

ANNUAL REPORT 2013

Spey
Fishery
Board



Top Cover Photo: *Low water conditions at Upper Arndilly, River Spey, July 2013
(Photo:RogerKnight)*

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

Bottom Right Cover Photo: *One of the 5,069 Salmon and Grilse caught during 2013 and
voluntarily released (Photo: Mark Melville, Head Ghillie, Delfur
Fishings).*



www.speyfisheryboard.com

ANNUAL REPORT 2013

by

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January 2014

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Spey Fishery Board

- Chairman:** *Alan Williams*, Carron Fishings
- 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, Easter Elchies and Laggan Fishings
James Carr, Wester Elchies Fishings
Brian Doran, Mandatory for Craigellachie 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, Easter Elchies and Laggan Fishings
- Members:** *Dr. Catherine Wills*, Knockando, Phones and Lower Pitchroy
Sir Edward Mountain Bt., Delfur Fishings
Angus Gordon Lennox, Gordon Castle Fishings & Mandatory for Brae Water Trust
Alan Williams, Carron 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, Spey Ghillie
Jock Royan, Spey Ghillie
Steve Brand, Spey Ghillie

Publicity Committee

- Chairman:** *Sir Edward Mountain Bt.*, Delfur Fishings and SFB Board Member
- Members:** *Brian Doran*, Mandatory for Craigellachie Fishings and 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 Worsdall (Part-Time)

Hatchery Manager: Jimmy Woods

Operations Manager: Duncan Ferguson

Head Bailiff: Richard Whyte

Bailiffs: Lindsay Grant
Jason Hysert
Alistair Grant

Research: Brian Shaw (Biologist)
Polly Burns (Assistant Biologist)
Steve Burns (Assistant Biologist)

Spey Foundation: Michael Hill (seasonal)
Jim Reid (seasonal)

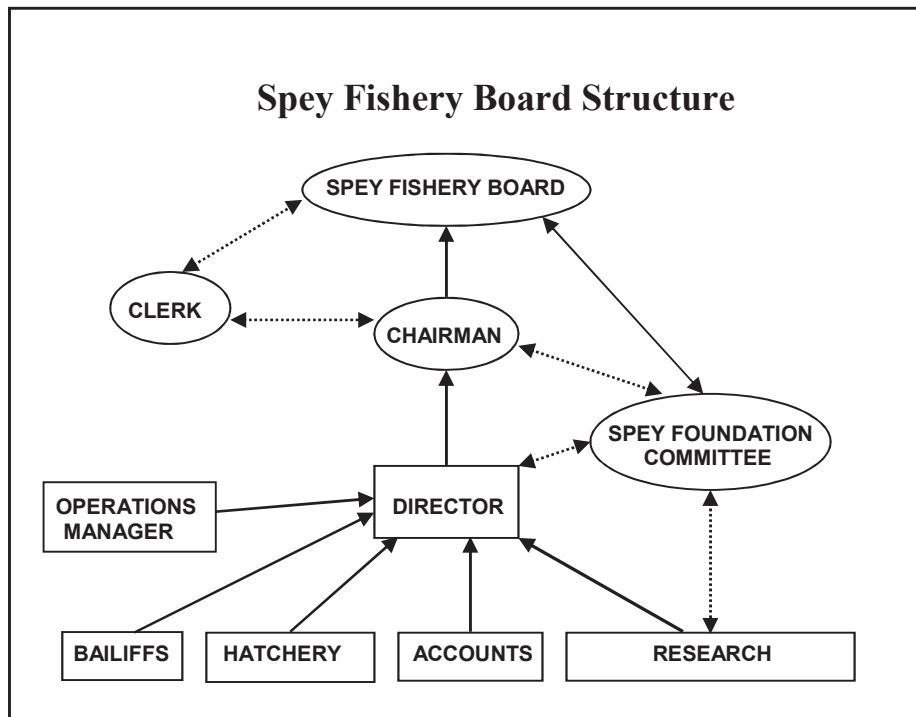


Figure 1: The Spey Fishery Board Structure

Chairman's Foreword

The numbers of Salmon and Sea Trout returning to the River Spey in 2013 were disappointing. The catch figures of 5,780 for Salmon and 1,194 for Sea Trout tell their own story. In previous Annual Spey Reports, the Board had noted that juvenile fish numbers between 2006 and 2010 in the main stem were low and this probably resulted in a reduced number of smolts leaving the river. However, I would draw attention to the recent juvenile fish surveys contained in this report. In addition, low water conditions persisted throughout the main fishing season and this will probably have discouraged fish from entering the River. Poor catches in rivers in various parts of Scotland, with the notable exception of the Tay, seem to indicate that marine survival has also been poor.

My involvement with the Board began in 2004, but even before that I was invited to spend a day at the Tweed Commission, along with others from the Spey. It was immediately apparent that in spite of considerable progress, there still existed differences between the operation of the Tweed Commission and the Spey Board. The profile of the Tweed Commission in its own locality was, and still is, extremely high and there is very little which happens on their river on which they are not consulted. In the last few years the Spey Board has attempted to raise its own profile and the level of local awareness of its existence and operations. We now have the presence of a Local Councillor, Douglas Ross, on our Board. In addition, we are joined by Gavin Clark from Scottish Natural Heritage (SNH) and we were delighted to be joined by Anne Andersen, local Area Manager for the Scottish Environment Protection Agency (SEPA) and her colleague Grahame Newman, at one of our recent Meetings. The Board hopes that SEPA will continue to send a representative to these Board Meetings. The Board believes that its staff have considerable in-depth holistic knowledge of the river and the Ecological Status of many of its species, not just Salmon, yet invariably it is not consulted on planning developments, either in the river itself, or in the immediate vicinity of it. On the one hand we are being encouraged to be more outward-looking and to adopt a public responsibility, but on the other we are ignored when it comes to developments and other issues which directly affect our ability to fulfil our statutory responsibility. Our opinion ought to be sought on anything which has a direct or potential impact on our rivers.

Of all of the major Salmon Rivers in Scotland the Spey has the smallest number of individual fishing proprietor ownerships. Many of these Proprietors are not resident in the catchment. This throws a disproportionate burden onto the proprietors who are present all the year round in their contribution to the Spey Board. The Fishery Board system, which is more or less unique to Scotland, is the envy of many other countries enjoying populations of Atlantic Salmon. It is an effective and economically efficient system of river management and allows proprietors influence over the issues which affect the investment in their fishings. In this it can only function properly if they engage and commit and this I strongly encourage them to do.

There are two topics which have dominated the work of the Spey Board over the last ten or more years. They are Hatcheries and Water. Both of these are discussed at greater length within this report and in this Foreword I shall be brief. First on hatcheries, this is the issue which has caused the most angst amongst all those who hold the Spey dear. However it is clear from our own research and that carried out elsewhere that stocking juvenile fish into a river like the Spey is unlikely to produce a significantly enhanced rod catch and may have longer term negative consequences for natural reproduction. The disappointing and somewhat vapid conclusion to a recent Stocking Conference in Glasgow regrettably did nothing to provide leadership to Fishery Managers and it

was particularly sad to see disagreement amongst scientists who in some cases have spent most of their lives on this issue.

The Upper Spey is particularly impacted by two Water Management Schemes. One on the Truim and the Tromie operated by Scottish and Southern Energy (SSE) and one on the Spey itself operated by Rio Tinto. About nine years ago it was first suggested by SSE that if they were to comply with the European Water Framework Directive in the Tay catchment and were to maintain their existing level of Energy generation they would need to transfer more water from the Spey Catchment than their existing consents permitted. This became an application known as the Tummel CAR License Variation. It is hard to imagine that when the European Parliament was considering this legislation which clearly had as its objective the admirable prize of improving River Habitats in Europe that it would result in a scheme to take water from one river system designated as a Special Area of Conservation (SAC) to address the deficiencies in another! The Board has been steadfast in its objection. New proposals for the Tromie and its tributaries are now being considered and there may be some overall benefit in these. However that does not appear to extend to what is being discussed for the Truim. At the moment the Truim has a compensation flow from the Aqueduct and the proposal is that this should be discontinued. It is clear that the original legislation which set up the scheme provided for the compensation water to mitigate the impact of the loss of water. Water is lost from the Upper Truim and particularly from the Cuaich, once the most important tributary of the Truim, and the Alt Sluie. If all the aqueduct compensation water is removed it will have significant consequences for the whole of the Truim and will reduce the natural low flow of the Spey, already substantially impacted at Aviemore, to below a half of what it should be. It is fairly obvious that a reduction in the wetted area of a river reduces its ability to support all aquatic life. The pressure on water in the river is likely to be a contributory factor to the concerns being voiced for the long term survival of the Freshwater Pearl Mussel in the Spey. Indeed, abstraction from the River Spey may now be placing its whole ecology at a tipping point.

However the Water Framework Directive has given the Spey Board the opportunity to address the issues arising from Spey Dam. When we first raised our concerns the Regulator, SEPA, were concerned that stocking with juvenile salmon was distorting the picture. This was in spite of the historical pre-stocking data we supplied. For the last three years no juveniles have been stocked. The difference in Juvenile Fish Populations above and below the Dam are now very clear from the Juvenile Monitoring results tabled within this Report. But there are two other concerns which the Board has drawn to the attention of the Regulator. These surround two questionable areas. The first is the heck on the Markie which prevents any fish access, and second, the whole design and screening of the Offtake of water to the Crunachdan Cut which may cause mortality to juvenile fish and is certainly allowing juveniles to be carried through the artificial waterway and out of the catchment. The Board will continue to address these issues with Rio Tinto Alcan and with SEPA but it is proving to be an extremely laborious and slow process.

