiple-benefit projects, which in turn have enabled the SFB to ensure significant fishery habitat enhancements. These have included river restoration and bankside improvement works, in-river habitat enhancements and riverside amenity works to improve access and enjoyment of the River Spey for local communities.

The SCI's remit remains the same is primarily namely to deliver on four priority themes:

- Planting/safeguarding riparian woodlands and enhancing wetlands
- Demonstrating natural flood management techniques
- Developing a better understanding how the river works. In particular, how mankind's use of land impacts upon the hydrological and geomorphological processes of the River
- Education, awareness-raising and getting people involved in the catchment

With the continued support of the Initiative's funding partners, 2014 has seen a range of projects being progressed and delivered. These have included: a catchment-wide riparian audit; delivering a range of riparian enhancement and natural flood management sites; using these sites to educate and raise awareness of good practice; and engaging with the land management community in holistic approaches to catchment management and development. Progress is also being made in developing a catchment-wide study of natural river processes to generate a better understanding of how the river system works.

To date, the SCI has planted nearly 10,000 riparian trees across several sites, thanks to the generous support of the Woodland Trust.

Right: *bank erosion along the River Avon following a recent spate. Although erosion is a natural process, it can cause problems with land use. This highlights the need for a better understanding of how man's use of land impacts upon river Processes. (Photo: Liz Henderson, SCI Project Officer).*

3.1.1 Tomintoul & Glenlivet Landscape Partnership (TGLP)

In late 2014 it was confirmed that £2.5 million of Heritage Lottery Funding had been earmarked for the Tomintoul & Glenlivet Landscape Partnership (TGLP) through its Landscape Partnership programme. This includes a £171,000 development grant to enable detailed proposals for a wide range of projects over the 195km^2 of partnership landscape area to be developed. It is hoped that this will result in a total investment of £3.6m in the area between 2017-2020.

A package based around the water environment and led by the SCI forms a significant element of the proposals. In the development phase, it is planned to undertake a riparian walkover audit to ground-truth the condition of the water margins. A fluvial audit will also be commissioned to understand how this dynamic river system works, so that water flows can be better managed in times of spate. An example of the need for this is illustrated in the photograph on the preceding page. This will then inform a prioritised scheme of restoration and enhancement works which will be developed and costed for delivery during 2017-20.

3.1.2 Allt a'Mharcaidh

The Allt a'Mharcaidh is a tributary of the River Feshie, which flows through the Invereshie and Inshraich National Nature Reserve (NNR), close to the village of Kincraig. Approximately 1.2km of its lower reaches were artificially canalised in the early 1800's, so as to make it easier to float logs from the area down to the River Spey and on to the former ship-building industry at Garmouth and Kingston. Over time, this section has incised, then undercut its banks and the riverbed has been scoured of much of its sediment. The project aimed to redress these morphological pressures and to restore the burn to a more naturally-functioning watercourse, thereby improving its in-stream habitat.

Using low impact, low cost mechanisms, an environment has been created that will be conducive to re-establishing natural river processes that will, over time, improve the morphology of this section of burn. This approach has been successfully implemented on other projects in the Spey Catchment in recent years.

Woody debris features (sometimes referred to as "soft engineering") were introduced along the length of the reach, sediment sources were exposed and embankments lowered at key locations. Together, these measures should instigate natural processes such as erosion and deposition and encourage the creation of in-stream features such as pools and riffles. In time, this will lead to improved "in-river conditions" that should have a positive impact on river functioning, improved habitat for salmonid species, aquatic features and enhanced biodiversity.

The river morphology improvement works also formed part of a larger project across the whole of the NNR. Drains in the surrounding habitat have been blocked to encourage water storage which will enhance the wet woodland environment and areas of bare peat have been stabilised which should lead to a reduction in carbon loss, as well as increased carbon sequestration. It is intended to undertake some broadleaf riparian tree planting on the site during 2015.

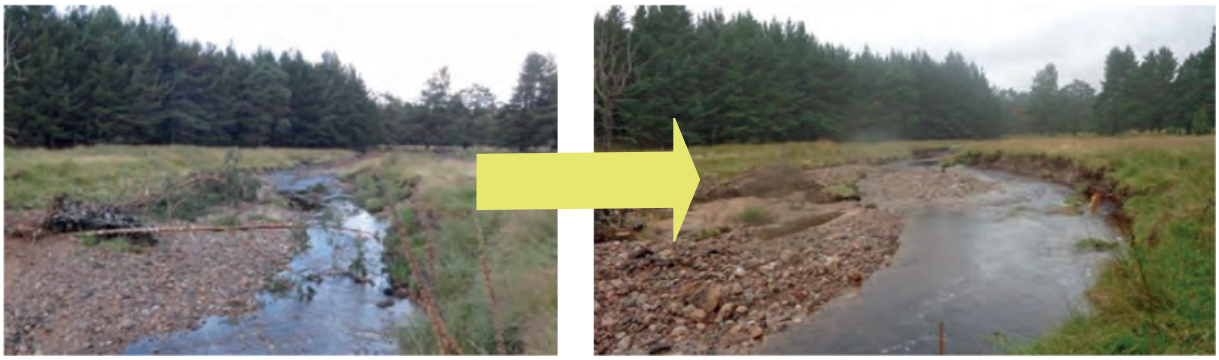
This project has been delivered as a joint initiative between the Spey Catchment Initiative Project Officer and the Cairngorms Peatland Restoration Officer, with the generous support of the Spey Fishery Board, Forestry Commission Scotland, Scottish Natural Heritage, the Scottish Environment Protection Agency's Water Environment Fund and the Green Stimulus Peatland Restoration Fund.

Above: The Allt A'Mharcaidh Project. *"Before and After" photos of the project works. By applying low impact, low cost "soft engineering" mechanisms, an environment has been created that will be conducive to re-establishing natural river processes that will, over time, improve the morphology of this section of burn. This approach has been successfully implemented on other projects in the Spey Catchment in recent years.*

3.1.2 Allt Lorgy River Restoration - 2 years On

Two years ago we reported that work had been undertaken to restore the morphology and habitats of the Allt Lorgy burn and reconnect it to its adjoining floodplain. This was a burn that had been canalised for agricultural purposes, possibly during the 19th Century. The intention was that by kick-starting the process and removing significant artificial constraints, the watercourse would, over time, re-establish its natural equilibrium, both in-stream and with its floodplain. This would then create a diverse ecological environment and also enable the burn and its floodplain to contribute better to upland water flow management, especially in times of prolonged rainfall or high spate.

Two years on and significant changes have taken place at the site, where the impact of natural processes can clearly be seen. In-stream features such as pools and riffles have been created and a more variable substrate now exists. Following several spates and a significant flood event, the processes of erosion and deposition are now well underway and the channel is creating its own natural path.



Above: *Natural processes of erosion and deposition at work. (Photos: Liz Henderson, SCI Project Officer)*

Above: *In-stream features such as deep pools have been created in the Allt Lorgy. (Photos: Liz Henderson, SCI Project Officer).*

The Spey Catchment Initiative is supported by:

Scottish Natural Heritage
Dualchas Nàdair na h-Alba
All of nature for all of Scotland
Nàdar air fad airson Alba air fad

CAIRNGORMS NATIONAL PARK AUTHORITY

DIAGEO

Spey Fishery Board

the moray Council

SEPA Scottish Environment Protection Agency

Forestry Commission Scotland
Coimisean na Coilltearachd Alba

The Highland Council
Comhairle na Gàidhealtachd

3.2 Spey Action Plan

In 2014 the Spey Action Plan replaced the former Spey Fishery Management Plan, which had been in place since 2008. The latter had provided a framework within which the Spey Fishery Board could identify target areas for research and apply specific funding. However, it had also been a comprehensive document and it had been decided that its successor would be streamlined into something more user-friendly. Accordingly, the Board's Biologists drafted an Action Plan, principally for the Spey Foundation, but in close collaboration with the SFB, to determine and prioritise our future work. This went out to public consultation in January 2014 and was finalised in February. Copies are available upon request from the SFB Research Office.

The Spey Action Plan does not replace the Spey Catchment Initiative. Rather, it focusses on more specific issues directly relating to the management of the Spey's fish stocks. Work on its implementation has begun during the year and progress is reviewed at the quarterly meetings of the Spey Foundation Committee and the Spey Board.

3.3 Salmon Stocking on the Spey

Historically, stocking has often been the first choice strategy adopted by organisations such as fishery boards to try to improve fish numbers. Hatcheries have been operated on the Spey periodically since the late 1800's, when a large scale hatchery at Gordon Castle reared up to one million fish, although it was discontinued in 1914 after 22 years of operation. In the late 1960's, the fishery board established a hatchery at Knockando, prior to the construction of the current facility at Glenlivet in 2001. Various drivers have prompted the establishment of hatcheries on the Spey, including declining catches, stock components or UDN-associated mortalities.

The Spey stocking policy is reviewed annually by the Spey Foundation Committee, which then makes recommendations to the Board, which may result in a number of refinements and changes.

It is generally considered that there are four different types of stocking:

- **Reintroduction**: with the aim of re-establishing populations in areas from where they have been lost, e.g. salmon stocking in the Thames where there was historically a thriving salmon population.
- **Restoration**: where the aim is to restore populations at low ebb back to numbers back to previous abundance.
- **Enhancement:** the aim is to increase stocks, and subsequently catches, in the catchment above natural carrying capacities.
- **Mitigation:** compensatory stocking to maintain production in areas no longer accessible to migratory fish due to e.g. man-made obstacles.

In 2003 the number of salmon stocked on the Spey was increased three-fold as part of a programme aimed at increasing salmon catches by 8%, using a combination of catch and release, habitat improvements and stocking. The stocking expansion was based on a combination of enhancement and mitigation stocking. The enhancement element focussed on stocking suitable habitat above impassable waterfalls, in effect expanding the range of salmon within the Spey catchment, and in "underutilised" areas, whilst mitigation stocking upstream of man-made obstacles was also increased.

In recent years the focus has been on mitigation stocking. Whilst mitigation stocking is generally considered acceptable, providing best practice is followed, it is now illegal to stock above impassable waterfalls following implementation of the Wildlife and Natural Environment Act, which makes it an offence to move a species out-with its natural range. The opportunities for mitigation stocking on the Spey are limited; it is estimated that the proportion of the catchment rendered inaccessible to migratory fish is less than 1%, a figure that is slowly reducing as more and more barriers are removed. Hence, we are now in a situation where we have a relatively small hatchery operation, focused on mitigation stocking, mainly in small tributaries in the middle and lower catchment.

The identification of areas perceived to be underutilised can be difficult and may lead to incorrect conclusions being drawn. There are areas of the Spey catchment which are likely to have always supported only low densities of fish, such as high altitude areas and those with granite geology that support only low productivity, and so to try to improve fish populations in these areas by stocking is unlikely to be productive. Salmon do use these areas in the Spey - we have a strong population of salmon spawning at over 500m (1640ft) altitude, up to over 600m (2130ft) - but these should be viewed as highly specialised and adapted fish that spawn early, hatch late and concentrate their growth in the relatively short summer. Highly adapted populations such as these are particularly susceptible to disruption, be that climate or habitat change, or the introduction of stocked fish from outwith that particular area.

A more sustainable strategy, that will benefit the whole river, is to conserve stocks to ensure there are adequate fish available to spawn, and to ensure that the habitat in the nursery areas is as good as possible, so as to promote enhanced survival through the parr and ultimately smolt stages of the salmon life cycle.

Above: *the SFB's Hatchery at Sandbank, Glenlivet. (Photo: Roger Knight)*

3.3.1 Stocking Policy

Since 2011 the Spey Foundation Committee has recommended to the Board that a far more targeted approach to stocking than had hitherto been practised, together with a reduced production that could be effectively monitored, should be undertaken. This had followed consideration of the extensive programme of electrofishing that had been undertaken that year, together with the results of the genetic analysis project (see the Annual Report 2013, available on the SFB website, for extensive reporting on this) which had provided an indication of the hatcheries' contribution to the rod fishery.

Another comprehensive programme of electro-fishing was undertaken by the Board during 2014 (see section 4) , initially to monitor its stocking in 2013 and to confirm the stocking locations for 2014 (see Table 2 on page 38). To assist future monitoring, the Ghillies once again coordinated the fin-clipping of 180,000 autumn parr for stocking during 2014, so that hatchery-reared fish could be more readily identified. The Board is grateful to all of the Ghillies and Proprietors who took part in this, which highlighted the value of public engagement in our work.

In 2013, the SFB had decided to retain the operation of the hatchery, at broadly similar levels to the current production, for the next five years. However, the Spey Foundation Committee and the Board also had to consider the stocking policy and requirement for 2015. To enable this, the Board reconvened its Stocking Sub-Committee, which considered the results from the 2014 electro-fishing. The Sub-Committee's findings were subsequently presented to and endorsed by both the Spey Foundation Committee and the Board (see Table 3 on page 38). Thereafter, the Board applied for a licence from the Scottish Government to catch and hold broodstock outside the Salmon fishing season. By the nature of the SAC-designation of the River Spey, this application also required an Appropriate Assessment. The Board was granted a licence from the Scottish Government for the collection of broodstock and this began in October, once the 2014 stocking had been completed.

The SFB Stocking Policy remains progressive and will continue to be subject to review in light of new legislation, our ongoing monitoring and advances in scientific research.

3.3.2 Spey Mainstem Stocking and Monitoring

Mitigation stocking was undertaken in the Spey mainstem following the losses incurred during the August spate. In order to facilitate identification, the stocked fish were fin-clipped by the ghillies and Spey Fishery Board staff in late August prior to stocking out in early September. A total of 50,000 fin-clipped fry, of lower Spey origin, were stocked in four specific areas of the lower Spey mainstem; Craigellachie, Easter Elchies, Delfur and the Brae Water.

During the repeat Spey mainstem salmon fry surveys described in Section 4.5, each salmon fry captured was carefully examined to establish if it had been adipose fin-clipped or not. The results of this monitoring are shown in the graph below. The sites included were all either stocked, or were in close proximity to upstream stocking.

Fin-clipped salmon fry were found at seven of the sites shown above: The Telford Bridge; Craigellachie Hut; Craigellachie Slabs; Easter Elchies; Delfur 1 & 2; and Brae 2. All these survey sites were in parts of the river where stocking had occurred. Stocked fry were found in all of these sites, but in low densities and with the exception

of Delfur 1. The maximum contribution from stocked fry was 14.3% at two sites and the average contribution in sites where stocked fry were recorded was only 8.2%. To put this into perspective, at nine stocked sites that were monitored, a total of 585 wild fry were captured, in comparison to 46 stocked fry captured.

There was little evidence of movement of the stocked fry. The only site where stocked fry were found outwith an area that had been stocked was at the Brae 4 site, where a single stocked fry was recorded approximately 1Km downstream of the nearest stocked location.

At all sites downstream of and including Delfur, the average size of the stocked fry captured during the post spate monitoring were smaller than the wild fry. Further upstream, at the Easter Elchies and Craigellachie sites, the sizes of the wild and stocked fry were comparable.

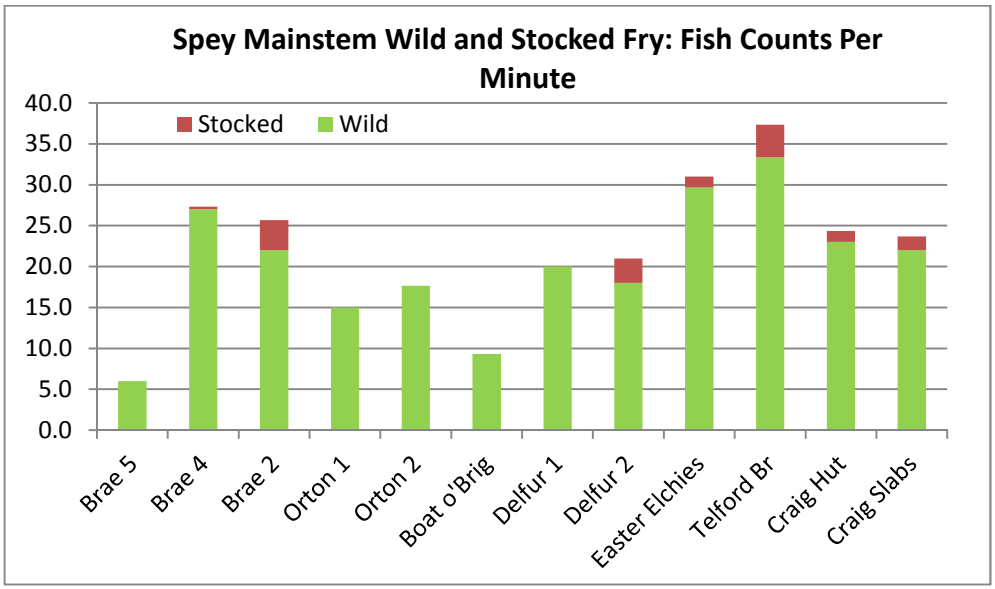


Figure 13: *Salmon Fry Counts Per Minute at Stocking Monitoring Sites in September 2014*

3.4 Pollution Incidents

3.4.1 Cromdale Burn

On Sunday 15th June 2014, the SFB received a report of a pollution incident in the Cromdale Burn. It was subsequently confirmed to have been caused by the inadvertent release of caustic soda from a local Distillery. SFB staff attended the Burn that afternoon and inspected a number of sites. Numerous dead fish were visible in the burn, including juvenile salmon, trout and eels. The Board's Biologists subsequently undertook electro-fishing surveys of the Burn on the 17th June to establish the extent of the fish kill. Based on the surveys, it was assessed that all salmonids between the distillery and the A95 road (a distance of approximately 2 km) had been killed by the pollution incident. Using data from previous electrofishing surveys of this burn, it was subsequently assessed that approximately 14,000 salmonids and numerous eels had been killed by the pollution incident.

The SFB has worked closely with the Scottish Environment Protection Agency (SEPA), as the regulator for such incidents, and has entered into negotiations with the distillers involved to discuss reparations. These negotiations are ongoing.