There are four major Mixed Stock Netting operations on the North and East Coasts of Scotland which impact the Spey. There are two on the North Coast, one in the Deveron Catchment and one at Montrose. Some of these involve the use of multiple nets. All of them are catching fish that are destined to spawn in the Spey. Research undertaken on the fish taken at Montrose shows that even at those distant nets, five per cent are destined for the Spey. In these circumstances it is perhaps not unreasonable to assume that from a combined catch of around 10,000 from all these nets, perhaps as many as 1,500 may be Spey fish. In these circumstances it is not realistic

that all the burden of the Management of these Nets should fall on the River Boards in which they are found. Spey Proprietors and those who fish the river will need to play an active role in facing up to this issue in the future.

At a time when Marine Survival is so poor it is even more important that the river environment is maintained at its optimum to produce as many smolts as possible to send to sea. This is the role of the Spey Board. The Board is fortunate in employing a dedicated, experienced, qualified and professional team and I pay tribute to them and to what they do. As I seek to retire from my role as Chairman I am proud of what the Spey Board has become and am grateful to the Proprietors for their support, without which it would not have been possible.

Alan Williams

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, 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 (Figure 2).

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 constrict 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 involves:

- i. issues such as the introduction of a statutory carcass tagging system for net-caught fish by regulation and the modernisation of enforcement provisions;
- ii. a reserve power for Scottish Ministers to collect fish samples, from both net-caught and rod-caught fish, for genetic analysis and to conduct inquiries and obtain information for the protection and development of stocks;
- iii. 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;
- iv. a technical amendment to the 2003 Act to provide clarity on the circumstances in which it is legal to fish by rod and line during the annual close time;
- v. and 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, at its meeting in September 2013, the Board decided that henceforth the major part of all of its meetings would be held 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 2013.

1.5 EU Water Framework Directive

The European Union (EU) Water Framework Directive came into force in December 2000, and has been transposed into Scottish law through the Water Environment & 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 has continued to dispute the moderate category awarded to parts of the upper River Spey, which it believes 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 now 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, an adaptive management approach should also be adopted, with flows varied if the original proposals are found to be unsuitable. The interpretation of this by SEPA is critical to the outcome of SSE’s application to vary the Tummel Scheme CAR Licence (see section 1.6.2).

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.
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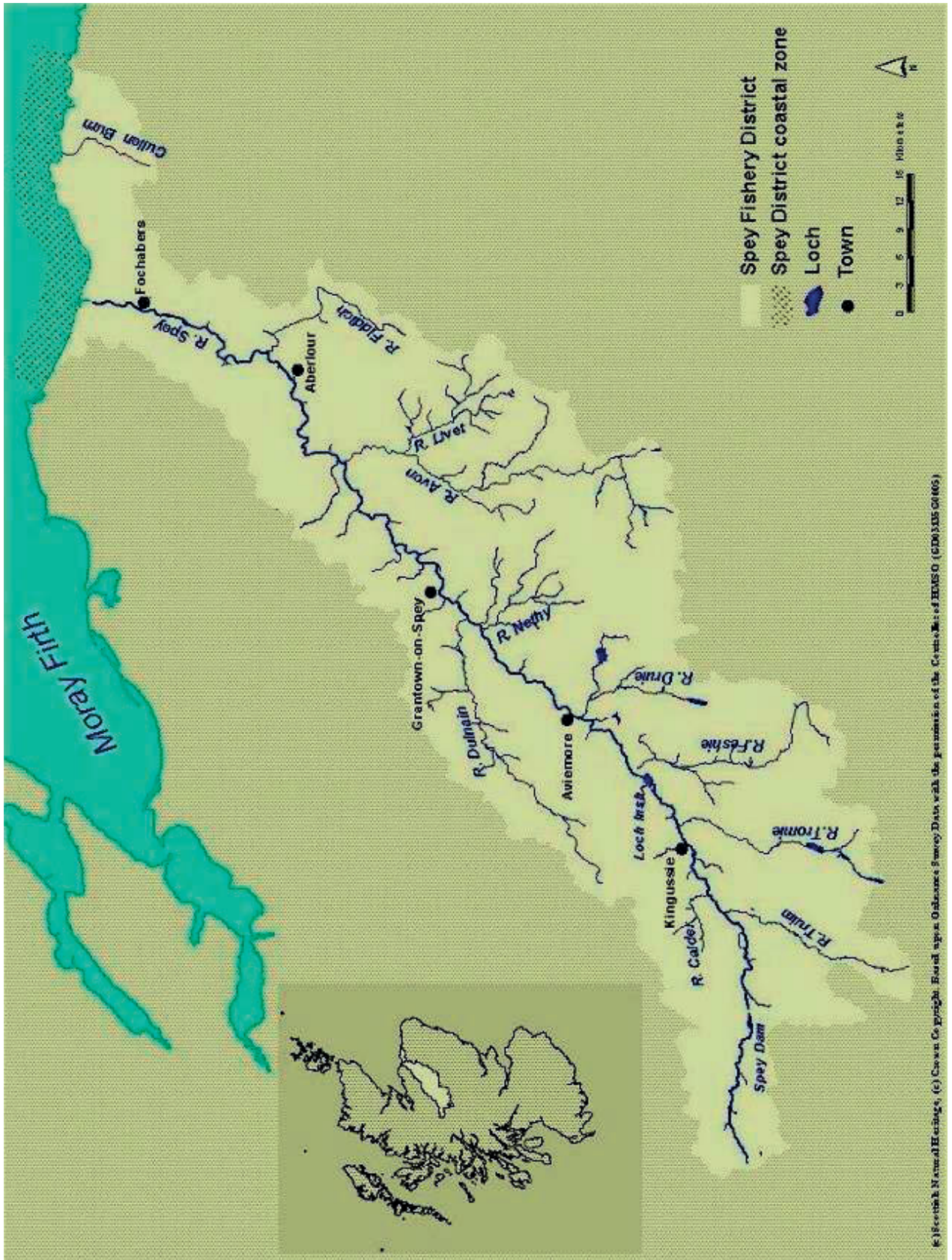


Figure 2. The River Spey catchment and Spey Fishery District (Image courtesy of Scottish Natural Heritage).

1.6 Water Abstraction Update

1.6.1 Rio Tinto Alcan: Spey Dam

In 2012 Rio Tinto Alcan (RTA) installed a resistivity counter immediately below the fish pass at Spey Dam, to try to monitor the numbers of adult fish ascending and descending the fish pass. This followed the round of meetings undertaken by the Board with RTA and the Scottish Environment Protection Agency (SEPA) in 2010 to discuss RTA's water diversion at Spey Dam. This amounts to the largest diversion of water from the Spey catchment and the Board remains concerned that the water flows from the Dam are insufficient to allow adult fish to migrate up to and above the Dam to spawn, or to allow smolts to migrate downriver to the sea. The Board is also concerned about the efficiency of the fish pass at Spey Dam, the level of spawning activity above the Dam, 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 SFB met with representatives of RTA and SEPA in November 2013. The SFB reiterated its concerns and presented its data in support of those concerns. RTA presented the interim results from the resistivity counter at the Dam to the SFB and SEPA, and the Board awaits a technical meeting with RTA and SEPA to evaluate these. However, the Board has re-established a joint dialogue with SEPA and RTA with regard to the issues at Spey Dam and has a further meeting scheduled for May 2014, at which the Board looks forward to making progress.



The off-take above Spey Dam, through which water is diverted to Loch Laggan. The Board is concerned about 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. (Photo: Roger Knight).

1.6.2 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 Dalwhinnie at the top of the Truim, then travels through Loch Rannoch and on to Loch Tummel, passing through four further power stations at Rannoch, Tummel, Clunie and Pitlochry before being discharged 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.



Drought conditions at SSE's Dam at Loch An-t Seilich on the River Tromie, August 2013 (Photo: Roger Knight)

From September 2006, SSE has 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 that is put down the Garry will pass through only three power stations, instead of the five that are currently utilised. To achieve the requirements of the WFD, whilst also maintaining Scotland's renewable energy policies, SSE have proposed to reduce the compensation flows down the Rivers Tromie and Truim, 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.

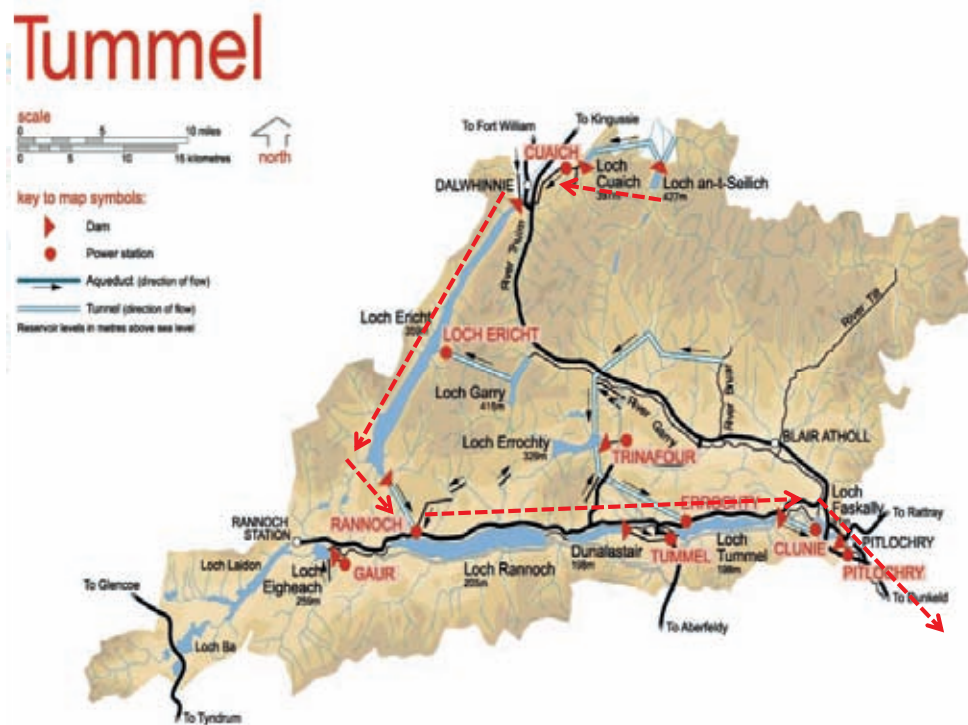


Figure 3: Scottish & Southern Energy's Tummel Scheme CAR Licence allows the diversion of water from the Spey Catchment into the Tay catchment.