Table 2: Spey Fishery Board Stocking 2014

Stocking location	Broodstock	Habitat quality	Area Available (m^2)	Stocked 2014 0+ parr	Month stocked
Broad Burn	Lower Spey	Moderate/Good	7,697	16,000	Sept
Burn of Rothes	Lower Spey	Good	7,000	8,000	Sept
Lower Mainstem	Lowers Spey	Good	n/a	50,000	Sept
Mackalea Burn	Fiddich	Good	2,700	3,000	Sept
Corrie Burn	Fiddich	Good	9,775	7,000	Sept
Dullan Water	Fiddich	Good	11,279	36,000	Sept
Tommore Burn	Avon/Middle Spey	Good	7,120	50,000	Sept
Cromdale Burn	Upper Spey	Good	7,500	20,000	Sept
Batten Burn	Dulnain	Good	8,750	17,500	Sept
Total				**207,500**	

Table 3: Eggs Laid Down in the Hatchery for Stocking in 2015

Source	Number females	Eggs laid down in hatchery
Lower Mainstem	5	28,740
Fiddich	16	107,225
Avon	10	56,110
Dulnain/Upper mainstem	10	59,670
		251,745

3.4.2 Rothes Burn

On 31st July 2014, SEPA's Elgin office informed the SFB of a pollution incident in the Rothes Burn. The incident had been reported to SEPA by a local resident from Rothes, who had seen large numbers of dead fish within the Burn. SFB staff attended the incident and met with representatives of SEPA on site. The SFB's Biologists subsequently electro-fished the Burn to assess the numbers of fish impacted. They determined that all fish from the bridge in Rothes down to the confluence with the Back Burn had been killed during the incident. The affected stretch extended to some 800 metres and it was assessed that over 8,000 fish had been killed, in what has always been considered to be a productive Burn for spawning salmon and trout.

The pipework associated with this incident is utilised by three organisations. The SFB has worked closely with SEPA, as the regulator for such incidents, and is awaiting a determination from them as to which organisation was responsible for the incident. The SFB will then enter into negotiations with the relevant organisation involved to discuss reparations. SFB staff have also provided formal witness statements to SEPA.

3.5 Control of Ranunculus

Ranunculus sp., or water crowfoot, is an invasive aquatic plant species which is non-native to the River Spey. It was accidentally introduced to the river over 30 years ago near Grantown-on-Spey and much of the River downstream of Grantown is now badly affected by this plant.

In the past the chemical Midstream, which contained the active and toxic ingredient Diquat, was used to control Ranunculus. As a result of EC legislation, we are no longer able to use this chemical and so the plant is spreading and in some areas choking the flow of the river. The extensive mats of Ranunculus often accumulate sand and gravel underneath, choking the underlying substrate beneath it. This affects the Freshwater Pearl Mussel and Salmon fry habitat. Alternative methods of control, such as manual cutting and removal or hand pulling, are not considered practical as they are costly, labour-intensive and pose considerable health and safety issues for individuals working in a fast flowing river.

A Scottish Natural Heritage (SNH) Position Paper in 2010 clearly explained how Ranunculus is detrimental to two (Atlantic Salmon and Freshwater Pearl Mussel) of the four species for which the River Spey is deisgnated a Special Area of Conservation (SAC). The SFB subsequently identified the glyphosate herbicide, Roundup Pro Biactive as a potentially suitable chemical for plant control that had been accepted for use in and around watercourses. However, there were concerns about the application of such herbicides to SAC Rivers.

We reported last year that a Management Group, consisting of SEPA, SNH and the Spey, Dee and Don Boards and Trusts, had been formed to progress this long-running issue. This Group arranged a literature review as a first step, to establish if any research had been undertaken on the efficacy of applying Roundup Pro-Biactive and TopFilm to ranunculus, and on any impacts it may have had on our designated species. This Group subsequently supported an application for a licence for a trial application in the River Don. This application was successful and a licence was issued by SEPA.

Consequently, in July 2014 and in collaboration with the Dee and Don DSFBs, a trial was undertaken into the effects of a Round-Up Pro-Biactive, combined with the agent Top Film, which helps the active ingredients to stick to the plant. This trial had two purposes: the first being to determine if the herbicide was effective at killing the plant; and the second, to analyse levels of the potentially harmful chemical in the water at different locations and time scales. The latter part meant that the study had to be carried out in a non-SAC river, without Freshwater Pearl Mussels. The River Don was therefore selected as the study site.

The investigation into whether the herbicide works was hindered by the fact that the ranunculus had already started to die back at the time the study was undertaken, due to the mild spring and summer. So it was hard to say whether the plants within the study area had died due to the treatment, or simply under natural processes. However, the residue analysis showed that the levels of the active ingredient were well under the Environmental Quality Standards defined by SEPA. It is hoped that the Don trial will have provided sufficient information for further studies on the Spey, with the ultimate aim of establishing if the treatment is environmentally safe and effective.

The SFB looks forward to further progress with this long-standing issue during 2015.

Above: *Ranunculus in the River Spey at Grantown -on-Spey, July 2014. (Photo: Roger Knight).*

3.6 Sawbill Ducks and Cormorants

In November 2013, the SFB again coordinated a combined application to Scottish Natural Heritage (which in 2011 had assumed responsibility for licensing issues from the Scottish Government) for the Spey, Conon, Ness and Beauly Rivers to shoot Goosanders, Mergansers and Cormorants during 2014. This application was successful and the Spey was licensed to shoot 12 Goosanders, 8 Mergansers and 2 Cormorants between January and the end of May, the latter date being significant because we need to provide additional protection to Salmon stocks during the annual smolt run. Carcasses of birds shot were also collected where possible for submission to the Marine Scotland Science laboratory in Pitlochry for analysis of stomach contents.

In 2014 the SFB continued counting Goosanders, Mergansers and Cormorants. Counts were carried out from Boat o'Garten to Spey Bay in late March and early May and the data collated has contributed to our 2015 Licence Application. This continued our efforts towards creating what is anticipated will be a Moray Firth Sawbill Plan, broadly along the lines of the successful Seal Plan for the area (see section 3.10). The application for 2014 again requested that some of these birds be shot during May (rather than restricted to January – April, as had been the case in some previous years) to provide additional protection to Spey salmon stocks during the annual smolt run. This licence application was successful and the Board has been granted a licence to shoot 23 Goosanders, 2 Mergansers and 4 Cormorants between 1 January and 31 May 2015.

Above: *The numbers of piscivorous birds such as Goosanders, Mergansers and Cormorants are controlled on the River Spey under licence from the Scottish Government. (Photos: courtesy of the Scottish Agricultural Science Agency).*

Due to the designation of the Inner Moray Firth and Cromarty Firth as SPAs for these species under the Habitats & Birds Directives, future schemes must consider the potentially conflicting conservation obligations of other relevant authorities for piscivorous birds, against the obligations of District Salmon Fishery Boards (DSFBs) to conserve the fish stocks on which these birds prey. One of the issues facing the licensing authorities is the lack of data indicating whether there is a clear link between the estuarine and riverine populations of Goosanders, and whether birds migrate between these areas. We reported last year that Scottish Government funding had been granted towards a literature review of all available data on this matter. This was completed during 2012, using funding granted by the Scottish Government for Integrated Predator Management throughout the Moray Firth region. Further work to develop an effective project to progress our knowledge of this issue has continued during 2014 and the Management Group has been considering how best to proceed with this.

In November 2014, the SFB coordinated the 2015 Licence Application. This application, on behalf of the Spey, Conon, Nesss and Beauly Rivers, has also been enhanced by the addition of applications from the Findhorn, Nairn, Lossie and Kyle of Sutherland DSFBs. The Management Group also secured approval for subsequent licence applications to be submitted in time for a licence to run from October until the following April/May, rather than from January until April/May as at present.

During 2015 the SFB will continue to work with SNH, the Scottish Government, the Scottish Agricultural Science Agency and neighbouring Boards and Trusts to develop this work and to establish a Moray Firth-wide management scheme for Sawbill Ducks and Cormorants.

3.7 Moray Firth Seal Management Plan

2014 saw the continuation of the Moray Firth Seal Management Plan. This Plan was first implemented in 2005, with the aim of protecting Salmon and Sea Trout stocks whilst also maintaining the conservation status of the Dornoch Firth Special Protection Area (SPA) for common seals. The scheme introduced the novel approach of managing seals and Salmon over a large geographical area, the training of Nominated Marksmen to an agreed standard, and the accurate reporting of all seals shot.

We reported last year that the departure of the Moray Firth Seal Management Plan's coordinator had prompted the Scottish Government to convene a meeting of all members of the Plan, so that a review of its implementation since 2005 could be undertaken and an appropriate way forward could be decided. This meeting involved the Scottish Government's Marine Scotland, the Sea Mammal Research Unit from St Andrew's University, Scottish Natural Heritage, representatives from many of the District Salmon Fishery Boards and River's Trusts throughout the Moray Firth and representatives of the Salmon Net Fisherman's Association of Scotland. It was decided that the Spey Fishery Board would coordinate the Plan's 2014 Licence Application and begin a thorough review of the Moray Firth Seal Management Plan. Some progress has been made on this during 2014 and the review will continue during 2015. Thereafter, it was likely that coordination of the Plan, on behalf of the whole of the Moray Firth, would be assumed by the Director of the Ness District Salmon Fishery Board, who has previous experience in seal licence administration.

The SFB will continue to take a leading role in the review of the Moray Firth Seal Management Plan during 2015.

3.8 Fishery Protection

A Government-sponsored survey conducted in 2003 showed that Salmon and Sea Trout angling on the Spey contributes at least £11.8 million each year to the local economy and supports 367 full-time-equivalent jobs. Poaching therefore not only causes irreparable environmental damage, but also has a significant impact upon the local economy and causes damage to the rural community. In 2014 the SFB continued to work closely with the Police, with whom we have been fortunate to enjoy close links, in order to control the poaching of these valuable fish. Coastal patrols between the Boar's Head stretch of coastline and Cowhythe Head were also continued from April-August 2014. The SFB had made a significant investment the previous year by upgrading its patrol boat capability. This involved not only the upgrade of our Rigid-hulled Inflatable Boat (RIB) to a 6.4 metre RibCraft, but also the purchase of a significant amount of additional equipment to ensure it met all of the required standards to be commercially coded. Our Head Bailiff and Coxswain, Richard Whyte, also had to pass rigorous examinations. However, this has significantly enhanced our operational capability and the Board's Bailiffs are now able to operate in rougher sea conditions and stay out at sea longer than was the case previously.

A number of patrols along our coastline were completed throughout 2014, during which a number of irregularities were identified and subsequently reported to the relevant authorities. The SFB was also contracted in 2014 to undertake two patrols for the Dee District Salmon Fishery Board (DSFB), two for the Ness DSFB and two for the Esks DSFB. During one of the latter patrols, a leader was lifted from a mixed stock coastal net fishery which was continuing to fish after the weekly "slap" time, when leaders must be removed. This was handed-over to Police Scotland and will become part of any subsequent submission of evidence. A patrol was also undertaken in conjunction with the Deveron DSFB. These contracted patrols have also continued to enhance our already close ties with other regional DSFBs and illustrated the value of pooling resources to tackle shared problems, particularly coastal netting irregularities.

Poaching activity on the River Spey in 2014 was again reduced in comparison to recent years, although this may well have been a reflection on the availability of fish within the river. Nonetheless, whilst the numbers of arrests and convictions may be low, the deterrent effect of deploying a dedicated and professional group of Water Bailiffs should not in any way be under-estimated.

Above: *the SFB's 6.4m Rigid-hulled Inflatable Patrol Boat out at sea, with SFB Head Bailiff & Coxswain Richard Whyte and Wtaer Bailiff Jason Hysert.*

Above: *SFB Head Bailiff & Coxswain Richard Whyte about to conduct a boat patrol on Loch Ness on behalf of the Ness DSFB and in conjunction with a Wildlife Crime Officer from Police Scotland.*

3.10 Administration and Staffing

The Board's Administrator is now Sally Gross (nee Worsdall) following her marriage to Mr Steve Gross in October 2014. The SFB wish them every happines for the future.

Part 4

Spey Foundation Report

4.1 Juvenile surveys 2014

A total of 183 electrofishing surveys were completed in 2014, including 92 salmon fry index surveys and 91 density sites, most of which were in tributaries. The wet August delayed surveying for a period, but it was followed by a very dry September which provided excellent conditions and allowed all planned juvenile surveys to be completed. The annual salmon fry index survey of the Spey mainstem was completed with 61 timed sites surveyed. The same technique was used for the first time on the Fiddich, Feshie and Tromie. The main tributaries scheduled for surveying in 2014 were the Fiddich, Feshie, Tromie and Calder along with some of the burns flowing directly into the Spey. Stocking monitoring surveys were completed along with contract and other investigative surveys.

A key feature of the summer was the very heavy rainfall that occurred overnight on the 10/11th August; the sting in the tail of Hurricane Bertha. On the 11th the Spey and most of the tributaries were in spate with peak flows of 750m^3/sec at the Boat o'Brig SEPA gauging station, making it the sixth largest spate since 1953. In the days after the spate there were reports of stranded fry and parr on the banks of the lower Spey and some of the tributaries. The opportunity was taken to try and quantify the impact of this large spate on juvenile stocks.

4.2 Salmon Fry Index

In 2014 61 timed sites were surveyed in the Spey mainstem, covering almost the entire river from Garmouth to within 2 miles of its source at Loch Spey. The 2014 sites were the same as last year, although the Kinermony and Delagyle sites have been removed and replaced by nearby sites on the opposite bank with more suitable habitat. The same technique was also used for the first time in the mainstems of the Fiddich, Feshie and Tromie.

The 2014 salmon fry index results were combined with the results from the previous two years and split into quintile (20% bands). As the database expands, the classification scheme will eventually be based on a rolling five year average. The results from the 2012/3/4 salmon fry index surveys on the Spey are shown in Table 5 below. Full details of the classification scheme and full details of the mainstem survey can be found on the Spey Fishery Board website. The results are colour coded in 20% bands according to Table 4 below.

Table 4: Spey salmon fry index classification scheme 2014

2014 Salmon fry breakpoints (No/min)	Classification
0.0	Absent
< 6.0	E – Very low
6.0 – 12.0	D - Low
12.0 – 19.0	C - Moderate
19.0 – 31.5	B - Good
>31.5	A - Excellent

Table 5: Spey mainstem salmon fry counts per

Site code	Location	2012	2013	2014
S007R1	Gordon Castle	24.7	22.7	16.3
S012R1	Gordon Castle	11.3	17.0	17.3
S017L2	Gordon Castle	31.7	52.7	24.7
S019L2	Gordon Castle	13.3	57.7	28.7
S025L1	Gordon Castle	7.7	26.0	23.0
S029L1	Orton Water	6.3	41.0	15.0
S032L1	Orton Water	9.0	44.0	17.7
S034R1	Delfur	19.7	12.0	55.0
S040L1	Delfur	6.7	14.0	13.3
S040L2	Delfur		90.0	66.0
S042L1	Rothes	7.7	44.0	10.3
S047L1	Rothes	6.3	9.3	9.0
S050R1	Arndilly	13.7	29.7	28.3
S052L1	Arndilly	15.7	15.7	19.7
S056L1	East Elchies	17.7	34.7	43.7
S059R1	Craigellachie	36.7	28.3	33.3
S060R1	Craigellachie	13.0	12.3	23.0
S061R1	Craigellachie	20.3	12.3	22.0
S066R1	Aberlour	10.0	15.3	27.7
S068R1	Kinermony	3.3	7.3	
SO86L1	Wester Elchies		15.7	12.0
S071R1	Delagyle	7.0	6.3	
SO72L2	Wester Elchies		19.3	7.3
S074L1	Laggan	7.0	5.3	9.0
S077L1	Laggan	36.7	10.0	31.3
S079R1	Carron	15.7	31.0	16.3
S082L1	Knockando	8.3	9.3	17.7
S087L1	Phones		3.7	6.0
S093R1	Low er Pitchroy	21.3	25.7	20.3
S096R1	Ballindalloch	11.0	20.0	49.0
S104L2	Ballindalloch	20.3	61.3	40.7
S105L2	Tulchan D	35.0	65.7	33.7
S112L1	Tulchan C	10.3	35.0	11.3
S119L1	Tulchan B	28.0	30.7	10.0
S124R1	Tulchan A	13.0	38.0	14.7
S131L1	Castle Grant 3	29.0	40.0	21.0
S135L1	Castle Grant 2	17.7	44.0	36.3
S141L1	Castle Grant 1	3.7	8.0	9.3
S147L1	SAIA	11.0	17.3	16.0
S149L1	SAIA	12.0	10.3	14.7
S163L1	Abernethy AA	33.7	73.3	59.3
S177L1	Abernethy AA	23.0	53.0	24.0
S183L1	Kinchurdy	5.7	45.0	21.0
S195L1	Aviemore AA	14.0	36.0	13.7
S209L1	Kinrara	19.0	28.3	13.3
S212R1	Kinrara	16.0		
S215L1	Dalraddy	24.3	63.3	47.7
S243R1	Badenoch AA	8.7	14.3	17.7
S254R1	Badenoch AA	6.0	8.0	18.3
S258L1	Badenoch AA	12.7	11.0	19.3
S264R1	Truim	22.0	4.3	5.3
S282R1	Laggan	19.7	17.7	18.7
S287L1	Laggan	12.3	21.3	14.7
S290L1	Below Spey Dam	18.0	25.0	5.7
S298R1	Glenshirra	0.0	0.0	0.0
S305L1	Garvamore	3.3	3.7	0.0
S305L2	Garva Bridge	1.3	1.3	0.0
S311L1	Upper Spey	4.0	0.0	0.0
S312L1	Upper Spey	4.7	0.0	0.0
S315L1	Upper Spey	5.7	0.0	0.0
S317L1	Upper Spey	7.0	0.0	0.0
S318L1	Upper Spey	3.0	0.0	0.0
S319R1	Upper Spey	0.7	0.0	0.0
S326L1	Upper Spey	5.7	0.0	0.0
S328R1	Upper Spey	0.0	*	

The mean salmon fry count per minute in 2014 was 18.8 compared to 23.6 in 2013 and 13.6 in 2012. The mean counts include the sites above Spey Dam where the greater incidence of zero counts in the last two years has reduced the mean for the river as a whole.

A number of lower river sites were surveyed in September 2014, rather than during the usual survey period of late July, but there were no significant differences in the results at these sites compared to last year.

As in previous years, salmon fry were found at all sites downstream of Spey Dam. There has been variation from year to year, but the counts in some areas are consistently better than average e.g. Aberlour to Arndilly, where all the counts have been in the moderate to excellent categories. Upstream in the area between Aberlour and Phones the results were generally lower and have been mixed. This is likely to be primarily due to habitat suitability and availability of spawning habitat.

Upstream of Spey Dam, no salmon fry were recorded at any of the sites surveyed by the Spey Foundation. This was subsequently independently validated by SEPA, which carried out its own surveys. Unless there is better fry recruitment in 2015 there will be a virtual absence of juvenile salmon above Spey Dam after the 2015 smolt run.

For this type of survey, the habitat selected is generally more suited to fry e.g. shallow, fast- flowing run/riffle. However parr are also captured. In 2014 the mean salmon parr count was 3.8/min, down slightly on the 4.3/min in 2013, but much higher than the 1.4/min recorded in 2012.