In section 1.5, we have reported that during 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 Board remains particularly concerned by the potential impact of the proposals on the River Truim, which is currently abstracted from three locations: the upper River Truim; the River Cuaich; and the River Allt An't Sluie. Its over-riding concern is the SSE proposal to remove the compensation flow in that River, resulting in a "Hands Off" Flow at that point (i.e. one that is dependent upon rainfall in order to maintain any flow down an already impacted river). In 2013, using Low Flows 2000 software, the Board evaluated the likely impacts this would have on the whole of the Truim. The research showed that the proposals would lead to a reduction of approximately 26% in the low flow at Invertruim and an almost 6.5% reduction in the low flow of the mainstem at Grantown-on-Spey. These results were presented to officials at SEPA, who broadly concurred with the findings. The proposals for this River are of particular concern given that the Truim, as a tributary of the River Spey, is a Special Area of Conservation (SAC) under the EC Directive on the Conservation of Natural Habitats and Wild Fauna and Flora 92/43/EC, for Atlantic Salmon, Otter, Sea Lamprey and Fresh Water Pearl Mussel. It should, therefore, be afforded the very highest level of environmental protection available under European legislation.

Furthermore, our concerns for the River Truim had previously been heightened by the results of genetic research undertaken as part of the FASMOP Project (see section 3.4). This research showed that the River Truim holds a sub-population of Salmon that is genetically distinct from other Spey stock. The River Cuaich, which is the most important tributary of the Truim, has already been severely compromised to the Spey catchment as a salmonid habitat. If the SSE proposals are accepted, they will result in a substantial reduction in the wetted area

of the River Truim and this is likely to have a significant impact upon the smolt production of that river. If this adversely impacts upon the Salmon population within it, it would be extremely difficult to replace. SEPA has been made aware of this development.



The Allt Bhran, the whole flow from which is currently diverted into the Tromie Dam. SFB Director Roger Knight (right) explained the re-watering proposal to SEPA's Chief Executive Officer, Professor James Curran and Area Manager Anne Anderson. (Photo: Brian Shaw)

The Spey Board also remains unconvinced that the proposals for the River Tromie will not have a significantly adverse impact upon Atlantic Salmon in that River, or that this would be compensated by additional smolt production from the River Cuaich (for which SSE propose a minimal compensation flow). This is particularly significant given that the River Tromie is also included within the Spey SAC. During 2013 the SFB has worked closely with SSE and SEPA to explore options for re-watering the Allt Bhran, a significant tributary of the River Tromie. The whole flow from the Allt Bhran 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 Board is keen to develop this.

A decision by SEPA on these complex proposals had been expected by the end of 2013. The Board will be monitoring developments on this issue closely throughout 2014.



The primary compensation flow (above) for the River Truim, supplied from Loch An't Seilich and the Cuaich, which can be augmented by secondary means (below), from the same sources, if the primary flow is insufficient. (Photos: Roger Knight)



1.7 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 has been 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 is being 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 2013. However, 2013 was a 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. These are acknowledged to be the busiest section of the River for paddlers, where white water canoeing and some rafting have continued to be popular. Concerns about "wild camping" also remain, which is still a problem Scotland-wide. It is anticipated that the Scottish Outdoor Access Code will be revised to re-classify this as "remote camping", with appropriate definition and guidance.

Part 2

Fisheries and Conservation

2.1 Salmon and Grilse Catches

In common with many other Scottish salmon rivers, 2013 was a challenging year for anglers. Low water, with warm water temperatures, are some of the causes which are likely to have had a depressing impact on catches. Reported rod catches for the Spey amounted to **5,780** Salmon and Grilse caught, which was below the 2012 catch of 7,490 (Figure 4).

The early part of the 2013 season produced a spring catch (between 11th February and 30th April) of 437 fish, similar to the 441 caught for the same period in 2012. A further 923 fish were caught in May and 1,091 in June. This brought the catch for February – June to a total of 2,451, slightly below the 2,605 caught during the same period in 2012. Catches in July were disappointing, at 884 (2,175 had been caught in July 2012, making it the most productive month of that year). The catch figures rose to 1,228 in August (against 1,631 in August 2012) and continued at this level in September with a further 1,217 fish being caught, slightly above the 1,079 caught in September the previous year (Figure 5).

As in previous years, the catches by river section are depicted in Figure 6, but 2013 will be remembered by many throughout Scotland as a difficult year for salmon angling.



5,780 Salmon and Grilse were caught in 2013, of which 5,069 were voluntarily released. (Photo: Mark Melville, Head Ghillie, Delfur Fishings)

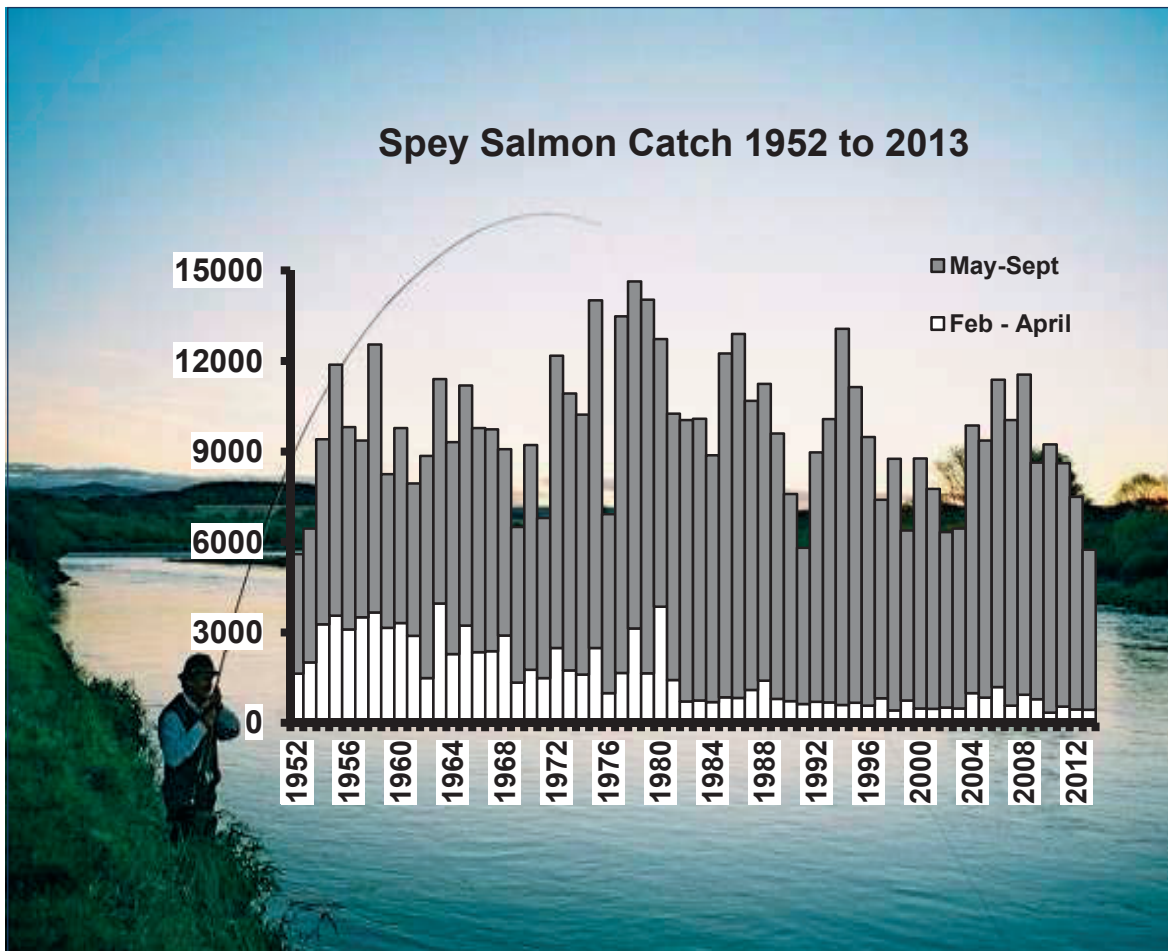


Figure 4. Annual declared rod catch of wild Salmon and Grilse from the River Spey, 1952-2013. The 2002-2013 catches are from returns made to the SFB by proprietors.

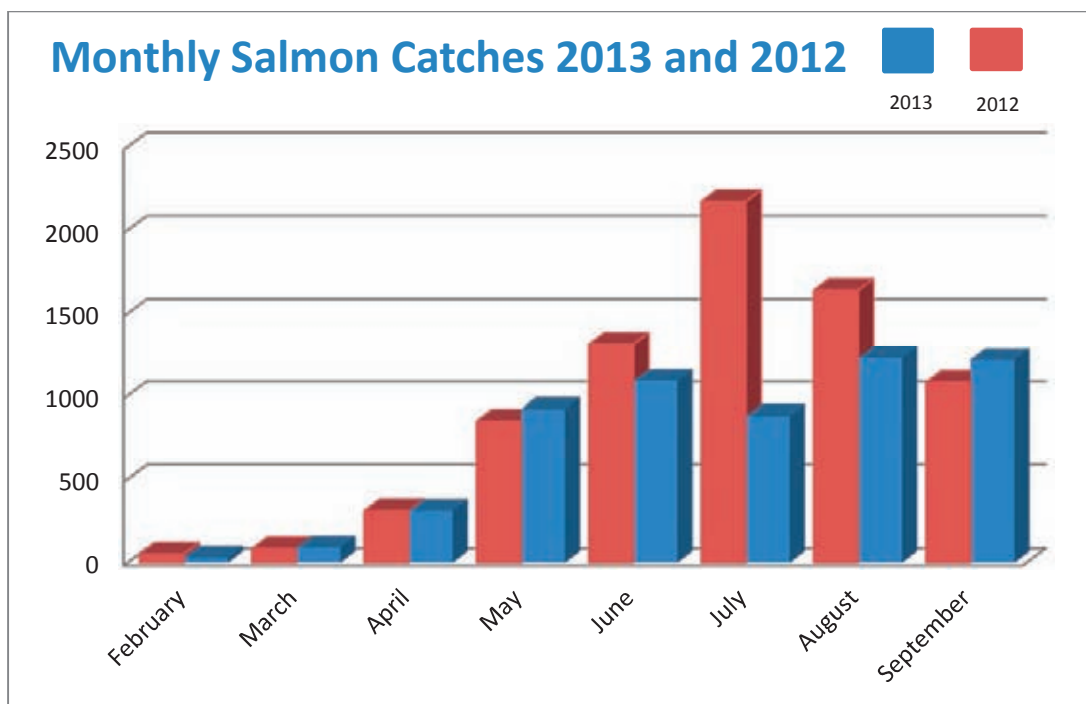


Figure 5. Declared monthly rod catch of wild Salmon and Grilse from the River Spey in 2013 and 2012, calculated from returns made to the SFB.

Detailed Catch Returns analysed by River area for the last three years are set out 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.

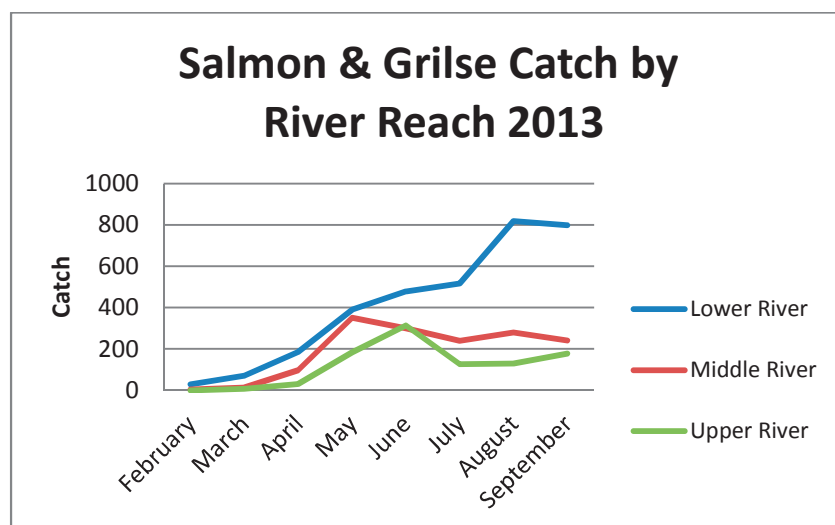
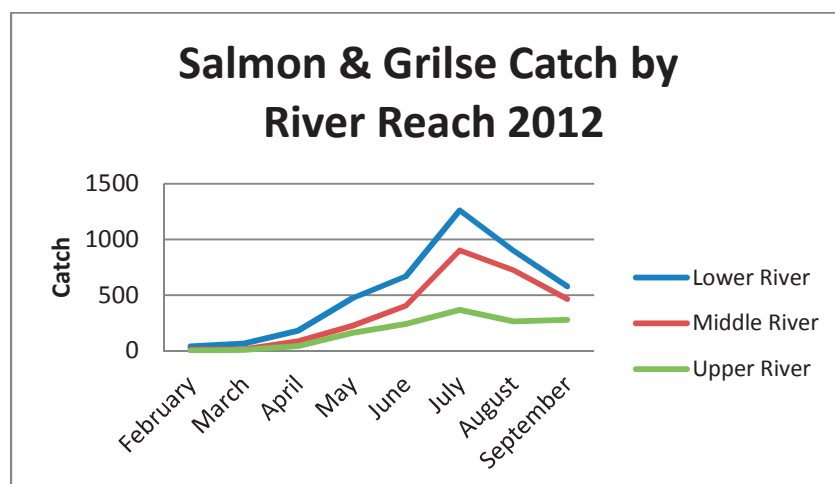
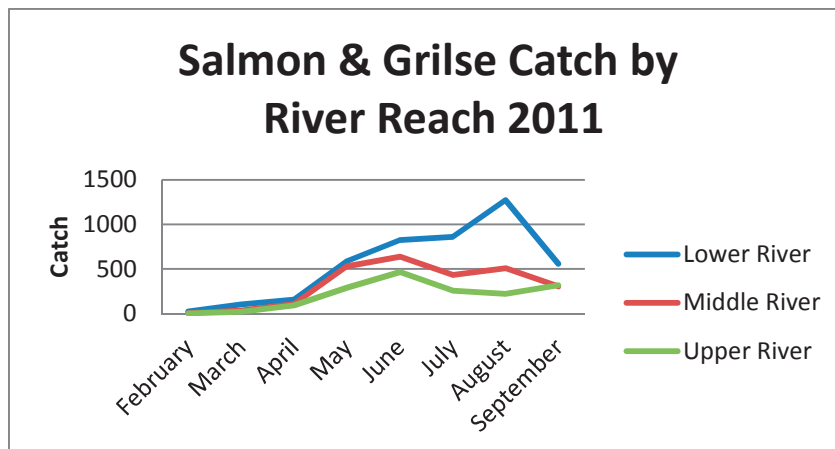


Figure 6: Declared monthly rod catch of wild Salmon and Grilse by river reach from the River Spey between 2011 and 2013, calculated from returns made to the SFB.

2.2 Sea Trout Catches

The 2013 declared rod catch for Sea Trout was **1,194** (Figure 7), a 29% reduction on the 1,680 caught in 2012.

As for the previous six years, monthly catches (Figure 8) show that the most Sea Trout caught in any one month were in June with 418 fish caught (35%). July was again the second highest month, with 373 caught (31%). Overall therefore, two thirds of Sea Trout caught were recorded in these two months.



1,194 Sea Trout were caught in 2013, a 29% reduction on the number caught in 2012 (Photo: Dr James Butler)

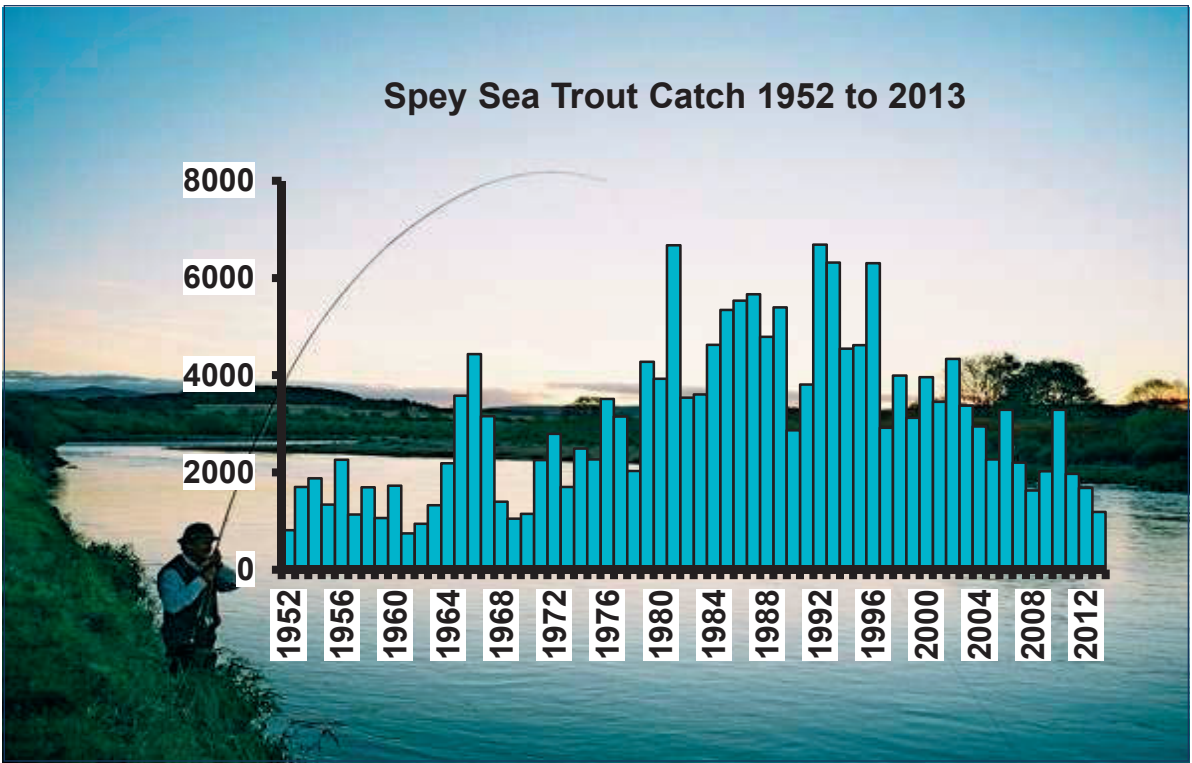


Figure 7. Annual declared rod catch of Sea Trout from the River Spey, 1952-2013. The 2002-2013 catches are from returns made to the SFB.