For comparison, the mean parr counts in the 2014 timed surveys in the Fiddich were 7.1/min; in the Feshie 1.9/min; and 2.2/min in the Tromie sites. The salmon fry index counts from these tributaries are shown below in Table 6.

Table 6: 2014 Salmon Fry Index Results from the Fiddich, Feshie and Tromie

	River Fiddich	
Site code	Location	fry/min
TSF01	Fiddichside Inn	107.3
TSF08	Mains of Newton	87.7
TSF10	Kinninvie House	47.3
TSF13	Balvenie warehouses	25.0
TSF19	Dullan confluence	129.7
TSF24	A941 bridge	105.3
TSF29	Keithmore Farm	34.3
TSF38	Bridgehaugh	29.0
Mean		70.7
	River Feshie	
Site code	Location	Salmon
TSFE03	Upper Feshie fan	8.0
TSFE10	End of Feshie bridge track	6.7
TSFE14	Below layby	10.3
TSFE23	RHB u/s Achleum Bothy	2.0
TSFE26	Croin Alltan confluence	3.7
TSFE30	Below keepers base u/s ford	5.3
TSFE35	At mouth of dry burn	2.0
TSFE39	d/s second ford	2.0
TSFE51	At old wooden hut	0.3
TSFE56	By large erratic on rhb of floodplain	0.0
Mean		4.0
	River Tromie	
Site code	Location	Salmon
TT02	Invertromie Farm	17.3
TT04	RHB channel d/s smolt trap site	2.0
TT11	Island below GlenTromie Lodge	5.3
TT13	u/s Glentromie Lodge	10.0
TT16	Behind Lyneberack Lodge	7.7
TT19	Behind pond	6.3
TT24	Dailraich	6.7
TT29	Corner u/s wooden house	6.0
TT32	250m d/s Tromie Dam.	6.0
TT40	Old bridge below Gaick Lodge	1.0
TT43	D/S of ford	0.0
TT44	U/S of plantation	0.0
TT45	Confluence of Allt Aitlig	0.0
Mean		4.4

The salmon fry index surveys in the Fiddich, Feshie and Tromie highlighted the range of habitat present in the Spey catchment. It should be noted that the Fiddich was surveyed prior to the August spate, whilst the Feshie and Tromie were surveyed in September.

The Fiddich salmon fry index survey found good to excellent fry abundance at all sites. At three of the Fiddich sites, the salmon fry count exceeded 100/min, a figure not reached anywhere else in the Spey catchment during the last three years.

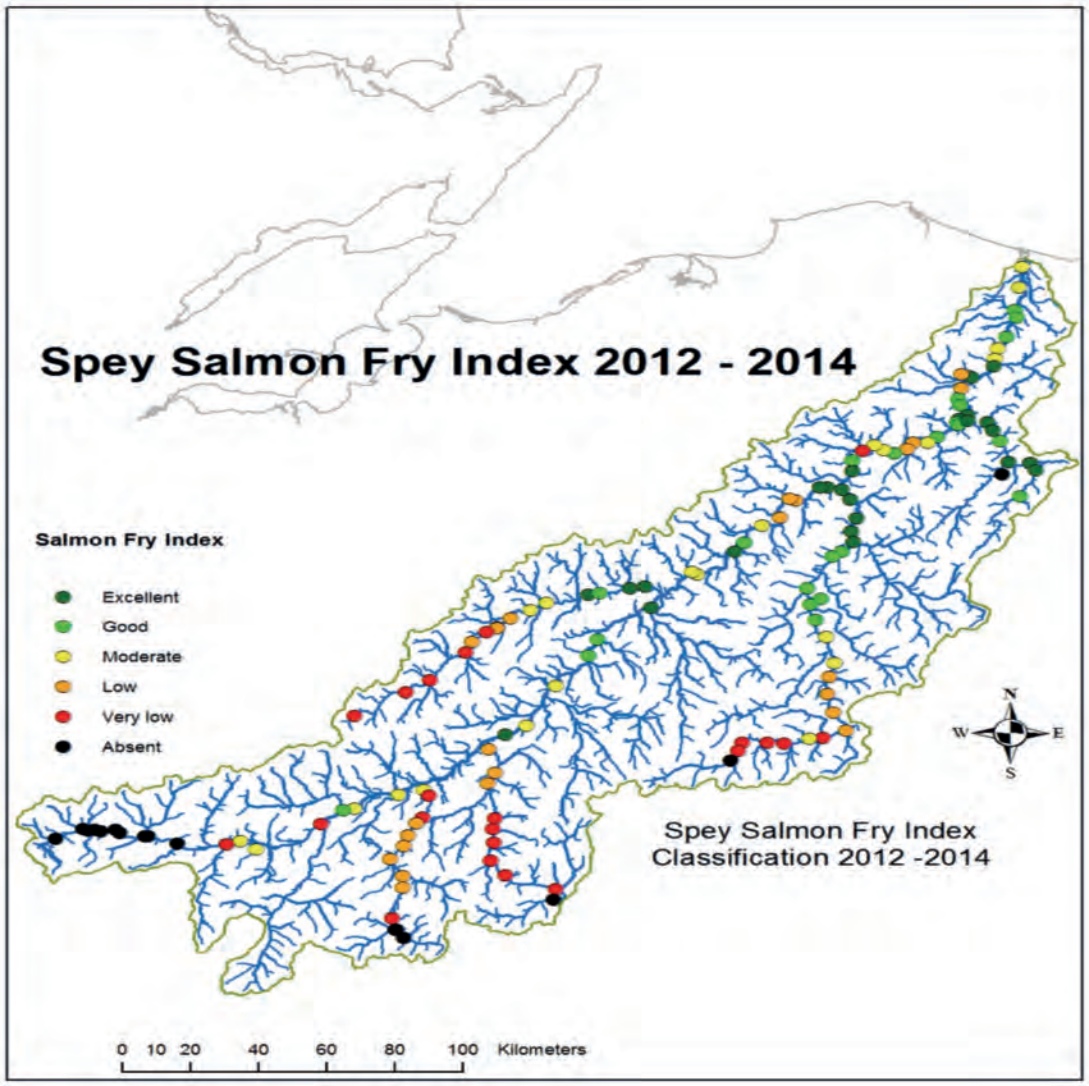
By contrast, in the Feshie, the results were all in the very low or low categories. The disparity between the Fiddich and Feshie was not unexpected, although the Feshie counts are likely to have been reduced following the large August spate. Salmon fry were found at the second uppermost site, just downstream of the Eidart confluence, an area of the catchment where previous data was limited to one previous survey completed in 1992, when juvenile salmon were also found.

In the Tromie, the majority of sites were in the low category, although the mean was reduced by the inclusion of three sites in the Allt Gharbh Ghaig, where no fry were found. The Tromie downstream of the Loch an't-Seilich dam did not experience the full impact of the August spate, due to the buffering capacity of the hydro reservoir. The Allt Gharbh Ghaig, the major tributary upstream of Loch an't-Seilich, is a very volatile and mobile river and it was found to support an extremely low salmon population.

These surveys provide a useful comparison of salmon fry abundance across the catchment.

The results from all salmon fry index surveys completed over the last three years are shown in the map in Figure 13 (Spey mainstem 2014 results only). The map indicates the high level of accessibility of the Spey catchment; all the major tributaries are accessible to migratory fish. The Fiddich is evidently more productive than all the other tributaries surveyed. The Dulnain and the Avon show a distinct gradation in fry counts, as counts decline with altitude. In contrast the Feshie and Tromie support much lower numbers of fry; or they did in 2014 at least.

Figure 13: Map of the Spey Salmon Fry Index Classification 2012-2014



4.3 Tributary surveys 2014

Tributaries in the Spey catchment are surveyed on a three-year rota and in 2014 the Fiddich, Feshie, Tromie and Calder were surveyed. As expected, the results varied widely across the catchment. Most sites were surveyed using a single run, Scottish Fisheries Coordination Centre (SFCC) area-based protocol, with some sites surveyed using multiple runs to allow estimates of total fish densities to be produced. Note that the results from these surveys are expressed as fish captured per 100m^2 and colour-coded in accordance with the Moray Firth regional classification corrected for stream width. Full details of the 2014 juvenile survey can be found at:

http://www.speyfisheryboard.com/wp-content/uploads/downloads/2014/12/Spey_2014_electrofishing_survey.pdf.

Some examples of the results are provided below.

In the Fiddich, a number of density sites were surveyed upstream of the salmon fry index sites. The results showed that juvenile salmon are present in good or excellent density into the upper reaches, even at sites surveyed after the August spate. The upper Fiddich also supports an excellent trout population. The surveys in the Fiddich catchment also highlighted the failure of a sustainable salmon population to become established in the Dullan Water above the upper fish pass.

Table 7: River Fiddich and tributaries electrofishing survey results 2014. Results are expressed as fish density/100m².