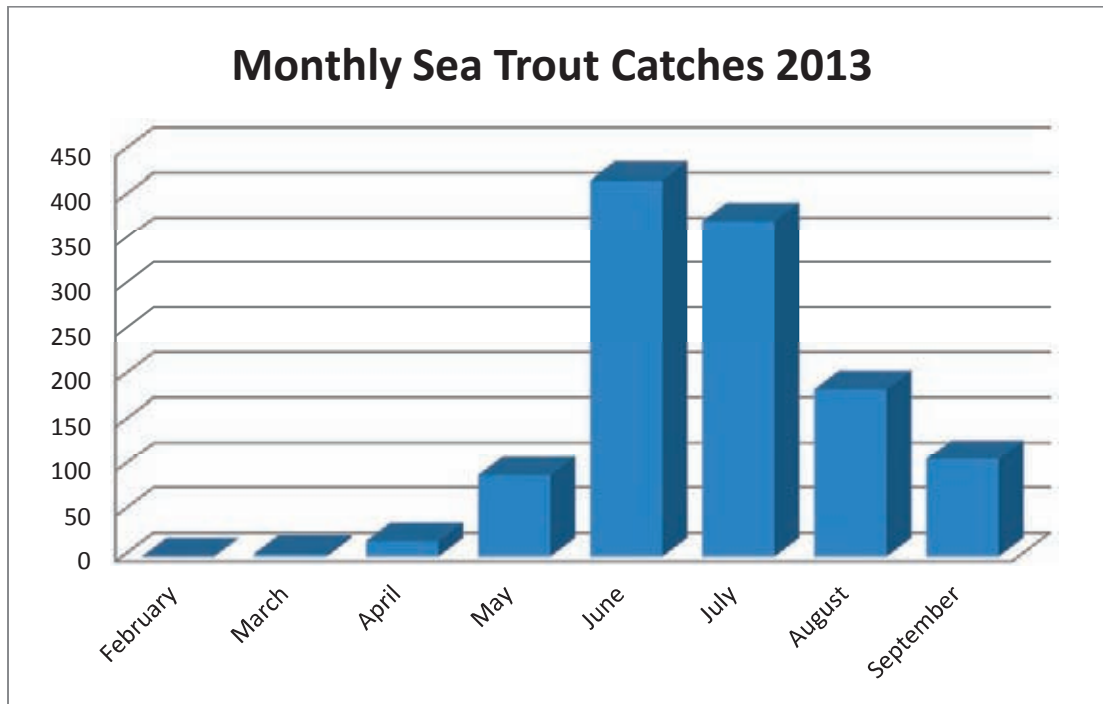


Figure 8. Declared monthly rod catch of Sea Trout from the River Spey in 2013, calculated from returns made to the SFB.

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 2013, **92%** of all Spring Salmon caught had been released and by the end of June, 88% of fish caught had been released, which was an increase on the 85% for that period the previous year. By the end of the season the release rate remained at **88%**, a respectable increase on the overall 85% 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, **5,069** Salmon and Grilse were released to spawn in 2013.

Nonetheless, with almost 150 fish retained by anglers to the end of May 2013, the SFB remains increasingly concerned about the conservation of the Spring component of the Spey's stock. The Board attaches the utmost importance to the conservation of these fish and at the end of 2012 it strengthened its Catch & Release recommendation by urging all anglers to release these fish. The Policy henceforth is as shown in Figure 12 and the SFB will continue to monitor the success of its Conservation Policy. The Board will need to consider at its next meeting the implications of the latest Association of Salmon Fishery Boards recommendation that all fish should be released up until the 15th May.

The life cycle of the Atlantic Salmon is depicted below in Figure 9.



Figure 9: The life cycle of the Atlantic Salmon (courtesy of the Atlantic Salmon Trust)

2.3.1 Savills Malloch Trophy Challenge

The most prestigious and historic trophy in the Scottish angling world, The Savills Malloch Trophy Challenge, was reinstated from the opening of the 2009 salmon fishing season after an absence of 10 years.



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 now 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. 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.sportinglets.co.uk/malloch/malloch-trophy.htm>

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.*

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 catch and release of Finnock and larger adult Sea Trout.

2013 saw the rate of catch and release for Sea Trout increase to **76%**, up from 73% in 2012 (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 2013, the Board decided that in line with its precautionary approach, the voluntary policy was working well and should remain unchanged for 2014. The SFB will continue to monitor the situation throughout 2014.

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

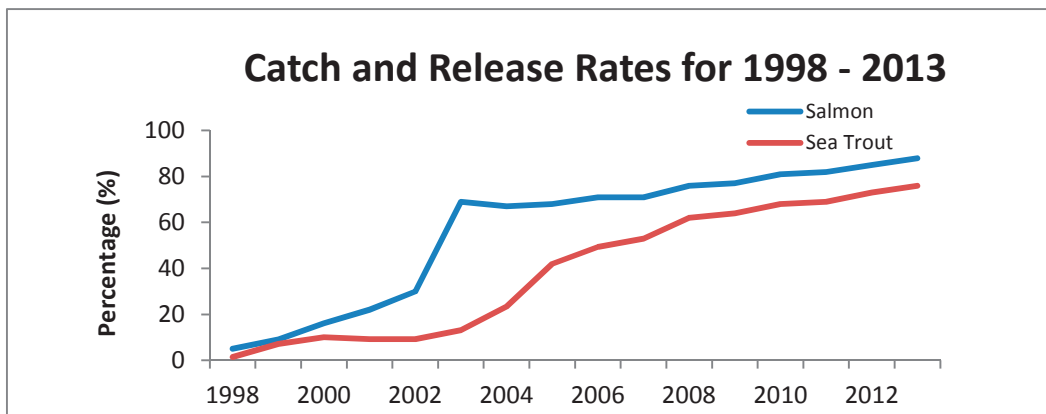


Figure 10. The proportion of rod-caught wild Salmon and Sea Trout released on the River Spey, 1998-2013.

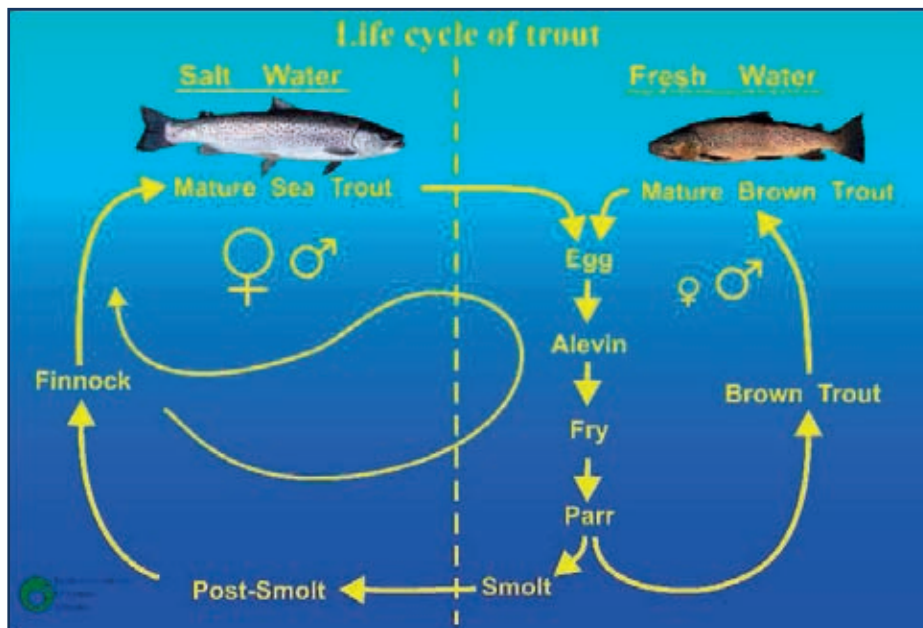


Figure 11: The Life Cycle of Sea Trout

The Board considers the Conservation of Fish entering the river before the end of May to be of the utmost importance.

The Board urges all anglers to release these fish if at all possible. 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. The Board will continue to monitor the success of the Conservation Policy and further consideration may be given to a recommendation for total Catch & Release in these months in the absence of signs of further restraint.

SEA TROUT



© James Butler

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



© Ian Neale

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



© Ian Neale

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



© James Butler

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

SALMON



© Robin Ade

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



© Robin Ade

All hen salmon and hen grise must be released



© Robin Ade

Throughout the season all stale or gravid fish must be released



© Trout and SalmonMagazine

Escaped farmed salmon must be retained

Figure 12: Spey Conservation Policies for 2013

Part 3

Management Report

3.1 Spey Catchment Initiative

2013 has been another successful year for the Spey Catchment Initiative (SCI), which continues to be an excellent model for partnership working. It has coordinated, developed and delivered on a range of projects, primarily focussed on the delivery of habitat enhancement, research and community engagement. These have all been aimed at enhancing the river's functions, habitat & riparian zone, as well as improving our understanding of it.

The SCI Project Officer, Liz Henderson, has continued to work closely with SFB Operations Manager, Duncan Ferguson, to develop projects. The Board's Bailiffs have also provided invaluable practical assistance with tree planting and data gathering.

During the spring, a project to improve water quality and riparian zone management was completed on the River Dulnain and Achnahannet Burn. This area had been poached by cattle, causing the banks of the rivers to collapse and their beds to become heavily silted. The project involved fencing off 6km of the water margin to reduce these cattle erosion pressures, and its resulting diffuse pollution, followed by planting nearly 5000 trees. Alternative livestock watering also had to be included and the Initiative has been trialling an innovative solar powered trough for this purpose.