Site Code	Date	Location	Ave width m	Area fished m^2	Salmon fry	Salmon parr	Trout fry	Trout parr
F5	26/08/2014	Fiddich below Bridgehaugh	6.15	95.9	85.5	16.7	56.3	7.3
F7	26/08/2014	Fiddich smolt trap	6.46	184.1	31.0	50.5	29.3	16.3
F4	05/08/2014	Fiddich Glenfiddich lodge	6.8	129.9	56.2	29.3	31.6	16.2
F6	05/08/2014	Fiddich Pantry Burn confluence	3.6	93.9	8.5	0.0	72.4	35.1
FD3	06/08/2014	Dullan Mortlach	5.8	53.7	231.0	5.6	33.5	3.7
FD2	06/08/2014	Dullan below Second Weir	7.2	76.3	62.9	10.5	27.5	18.3
FD4	06/08/2014	Dullan Ballimore Bridge	5.6	110.0	0.0	1.9	118.7	13.1
FD1	06/08/2014	Dullan Milton of Laggan	4.1	91.8	0.0	0.0	66.4	53.4

In contrast to the Fiddich, the results from the Feshie and tributaries were mixed. Salmon fry and parr were found in the upper Feshie, upstream of the Eidart confluence, although in low density. Of the three significant Feshie tributaries, the Allt Chromhraig continues to support the best salmon population, whilst in the Allt a'Mhaircaidh, the salmon population is low, although a habitat restoration project (See Spey Catchment Initiative report) is aimed at improving instream conditions for parr.

Table 8: River Feshie and tributaries electrofishing survey results 2014. Results are expressed as fish density/100m2

Site Code	Date	Location	Ave width m	Area m^2	Salmon Fry	Salmon parr	Trout fry	Trout parr
SFE28	11/09/2014	Feshie above Allt Garblach	11.73	78.60	16.5	1.3	1.3	1.3
SFE31	11/09/2014	Feshie 50m U/S of ford	16.57	162.40	11.7	9.9	3.7	0.0
SFE42	10/09/2014	Feshie Creag Bheag	7.87	92.80	6.5	19.4	1.1	1.1
SFE54	01/09/2014	Feshie u/s of Eidart	10.08	177.30	3.4	1.1	0.0	0.0
SFEAMa	28/08/2014	Allt a'Mhaircaidh, under road bridge	4.40	170.90	32.2	8.2	14.6	7.6
SFEAMb	28/08/2014	Allt a'Mhaircaidh, straightened section	3.64	129.30	3.8	3.0	23.5	6.1
SFEAMc	28/08/2014	Allt a'Mhaircaidh by cut off meander	3.81	121.30	0.0	1.7	18.9	7.4
SFEAMd	28/08/2014	Allt a'Mhaircaidh, end of track by old Pine	3.10	88.50	0.0	3.4	21.5	12.4
SFECHa	18/09/2014	Allt Chromhraig Coranstilbeg	4.32	74.80	24.1	25.4	10.7	1.3
SFECHb	18/09/2014	Allt Chromhraig, end of track	3.70	61.10	37.7	54.1	3.3	8.2
SFERUa	18/09/2014	Allt Ruadh above Bridge	6.45	99.30	1.0	12.1	8.1	4.0
SFEFNa	11/09/2014	Allt Fearnagan Achleum	3.12	81.70	8.6	4.9	22.0	7.3
SFEGAa	11/09/2014	Allt Garbhlach u/s ford	3.54	76.50	0.0	3.9	19.6	2.6
SFECCa	10/09/2014	Allt Coire Chaoil	3.14	56.50	0.0	12.4	38.9	8.8

4.4 Avon Smolt Trap

The opportunity was taken to assess and quantify the smolt run in the River Avon during spring 2014. The Avon is the largest tributary of the Spey, with a number of productive tributaries including the Livet, Conglass and Lochy. Over 50km of the Avon mainstem are used by salmon, up to an altitude of 600m (2000ft), making the Avon salmon some of the highest altitude salmon found in Scotland.

In conjunction with Ballindalloch Estate, an excellent site for the smolt traps was identified in the lower Avon, downstream of Ballindalloch Castle. Initially, a single 6ft-diameter trap was used, but low recapture rates during the first mark-and-recapture trial prompted the deployment of a second, 4ft-diameter trap alongside. Trapping conditions during 2014 turned out to be ideal, with no spates, nor long periods of low water and no inoperable days.

Above: *The Twin Rotary Screw Traps in operation on the lower River Avon. (Photo: Brian Shaw).*

Salmon presmolts were caught a few days after deployment on the 18th March, with the first significant catch (295 fish) on the 7th April. Catches increased from that day, with the highest daily total of 1,750 salmon occurring on the 5th May. The median date (the date when 50% of the smolts were captured) occurred on the 29th April. Over 95% of the fish captured in the traps were juvenile salmon and 97.5% of those were classed as either smolt or pre-smolts. In total, 14,181 juvenile salmon were captured, together with an additional 741 trout, of which 524 were classed as smolts or pre-smolts. Considering the importance of the Avon as a sea trout fishery and the high juvenile trout densities present, the trout catch is perhaps as much a reflection of the low efficacy of Rotary Screw Traps for trout, rather than a true reflection of the proportions of the two species in the Avon.

Using mark-and-recapture techniques and the formulae described in the American Fisheries Society Salmonid Field Protocols Handbook, an estimate of the Avon salmon smolt run was produced. Throughout the trapping period, a number of individual trials were conducted where marked smolts were transported 1.2km back upstream and released. A total of 1,869 salmon smolts were marked and released upstream, of which 239 were recaptured, with 93% recaptured on the day after release. The average recapture rate for salmon was 1 in 8, but only 1 out of 38 for trout. The results from the mark-and-recapture trails and the smolt production estimates are shown in the table below. The salmon smolt run for the River Avon was estimated at 107,790 with tight confidence limits. Smolt trapping on the River Avon will be continued in subsequent years so that a historical database may be created.

Table 9: Avon smolt trap mark and recapture run estimates 2014

Species	Total salmon (pre smolts and smolts) captured U_i	Marked fish M_i	Recaptures m_i	Estimate of salmon smolt run	95% confidence limits
Salmon	13,834	1,869	239	107,790	+/- 12,185
Trout	524	38	1	n/a	n/a

The wetted area of accessible juvenile habitat available in the River Avon and tributaries had previously been estimated at 1,563,400m^2. This had generated an overall salmon smolt production figure for the Avon of 6.89/100 m^2. This is a satisfactory figure, as 5/100m^2 is considered average for rivers in the highlands of Scotland.

4.5 Impact of a Large Spate on Juvenile Stocks

The large spate event that occurred on the 11th August provided an opportunity to assess the impact of such events on juvenile fish stocks. The flow at the Boat o'Brig gauging station on the afternoon of the 11th August peaked at 742m^3/s, making it the sixth highest river flow recorded since 1953 (data provided by SEPA Hydrology, Elgin). When the level receded there were reports of dead fry and parr on the riverbanks throughout the lower river and some of the tributaries. In order to assess the impact of this spate on fish stocks, the strategy adopted was to repeat the July salmon fry index surveys at a number of Spey and Fiddich sites. By mid-September, the river had dropped to levels comparable to those that had occurred in July, allowing the repeat surveys to be undertaken in similar conditions. The results of the July and September mainstem survey and repeat surveys are shown in the tables below.

Table 10: Results from the pre (July) and post (Sept) spate Spey mainstem and Fiddich salmon fry index surveys. Results are expressed as salmon fry/min and colour coded in accordance with the Spey timed surveys classification 2012-2014.

Site code	Spey	July Salmon fry/min	Sept Salmon fry/min
S007R1	Essil Pool	16.3	10.0
S017L2	Brae 5	24.7	6.0
S019L2	Brae 4	28.7	27.0
S025L1	Brae 2	23.0	22.0
S034R1	Delfur B o'Brig	55.0	9.3
S040L2	Delfur	66.0	20.0
S056L1	E.Elchies	43.7	29.7
S079R1	Carron & Laggan	31.3	36.6
S087L1	Phones	6.0	7.3
S105L2	Tulchan D	33.7	20.3
S141L1	Castle Grant 1	9.3	13.3
Mean		30.7	18.3
Site code	**Fiddich**	**July Salmon fry/min**	**Sept Salmon fry/min**
TSF01	Fiddichside Inn	107.3	33.7
TSF13	Balvenie warehouses	25.0	29.0
TSF19	Dullan confluence	129.7	22.3
TSF38	Bridgehaugh	29.0	13.3
Mean		72.8	24.6

The results show that there were statistically significant declines (*p = 0.02, student t-test*) in the salmon fry counts overall in both rivers, although fry counts increased at four sites. The change in the pre- and post-spate classifications were of one class or less, except for two sites, S017L2 and S034L2, where the classification dropped by four classes (e.g. excellent to low). Overall the reduction in salmon fry counts in both rivers was greater than 50%. The largest reductions in fry counts were recorded in sites where there was evidence that the riverbed became mobilised during

the August spate e.g. Brae 5/Boat o'Brig. Sites in more stable parts of the river showed smaller reductions in fry counts. The reduction in fry counts was greater in the Fiddich, albeit starting from a higher base level. However, the mean post-spate counts in the Fiddich remain higher than those recorded in the Spey.

Whilst the salmon fry counts declined significantly, the parr counts increased, although not significantly. A summary of the pre- and post-spate salmon fry and parr counts are shown in the table below.

Table 11: Pre and post spate salmon fry and parr counts from repeat Spey mainstem and Fiddich surveys 2014

	July 2014		September 2014	
Site	**Salmon fry/min**	**Salmon parr/min**	**Salmon fry/min**	**Salmon parr/min**
Essil Pool	16.3	2.3	10.0	2.3
Brae 5	24.7	0.7	6.0	1.0
Brae 4	28.7	4.0	27.0	9.0
Brae 2	23.0	1.3	22.0	5.7
Boat o' Brig	55.0	4.0	9.3	3.3
Delfur 1	66.0	1.0	20.0	1.3
E. Elchies	43.7	1.0	29.7	1.3
Carron	31.3	1.3	36.3	6.0
Phones	6.0	6.3	7.3	4.7
Tulchan D	33.7	1.0	20.3	6.3
Castle Grant	9.3	2.0	13.3	2.0
TSF01	107.3	2.3	33.7	6.0
TSF13	25.0	2.0	29.0	4.3
TSF19	129.7	13.3	22.3	5.3
TSF38	29.0	19.6	13.3	10.0
Mean	**41.9**	**4.1**	**20.0**	**4.6**

There was evidence of downstream movement of fry after the spate. This was particularly apparent in the Fiddich, where the thermal uplift present downstream of the Dufftown distilleries enhances fish growth and there is a step-change in the size of the fry. This downstream movement, or displacement, of fish during high flow events may be a natural mechanism that mitigates against fish losses. Full details of the post spate salmon fry index survey can be found at:

http://www.speyfisheryboard.com/wp-content/uploads/downloads/2014/11/Spey-mainstem-spate-and-stocking-monitoring-2014-final.pdf

4.6 Education

2014 was a busy year for school visits, with multiple lessons given all across the Spey catchment. The three schools which completed the popular 'Salmon in the Classroom' were Rothes Primary, Inveravon Primary and Milne's Primary in Fochabers. It was great working with all three schools, all of which were enthusiastic and attentive. The pupils all enjoyed looking after the fish, watching them develop and then releasing them into the burn. We returned a few months after their release to electrofish the area where we had released the salmon and caught some examples of salmon fry, to demonstrate how much they have changed once in the river and starting to feed. There was always a lot of excitement that the fish caught could be one they had helped raise!

Alongside the Salmon in the Classroom programme, we also delivered the 'Pearls in the Classroom' scheme. This is designed to raise awareness of the highly-endangered Freshwater Pearl Mussel and teach pupils about its importance within the river and the threats to its survival. Further to this, we taught about invasive species in the Spey catchment, with focus on the American Mink, and two schools were able to take on a raft for the monitoring of local wildlife. In addition, schools took part in nature walks and invertebrate sampling. The Foundation enjoys working within the local community and appreciates the support given by both parents and staff.

4.7 Scottish Mink Initiative

2014 started with a flurry of mink captures, with 7 being caught between February and March. Included in these captures was the unusual occurrence of a female with two kits, which are usually not born till April-June. One theory about this suggested that the mild spring induced early mating; another suggested that as mink can show delayed implantation, mating occurred late in the previous year, followed by an early birth which enabled the kits to grow for longer before the next winter. However, it is largely unclear why such an unusual event occurred. After this busy period, the year was largely quiet. The exception was July, when there were three separate sightings or signs of mink over the catchment, including a road kill in Mosstodloch. Evidence suggests there are still a number of mink in the area and continued work by the dedicated and hardworking volunteers is needed and much appreciated.

Encouragingly, the RSPB reported that water voles had re-established colonies in the Insh Marshes. Water vole populations had been decimated locally, with mink predation being one of the major factors. In recent years, water voles have become restricted to the uplands or in isolated populations elsewhere, so this apparent recolonisation into their former range is positive news.

4.8 Historical Review of the River Spey Fisheries - A Summary

On the Spey, other rivers and in the marine environment there have been significant declines in catches and stock assessments in recent years, leading to concerns over the stock of Atlantic salmon. This has motivated a study into the historical status of the River Spey rod (Figure 14) and raik net (Figure 15) fisheries using data collected from a variety of sources.

Although the rod catch trend has overall been increasing, this is more likely to be as a result of an increase in effort, or a reduction in netting effort, rather than an increase in stocks, particularly as more recent historical trends demonstrate a decline where effort has remained fairly constant. The net data also supports this, as the historical trend up to the point of removing the nets has been downward, and has provided evidence of significantly larger catches than seen in the last 100 years.

Comparing this information with variations in sea surface temperatures (SSTs) shows some interesting findings. The downward trend in catches since 1952 fits in with a human-induced increase in SSTs, which is thought to have had a negative effect on Atlantic salmon. However comparing the catches with the Atlantic Multi-decadal Oscillation (AMO), a natural cycle of SSTs on a 60-90 year cycle, showed that during some periods Spey salmon catches responded oppositely to Atlantic salmon stocks previously studied; when in a warm phase salmon stocks are expected to decline and in a cold phase vice versa. This could be due to a variety of factors, such as the

effects warmer or colder waters have on the Spey salmon's prey species and feeding grounds. Additionally, other variables may be impacting stocks such as overfishing, predation and freshwater issues.

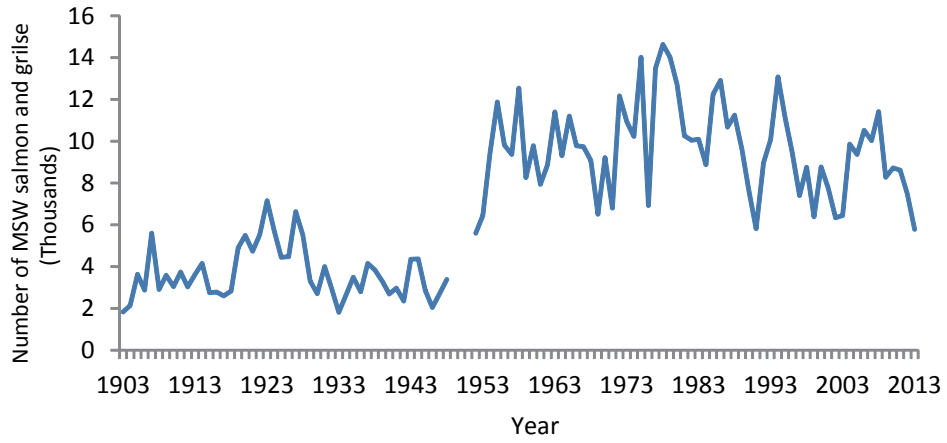


Figure 14: *Spey rod catches (using some estimates where applicable)*

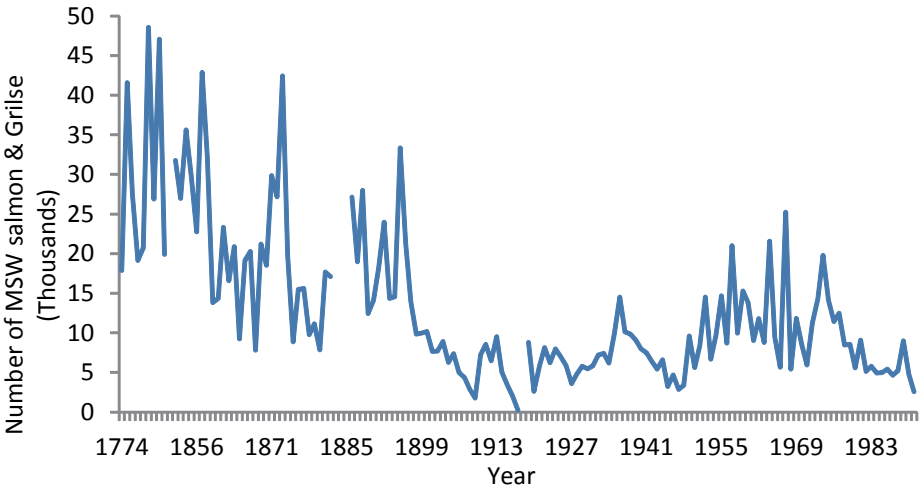


Figure 15: *Spey net catches (including data from 1774-1782)*

Part 5

Publicity

5.1 SFB Publicity Committee

At the end of May 2014, Sir Edward Mountain announced his retirement as Chairman of the Board's Publicity Committee. The Board is most grateful to Sir Edward for the many years of service he has devoted to this role. The Board subsequently decided that it would devolve the routine publicity matters to its staff. However, oversight of our strategy towards publicity would be retained by the Board.

5.2 Media Coverage

Both the Board and the Foundation have continued to receive regular media coverage throughout 2014. The year has been a challenging one for salmon catches, but it has also enabled us to draw attention to issues such as diminished marine survival rates and the enhanced impacts of water abstraction during drought periods. Meanwhile, the Spey Foundation's "Salmon Goes to School" project has remained as popular as ever with the press.

5.3 Briefings

Four comprehensive Briefings were published during 2014, with paper copies displayed at ghillies huts and other distribution via the Board's website. They are available at the following web address:

http://www.speyfisheryboard.com/sfb-publications/

5.4 Website

Weekly updates of catches have continued to be made available on the Board's website throughout the season. The Board is most grateful to Dr Malcolm Newbould for his time and dedication in maintaining this. However, more information and fishing reports from beats (including anecdotes and particularly photographs) would be greatly appreciated. Full details of this, as well as full details about the Board and Foundation and a wealth of research reports, can be found at **www.speyfisheryboard.com**

The "Blog" on the Board's website has enabled swift publication of regular accounts of the Biologists' work and the research that is being undertaken. It has continued to be well-received and its popularity grows year-on-year. Video footage of the Board's Biologists electro-fishing, with powerful imagery of the results they have been obtaining, has also been popular and there continues to be the facility whereby visitors to the "Blog" may leave comments or ask questions. Whilst this does not imply that the Board's website is a salmon forum, it has helped to make our work even more transparent.

5.5 Public Meetings

The Board and the Spey Foundation held their annual local Public Meeting at the Fleming Hall in Aberlour on 28th October 2014. This was attended by approximately 40 proprietors, ghillies and local anglers. It was followed two days later by a Public Meeting in London, held once again at the Royal Institute of Chartered Surveyors at Parliament Square. At each of these the Board's staff were able to outline the major issues currently affecting the river and present the results of our scientific monitoring throughout the catchment during the year. The Board's Biologist also outlined some of the issues in the marine environment, so as to raise awareness of the significant issues affecting the numbers of adult fish returning to the river. The Board is grateful to Speyside Distillery, Smiths Gore, Peter Graham & Associates, Craigellachie Fishings and Mortimers tackle shop for their generous sponsorship of these events.