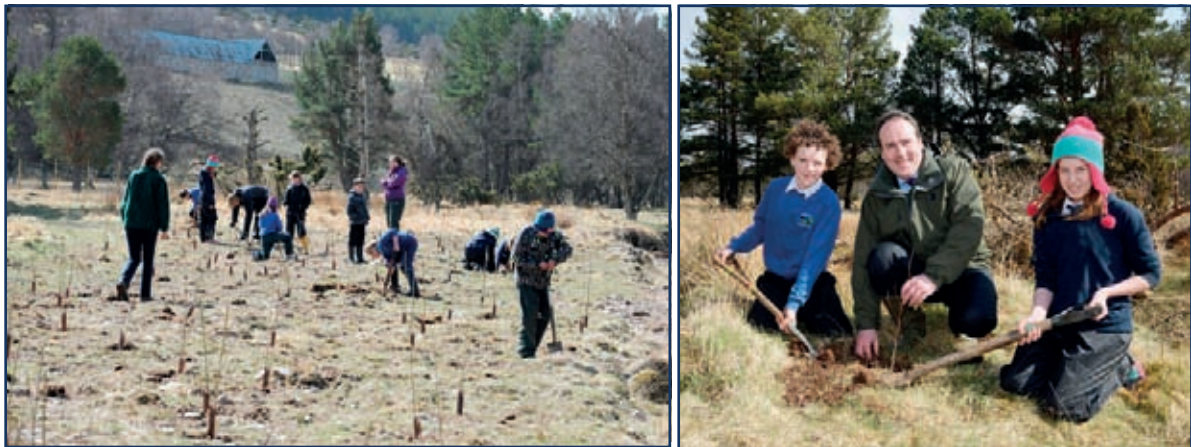


Above: The Achnahannet Burn before (above left) and after (above right and below) the SCI restoration project. (Photos: Liz Henderson)



Following the river restoration works at Allt Lorgy in September 2012, the site was deer-fenced in early 2013 and planted with 4000 riparian trees. Part of this was undertaken by the local primary school, assisted by the Minister for the Environment, Paul Wheelhouse MSP who visited in April. The remainder was undertaken by the Board's Bailiffs. Many visits to this site have subsequently been undertaken with a variety of organisations, so as to raise awareness of both the potential and the benefits of projects such as this.

Through the Initiative, the River Spey elements of the Scotland-wide "Pearls in Peril" project were also progressed. This has included the fencing-off and replanting of a 4km stretch of the river that had previously been subjected to significant livestock pressure. Funding for this was approved in late 2013 and ground works are scheduled to commence in 2014.



Above left: Carrbridge Primary School children planting some of the 5,000 trees that were part of the Allt Lorgy Restoration Project, assisted by (above right) Environment Minister Paul Wheelhouse MSP. (Photos: Liz Henderson)

Further progress has also been made with the project on the River Mashie, just downstream of Spey Dam. We reported last year that a first step had been to produce an assessment of Natural Catchment Processes. This has been aimed at generating a better understanding of how mankind's use of land impacts upon the hydrological and geomorphological processes of that river. The intention is for this to act as a pilot project for a larger, catchment-wide assessment of the hydrology and morphology of the Spey District. The project has been funded by the SEPA Restoration Fund and SNH, and it was awarded to the Centre for River EcoSystem Science (CRESS) based at Stirling University, under the stewardship of Professor David Gilvear. CRESS reported at the end of 2013 and included proposals to re-meander the lower section of the River Mashie. This had been artificially straightened many years ago for agricultural purposes and the CRESS proposals would see a restoration of the River's former course and a significant enhancement of fish habitat within it. This is something the Board is keen to pursue.

In a broader context, a riparian walk-over by the Bailiffs will be completed during the winter months. This will enable the SCI to develop a prioritised and targeted riparian enhancement action plan for delivery by the Initiative during 2014 and beyond.

A diverse range of public engagement activities have also been undertaken during the year, including hosting stands at public events such as the Cairngorms Nature Day. SFB representatives were also invited to showcase

the Initiative's work at a reception at Holyrood to celebrate ten years of the Cairngorms National Park. Project Officer Liz Henderson has also given presentations to a variety of forums, including the Strathspey Ward Forum, a LEADER event for Cairngorm Community Councils, Inverness Field club etc.) and worked with schoolchildren both in and out of the classroom.

Working closely with the Aviemore Community Council, Liz has developed and managed plans for a Riverside Park in Aviemore. The £250,000 project is being delivered in phases, the first of which was the refurbishment of two large riverside footbridges by the Army in May 2013. The next phase, funded primarily by the Scottish Government, involves the development of the ground works and began in December 2013. This includes the construction of a kilometre of hard core riverside walk, a footbridge, 1500 metres of fencing and the planting of nearly 2,000 trees. It is expected to be completed by March 2014.

The SCI's initial three-year operation drew to a close at the end of 2013 and considerable work has been undertaken to ensure it could continue the invaluable work it has done so far. In this respect, we are pleased to welcome distillers Diageo to the Initiative from January 2014, as co-sponsors of this partnership project. With additional support from the CNPA, SNH, SEPA and considerable in-kind support from the SFB, the Initiative's future has now been secured until December 2016. During this time, it is hoped to undertake floodplain restoration in the Upper Catchment and deliver a demonstration riparian enhancement site near Glen Livet. The SCI will also continue to work with the CNPA to find sustainable solutions for livestock watering in remote and challenging environments and also be involved in the development of CNPA- led HLF bid in the Avon catchment. We look forward to further progress with all of this during 2014.



Above: The refurbished footbridge & boardwalk completed by (right) 236 Field Squadron of the Royal Engineers as part of the SCI's Aviemore Community Council Project. (Photos: Liz Henderson)

3.2 Spey Fishery Management Plan

The Spey Fishery Management Plan was comprehensively reviewed in 2008, funded by the Scottish Government, to provide a framework within which the Spey Fishery Board could identify target areas for research and apply specific funding. It built upon previously developed Plans and policies (Spey Fishery Management Plans 1993 and 1998, Spey Catchment Steering Group 2003) and work on its implementation continued throughout 2013.

The Plan did not replace the Spey Catchment Initiative, but focussed on more specific issues directly relating to the management of the Spey's fish stocks. It also recognised and incorporated new requirements and commitments developed from the Water Framework Directive (WFD), the Strategic Framework for Scottish Freshwater Fisheries (Scottish Government 2008) and more local plans such as the Cairngorms National Park Plan (CNPA 2007). Copies of the plan, as well as the 2012 report on its implementation, are freely available in 'pdf' format from the Research Office and the Board's website.

Five years on from the creation of the Spey Fishery Management Plan, it was decided in 2013 to review and revise it into a Plan for the next five years. The 2008 Plan had been a comprehensive document and it was decided that the next Plan would be streamlined into something more user-friendly. Accordingly, the Board's Biologists have drafted an Action Plan, principally for the Spey Foundation, but in close collaboration with the SFB, to determine and prioritise our future work. This will go out to public consultation in January 2014, with the aim of finalising the document in February.

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, resulting 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, there is now considerable resistance to stocking above impassable waterfalls. The Wildlife and Natural Environment Act has now been fully implemented, 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.

There is little point in stocking areas where fish are naturally present. Furthermore, with new research indicating that when stocked fish inter-breed with wild fish, their reproductive capacity is reduced, our stocking may be potentially harmful rather than beneficial.

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.

3.3.1 Stocking Policy

In 2011, the Board had accepted the recommendations of the Stocking Sub-Group of the Spey Foundation Committee, that stocking take place in the following areas by order of priority:

1. Above man-made obstacles.
2. Above partly-accessible waterfalls, but only if appropriate broodstock was available.
3. In areas of poor juvenile density, although a clear reason for doing so needed to be demonstrated e.g. after a natural disaster.
4. Above the natural reach/distribution. This was the least-favoured and it was recommended that such locations should be avoided and only used where subsequent electrofishing showed that smolt production was likely to be successful.

The Spey Foundation Committee had also recommended to the Board that henceforth a far more targeted approach to stocking, with a reduced production that could be effectively monitored, should be undertaken. This followed consideration of the extensive programme of electrofishing that had been undertaken in June and July

of that year, together with the results of the genetic analysis project which had provided an indication of the hatcheries' contribution to the rod fishery. The Board had previously decided to repeat the stocking of autumn parr, formerly undertaken in 2011, and to monitor their progress. It had also decided that the genetic research, which had provided an initial indication of our hatcheries' contribution to the rod fishery, needed to be enhanced and that the public needed to be made aware of the extensive research undertaken by the Spey Board and elsewhere. The results of this enhanced genetic research are reported in section 3.4.

Further to this, another comprehensive programme of electro-fishing was undertaken by the Board during 2013, initially to monitor its stocking in 2012 and to confirm the stocking locations for 2013 (see Table 2 below). To assist future monitoring, the Ghillies coordinated the fin-clipping of 40,000 autumn parr for stocking during 2013, 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.

The Spey Foundation Committee and the Board also had to consider the stocking policy and requirement for 2014 (see Table 3 below). To enable this, the Board reinstated its Stocking Sub-Committee.

The Sub-Committee considered the results from the 2013 electro-fishing, together with the findings from the subsequent genetic analysis. Cognisant that fishery management is a combination of sound science, politics and common sense, it also took into account the beneficial aspects of stocking, which include education and public engagement. In so doing, it recommended that the Spey Board should retain the operation of the hatchery, at broadly similar levels to the current production, for the next five years.

The Sub-Committee's findings were presented to and endorsed by both the Spey Foundation Committee and the Board. 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 2013 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.



Above: Sir Edward Mountain and Ghillie Sandy Smith fin-clipping at Sandbank Hatchery. The Ghillies co-ordinated the fin-clipping of 40,000 autumn parr for stocking during 2013. (Photo: Steve Brand)

Table 2. Spey Fishery Board Stocking 2013

Broodstock Source	Stocking location	Habitat quality	Area Available (m²)	Stocked 2013 0+ parr	Month stocked
Lower Mainstem	Mulben Burn	Moderate/Good	17,564	22,000	Sept
Lower Mainstem	Broad Burn	Good	7,916	15,000	Sept
Lower Mainstem	Roths Burn	Good	7,000	17,000	Sept
Mainstem	Cally Burn	Good	16,735	7,500	Sept
Fiddich	Burn of Mackalea	Good	2,797	16,000	Sept
Fiddich	Corrie Burn	Good	11,279	38,000	Sept
Mainstem	Tommore Burn	Good	7,120	40,000*	Sept
Avon	Burn of Brown	Good	19,713	40,000	Sept
Dulnain	Batten Burn	Good	8,750	17,500	Sept
Total				213,000	

* indicates fin-clipped autumn parr

Table 3: Eggs laid down in the hatchery for stocking in 2014

Source	Number females	Eggs laid down in hatchery
Lower Mainstem	14	77,000
Middle Mainstem	4	21,500
Upper mainstem	7	29,000
Fiddich	9	46,000
Avon	7	33,000
Dulnain	5	24,000
	46	230,500

3.4 Genetic Analysis Project (FASMOP)

Background

An increasing number of behavioural and genetic studies have shown that Atlantic Salmon are structured into multiple, distinct breeding populations. The evidence shows that Salmon in different river systems belong to different breeding populations and stocks in all but the smallest rivers can generally be expected to contain many breeding populations which are reproductively and genetically distinct. In practical terms, the Spey will have a Salmon population that is distinct from that of other Scottish Rivers and within the Spey, tributaries such as the Fiddich, Avon and Tromie etc will each hold distinct sub-populations.