5.6 Committees

Throughout 2014, SFB staff also served on the following committees:

- River Directors' Group – Chair
- Spey Fishing Trust Limited – Company Secretary
- Moray Firth Sawbill Management Plan Group - Coordinator
- Moray River Watch Group
- North East Area Advisory Group for the Water Framework Directive
- Grampian Partnership Against Wildlife Crime
- Spey Users' Group
- Institute of Fisheries Management Scottish Committee

SPEY DISTRICT FISHERY BOARD

INCOME AND EXPENDITURE ACCOUNT

YEAR ENDED 30 SEPTEMBER 2014

	2014		2013	
	£	£	£	£
INCOME				
Fishing assessments		**499,832**		487,595
OTHER INCOME AND INTEREST RECEIVABLE				
Recharges to The Spey Foundation	**26,604**		32,233	
Spey Catchment Initiative	**28,295**		5,600	
Ranunculus Project	**4,088**		–	
Other operating income	**3,894**		1,390	
Interest received	**464**		669	
Donations to Lost at Sea Film	**2,500**		–	
		65,845		39,892
		565,677		527,487
EXPENSES				
Personnel costs	**389,217**		375,603	
Direct expenses	**57,747**		61,985	
General expenses	**76,330**		84,771	
Financial costs	**5,360**		6,561	
Donations to Lost at Sea Film	**2,500**		–	
Spey Catchment Initiative - (Note 6)	**28,302**		5,760	
Ranunculus Project	**6,635**		–	
UDN Research Project	**3,008**		5,018	
General Ongoing Spey Projects	**121**		47	
		569,220		539,745
NET DEFICIT FOR THE YEAR		**(3,543)**		(12,258)

BALANCE SHEET

30 SEPTEMBER 2014

FIXED ASSETS				
Tangible assets		**115,957**		148,607
CURRENT ASSETS				
Debtors	**65,172**		97,216	
Bank deposit account	**180,776**		134,273	
Current account	**5,272**		1,125	
	251,220		232,614	
CURRENT LIABILITIES	**58,952**		49,417	
NET CURRENT ASSETS		**192,268**		183,197
TOTAL ASSETS LESS CURRENT LIABILITIES		**308,225**		331,804
LONG TERM LIABILITY				
HP/Finance leases - > 1 Yr		**15,279**		35,315
NET ASSETS		**292,946**		296,489
FINANCED BY:				
Capital accounts		**38,569**		38,569
Current accounts		**254,377**		257,920
		292,946		296,489

1. The above figures must be considered as draft until approved by the Board's Annual General Meeting.
2. These are abbreviated accounts.A copy of the Board's full Financial Statements, together with explanatory notes, will be published on its website (www.speyfisheryboard.com), once they have been approved at the Annual General Meeting.

THE SPEY FOUNDATION
COMPANY LIMITED BY GUARANTEE

STATEMENT OF FINANCIAL ACTIVITIES (INCORPORATING THE INCOME AND EXPENDITURE ACCOUNT)

YEAR ENDED 30 SEPTEMBER 2014

	Unrestricted Funds £	Restricted Funds £	Total Funds 2014 £	Total Funds 2013 £
INCOMING RESOURCES				
Incoming resources from generating funds:				
Voluntary income	20,926	10,166	31,092	31,759
Investment income	494	–	494	725
Incoming resources from charitable activities	16,236	–	16,236	57,962
Other incoming resources	150	–	150	–
TOTAL INCOMING RESOURCES	37,806	10,166	47,972	90,446
RESOURCES EXPENDED				
Charitable activities	(57,225)	(847)	(58,072)	(100,157)
Governance costs	(2,890)	–	(2,890)	(3,864)
TOTAL RESOURCES EXPENDED	(60,115)	(847)	(60,962)	(104,021)
NET OUTGOING RESOURCES BEFORE TRANSFERS	(22,309)	9,319	(12,990)	(13,575)
Transfer between funds	(2,820)	2,820	–	–
NET EXPENDITURE FOR THE YEAR	(25,129)	12,139	(12,990)	(13,575)
RECONCILIATION OF FUNDS				
Total funds brought forward	80,414	17,718	98,132	111,705
TOTAL FUNDS CARRIED FORWARD	55,285	29,857	85,142	98,130

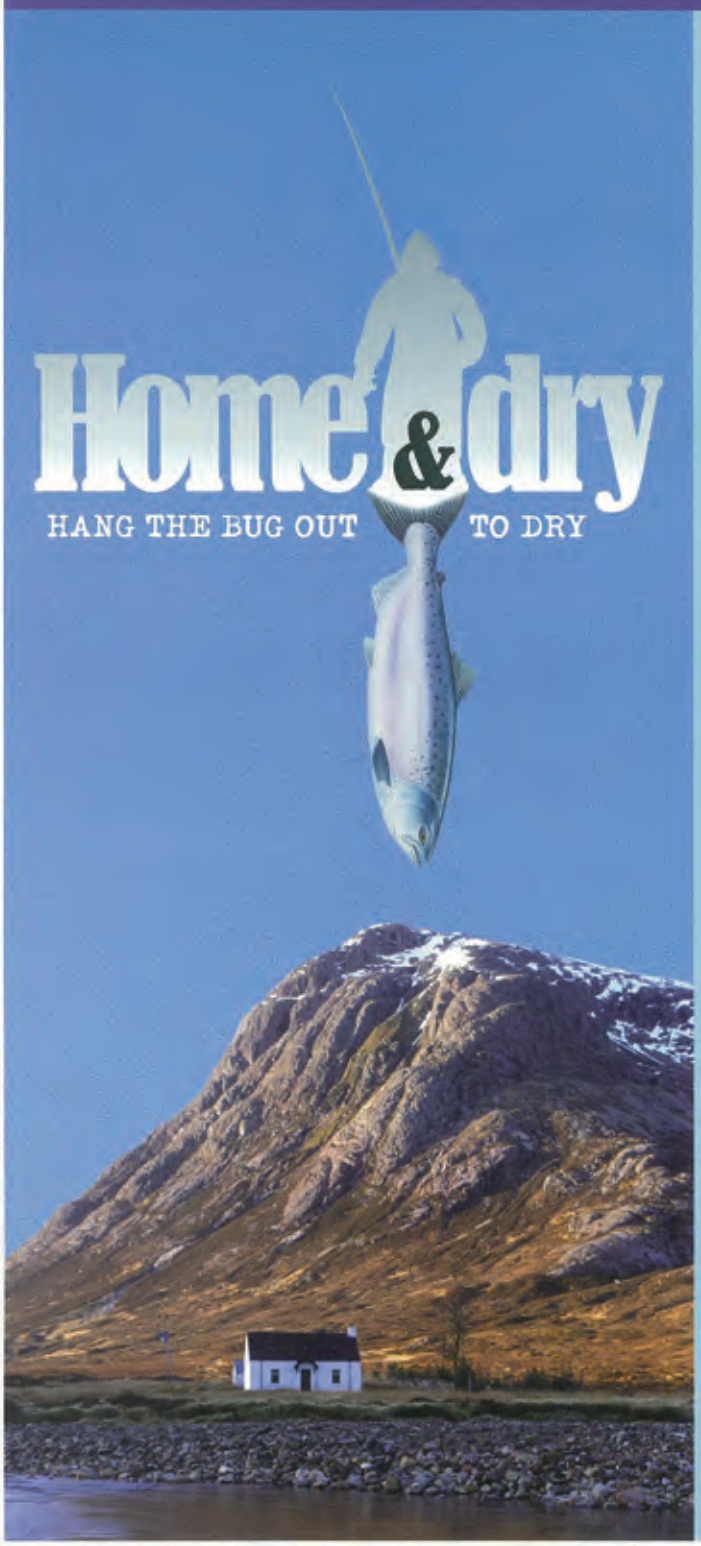
BALANCE SHEET

30 SEPTEMBER 2014

	2014		2013	
	£	£	£	£
FIXED ASSETS				
Tangible assets		20,653		17,118
CURRENT ASSETS				
Debtors	7,246		5,227	
Cash at bank	72,358		118,451	
	79,604		123,678	
CREDITORS: Amounts falling due within one year	(15,115)		(42,664)	
NET CURRENT ASSETS		64,489		81,014
TOTAL ASSETS LESS CURRENT LIABILITIES		85,142		98,132
NET ASSETS		85,142		98,132
FUNDS				
Restricted income funds		29,857		17,718
Unrestricted income funds		55,285		80,414
TOTAL FUNDS		85,142		98,132

1. The above figures must be considered as draft until approved by the Foundation's Annual General Meeting.
2. These are abbreviated accounts. A copy of the Foundation's full Financial Statements, together with explanatory notes, will be published on the Spey Fishery Board's website (www.speyfisheryboard.com), once they have been approved at the Annual General Meeting.

Notes



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To ensure your equipment is not contaminated, please take one of the following precautionary measures:

- Completely dry equipment (e.g. waders, fishing equipment, bags, canoes and windsurf gear) at the minimum temperature of 20° for at least 2 days **or**
- Heat for at least 1 hour at above 60°C **or**
- Deep freeze for at least 1 day **or**
- Immerse in a Gs killing solution for min 10 minutes


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