Breeding populations are the fundamental units underpinning recruitment and defining the character of a river's salmon stock. It is therefore essential to understand a river's population structure for the development of effective stock conservation and management plans. Identifying breeding populations can be achieved by the analysis of heritable variation in the DNA of Salmon. Genetic variations in human beings are used to determine paternity or identify criminals with crimes they have committed. These same techniques can also be used to investigate population structuring in Atlantic Salmon stocks as each Atlantic Salmon has a unique combination of genetic variants by which it and its offspring can be identified.

The Project

FASMOP (Focussing Atlantic Salmon Management On Populations) was a pan-Scotland project which began in 2009. For the Spey, the specific aims of the project were as follows:

- i. To assign fish to their river of origin.
- ii. To identify whether fish caught in the rod fishery had originated from our hatcheries using the genetics of maternity/paternity.
- iii. To determine whether our stock consists of sub-populations so as to better-inform our management of the fishery.

FASMOP initially used a suite of seventeen Microsatellites as the vehicle for analysis, which proved to be highly effective for our secondary aim of identifying maternity/paternity and thereby giving a first indication of whether our hatcheries are contributing to the rod fishery. Full details of this were outlined in last year's Annual Report. However, whilst the Microsatellites also gave an indication that the Spey's stock was broken-down into sub-populations, they did not have sufficient resolution to provide a clear picture of these and the project subsequently cooperated with CIGENE in Norway, which was developing Single Nucleotide Polymorphisms (SNPs or "SNiPs") for analysis. These SNPs provided an approximate three-fold increase in the ability to differentiate the samples when compared to analysis using Microsatellites. Furthermore, in co-operation with the SALSEA Merge project, which has been running alongside FASMOP, the SNPs have enabled us to assign fish from the marine environment to their river of origin with a confidence level of 80-85%.

Whilst we are now able to assign fish to their river of origin with an acceptable degree of confidence, the SNPs also showed that the Spey's stock generally exhibits close genetic relationships which are very subtle. The result was that the SNPs were effective in identifying sub-populations in some of the outlying reaches of the

catchment (particularly in the Truim and also the Loin, which is a tributary of the Avon), but less effective when looking at the main stem and inner reaches. So when looking at this as a whole, the confidence level for determining in-river fish to their area/tributary of origin diminished to an average of only 40%. This pattern of differentiation using SNPs compared to Microsatellites is broadly similar amongst the other big rivers engaged in the project too (Tweed, Dee and Kyle of Sutherland), whereby some sub-populations have been clearly identified, but not all.

The Results

In summary, the results from the project can be expressed as follows:

- i. Success in the ability to assign fish from the marine environment to their river of origin. Without this, it would have been impossible to identify fish destined for the Spey that had been caught in a Mixed Stock Fishery.
- ii. From the analysis of rod-caught fishery samples, we have obtained an indication of the impact of our hatcheries on the fishery.
- iii. In common with other rivers, the identification of sub-populations has been partially successful and specific genetic types, particularly in the outlying reaches of the catchment, have been identified. However, for the time being, the positive identification of all sub-populations has proved to be elusive.

The FASMOP genetics report for the Spey was finalised and published in 2013. It explains all of the above in detail and is available from the SFB website at:

<http://www.speyfisheryboard.com/spey-foundation-publications/?did=6685>.

Further Hatchery Analysis During 2013

In 2012 the Board decided to make the analysis of the hatcheries' contribution to the rod fishery more robust. Initially, the rod-caught samples were taken in 2008 and 2009 and related back to the broodstock samples from 2004 and 2005. To complete the full analysis of returning fish that may have emanated from these broodstock samples, we needed to analyse the 2010, 2011 and 2012 rod-caught samples, which were not available at the time the original analysis was undertaken. The Board approved the continuation of this important research by analysing these samples, as well as the 2006 broodstock samples.

This latest research showed that none of the 83 rod-caught samples taken in 2010 had emanated from our hatcheries, but of the 217 rod-caught samples taken during 2011, four (1.8%) of these fish had. Meanwhile, of the 204 rod-caught samples taken during 2012, three (1.5%) had emanated from our hatcheries. This research has shown that the hatcheries' contribution to the rod fishery is relatively consistent and low, at up to 1.8%. To put this into context, it shows that our hatcheries are likely to have contributed up to circa 150 fish to the rods per annum. However, it is important to remember that the broodstock taken to produce these hatchery-reared offspring would also have reproduced fish naturally if they had been left in the wild.

Year	Sample size	Assigned one parent (hatchery)	Assigned both parents (hatchery)	% of sample attributed to hatchery
<i>Rod-catch</i>				
2008	299	2	1	0.3%
2009	257	2	1	0.4%
2010 (rod) Spey Dam	80	0	0	0%
	33	0	0	0%
2011	217	1	4	1.8%
2012	204	0	3	1.5%

Table 4 above shows the numbers of rod-caught fish that were found to have emanated from the Board's Hatcheries, as identified by genetic analysis.

This completed the research already undertaken and effectively doubled the number of rod-caught samples analysed, thereby enhancing the genetic analysis of the contribution made by the Board's hatcheries to the rod fishery. The Board has decided not to pursue any further genetic analysis in the immediate future. However, it will continue to take samples from all broodstock and will still be asking Ghillies to continue taking samples of rod-caught fish henceforth, so that further research may be undertaken in future if appropriate.

3.5 Pollution Incidents

A peat slide occurred in the upper Spey catchment in September 2013 during construction of the Beaully-Denny electricity transmission line. This resulted in peat sliding into the Allt Yairack Burn, which was reported to SNH and SEPA. The contractors involved subsequently engaged consultants to monitor potential impacts.



Above: the peat slide into the Allt Yairack burn in September 2013.

There were at least two other pollution incidents that were discovered by the SFB during 2013. These related to the leakage of by-products or waste materials from distilleries. On both occasions, the details were reported to SEPA and distillery production ceased until the causes had been rectified. Furthermore, in both cases the response from the distilleries was exemplary.



Above: An example of the growth of Sewage Fungus following a pollution incident (Photo: Brian Shaw)

3.6 Control of Ranunculus

Ranunculus 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. It has now been accepted that the presence of the plant is detrimental to two of the SAC-designated species (Atlantic Salmon and Freshwater Pearl Mussels). 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.

In October 2010, Scottish Natural Heritage (SNH) produced a Position Paper which clearly explained how Ranunculus is detrimental to two of the Spey's SAC-designated species and outlined the history of attempts to address it. In 2011 the Board identified Roundup Pro Biactive as a potentially suitable chemical for plant control that has been accepted for use in and around watercourses.

Despite a joint approach by the Spey and Dee Boards to the Scottish Environment Protection Agency (SEPA) in 2011, seeking acceptance of the SNH Position Paper and proposing a collaborative approach to trialing Roundup Pro Biactive and TopFilm on selected areas of each River to resolve this long-running issue, progress

has been disappointingly slow. In 2012, SEPA accepted the Position Paper and informed us that a UK Technical Advisory Group (UKTAG) had been working on a directive for the application of herbicides in watercourses. There had also been concerns about the application of herbicides in to SAC Rivers and so a proposal was submitted for a trial in the neighbouring River Don, which is not SAC-designated. In order to develop this, a Management Group, consisting of SEPA, SNH and the Spey, Dee and Don Boards and Trusts, was established at the end of 2012. This Management Group decided in 2013 that an important first step would be a literature review, 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. Furthermore, it was important to scope an outline Ecotoxicology Research Project for approval by SEPA and SNH, so that a licence could subsequently be sought for a trial application in the River Don.



Above: Ranunculus in the River Spey. (Photo: Roger Knight)

During 2013 the Management Group went out to tender and awarded the literature review and project scoping to APEM. A draft of APEM's Report was received in late December 2013 and we look forward to progress with this long-running issue during 2014.

3.7 Sawbill Ducks and Cormorants

In November 2012 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 Beaully Rivers to shoot Goosanders, Mergansers and Cormorants during 2013. This application was successful and the Spey was licensed to shoot 14 Goosanders, 4 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 and submitted to the Marine Scotland Science laboratory in Pitlochry for analysis of stomach contents.

In 2013 the SFB continued counting Goosanders, Mergansers and Cormorants using canoes. Counts were carried out from Loch Insh to Spey Bay in late March and early May and the data collated has contributed to our 2014 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 2013 has again requested that some of these birds be shot during May (rather than restricted to January – April, as had been the case up until recent years) to provide additional protection to Salmon stocks during the annual smolt run. The Board is currently awaiting the outcome of this licence application.



Female (left) and male (right) Goosanders. 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 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. Using Scottish Government funding that had been granted towards Integrated Predator Management throughout the Moray Firth region, a literature review of all available data on this matter was completed during 2012. Further work to develop an effective project to progress our knowledge of this issue was undertaken during 2013 and the Management Group has been considering how best to proceed with this. During 2014 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.

3.8 Moray Firth Seal Management Plan

2013 saw the continuation of the Moray Firth Seal Management Plan and the commencement of its review. 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.

However, 2013 also saw the departure of the Moray Firth Seal Management Plan's coordinator and licensee, Iain McMyn, from the Kyle of Sutherland District Salmon Fishery Board. This 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, pending a thorough review of the Moray Firth Seal Management Plan during the course of 2014. 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 be taking a leading role in the review of the Moray Firth Seal Management Plan during 2014.

3.9 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 2013 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. 2013 also saw the establishment of a single Police Force in Scotland, from the regional Constabularies to which we had hitherto been accustomed.

Coastal patrols between the Boar's Head stretch of coastline and Cowhythe Head were continued from April-August 2013. During this period, we also upgraded our Rigid-hulled Inflatable Boat (RIB) to a 6.4 metre RibCraft, which has been commercially coded and has significantly enhanced our operational capability. The Board's Bailiffs are now able to operate in rougher sea conditions and stay out at sea longer than was the case previously.



SFB Head Bailiff and Patrol Boat Coxswain, Richard Whyte, with the monofilament gill net recovered from the coast in June 2013. (Photo: Blair Banks, Ghillie, Gordon Castle)

A total of eleven patrols along our coastline were completed throughout 2013, during which one illegal gill net was intercepted. However, the deterrent effect of these patrols should not be under-estimated. The SFB was also contracted in 2013 to undertake two patrols for the Dee District Salmon Fishery Board, enhancing our already close ties with other regional DSFBs and illustrating the value of pooling resources to tackle shared problems.

Poaching activity on the River Spey in 2013 was reduced in comparison to recent years, although this may well have been a reflection on the availability of fish within the river. However, for the first time in many years, a significant monofilament gill net was recovered from the river at Craigellachie in September 2013. The length and size of net that was recovered would have made it very unwieldy and probably impractical to be effective. Nonetheless, whilst the numbers of arrests and convictions may be low, the deterrent effect of a dedicated and professional group of Bailiffs should not in any way be under-estimated.

3.10 Administration and Staffing

2013 has seen more changes for both the Board and the Spey Foundation.

We reported last year that our previous Biologist, Bob Laughton, had been appointed as Director of the Findhorn, Nairn & Lossie Fisheries Trust (FNLFT) from January 2012, with 50% of his time contracted back to the Spey Foundation. Fifteen months later, the position with FNLFT became full-time and so in March 2013, after twenty-five years with the Spey Research Trust and more latterly the Spey Foundation, we said farewell to Bob. The Board wishes him every success with his new appointment.



SFB Director Roger Knight presents previous Biologist Bob Laughton with a silver Quaich after twenty-five years service and upon departure to become full-time Director of the Findhorn, Nairn & Lossie Fisheries Trust. (Photo: Sally Worsdall)

Although Jim Reid remains available on an ad hoc basis, the Board subsequently advertised for a replacement Assistant Biologist. This produced a strong field of applicants, including Polly Burns who had joined us for four months during the summer as one of our Seasonal Biologists. Polly had just graduated from the Scottish Association of Marine Science, part of the University of the Highlands & Islands, with a First Class Honours Degree in Marine Science. She proved to be the strongest candidate and accepted our offer of a permanent position. We wish her every success in her new appointment.



*Assistant Biologist Polly Burns joined the Board in June 2013 and became a full-time member of staff in September
(Photo: Sally Worsdall)*

Part 4

Spey Foundation Report

4.1 Juvenile surveys 2013

The good weather that pertained throughout the summer of 2013 provided excellent conditions for surveying and all planned juvenile surveys were completed. The annual salmon fry index survey of the Spey mainstem was completed, with 63 timed sites surveyed. In addition, a further 23 salmon fry index surveys were completed on the River Avon mainstem. The main tributaries scheduled for surveying in 2013 were the Avon and Truim, with a selection of the burns flowing directly into the Spey also visited. Repeat surveys of selected sites in the River Dulnain and Allt Mor were completed, as well as a number of stocking monitoring, contract and other investigative surveys.

4.2 Spey Salmon Fry Index

In 2012 a revised monitoring system for the Spey mainstem was put in place. Sites consisting of run/riffle habitat were selected to provide good geographical spread throughout the mainstem, including upstream of Spey Dam. These sites are now monitored annually using the salmon fry index timed protocol, as defined by the SFCC (<http://www.scotland.gov.uk/Resource/Doc/295194/0096726.pdf>) with what should be minor revisions only. For example, in 2013 four new sites were introduced, with two others dropped from the rota. In 2013 the salmon fry index timed survey technique was also used in the Avon mainstem, where 23 sites were completed.

In 2013 the results from the salmon fry index survey were classified based on quintile (20% bands) of ranked data from the 2012 and 2013 Spey salmon fry index surveys. As the database expands, the classification scheme will be based on a rolling five year average. The results from the 2012/3 salmon fry index surveys on the Spey mainstem 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 at http://www.speyfisheryboard.com/wp-content/uploads/downloads/2013/12/Spey_2013_electrofishing_survey-final.pdf. The results are colour coded in 20% bands according to Table 4 below:

Table 4: Spey salmon fry index classification scheme 2013

2013 Salmon fry breakpoints (No/min)	Classification
0.0	Absent
< 6.0	E – Very low
6.0 – 10.9	D - Low
11.0 – 17.9	C - Moderate
18.0 – 31.0	B - Good
>31.0	A - Excellent

Table 5: Spey mainstem salmon fry counts per minute 2012/2013

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

There will always be variation between sites from year to year, but it can be seen that there were more sites in the moderate, good and excellent categories in 2013 than in 2012. If completed in a consistent manner over a number of years, trends in salmon fry abundance will become apparent. The impact of Spey Dam is obvious, but the area between Craigellachie and Phones (Knockando) appears to support lower fry numbers. In order to investigate whether this was related to site selection two new sites were surveyed at Wester Elchies in close proximity to the sites at Kinermory (S068R1) and Delagyle (S071R1). The habitat at the Wester Elchies sites was better, as were the results, with one in the moderate and one in the good category.

The mean salmon fry count per minute from all sites in 2013 was 23.6, compared to 13.6 in 2012. This included seven sites from above Spey Dam where fry were absent in 2013. If the results from the new or dropped survey sites are excluded and only sites surveyed in both years are compared, the mean fry count in 2013 was 23.0, compared to 13.8 in 2012.

Upstream of Spey Dam there was a virtual collapse in salmon fry numbers, with fry present in only 2 out of 10 sites surveyed. Salmonid densities are consistently lower upstream of Spey Dam than below, but the low numbers found this year will have a knock-on effect on the parr population in 2014/15. The concerns of the Spey Fishery Board over fish migration, both upstream and downstream, through Spey Dam have been well documented. The dirty water that emanated from the Markie Burn following a landslide, which discoloured the river below Spey Dam, and the closure of the fish pass in October 2012 during fish counter installation by Rio Tinto Alcan, may also have had an impact.

The low water levels throughout the mainstem survey period would no doubt have contributed to the improved results compared to 2012, but many of the sites are relatively resilient to changes in flow, as the actual area surveyed occupies the margins only, and simply moves up and down the bank according to water levels. Flows in the river downstream of Spey Dam are stable at a low level due to the compensation flow and here the results from the two sites closest to the dam were also better in 2013 compared to 2012.

Rather than focussing on the results from individual sites, this type of survey should be regarded as providing an overview of salmon fry abundance across the river. In that regard, the results are encouraging, with salmon fry found at all sites downstream of Spey Dam. Indeed there was an increase of 73% when compared to the previous year. The major problem area in the catchment continues to be upstream of Spey Dam.

In order to compare the 2013 Spey mainstem results with previous years, a cross-calibration exercise was carried out. Between 2002 and 2011, a range of habitat types were surveyed in the Spey mainstem, including run/riffle, glide, pool and backwater. Since 2012, only run/riffle habitat has been surveyed, so an analysis of the results was undertaken using only sites where the dominant habitat type was run/riffle. In 2012 the actual time fished was recorded at each site, which combined with the timer on the electrofishing kit, allowed the results from before 2011 to be cross-calibrated with the new timing method. Based on this analysis, the graphs below in Figures 13 and 14 show the salmon fry and parr numbers per minute over the last 12 years. The trends for both fry and parr are encouraging; particularly for parr as no increase in parr numbers had been detected in 2012.

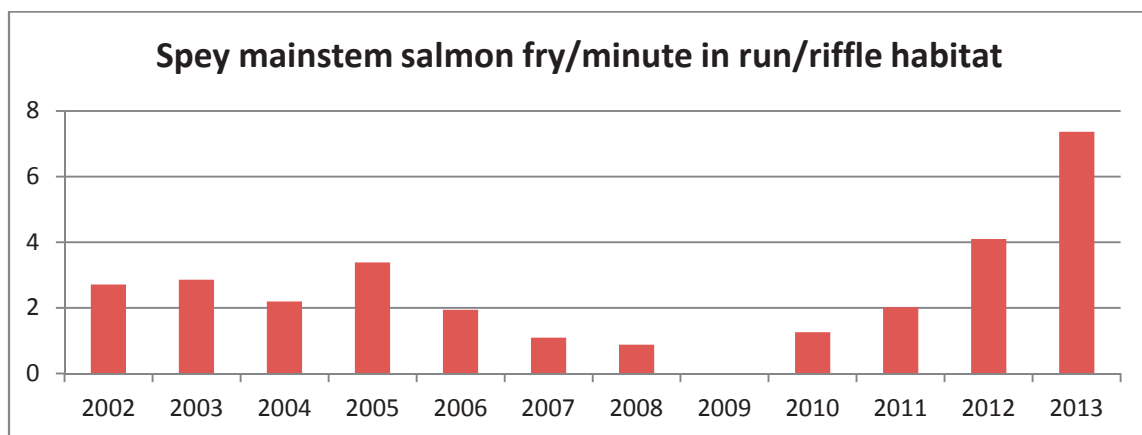


Figure 13: Spey mainstem salmon fry/minute results from run/riffle habitat (Note: no Spey mainstem timed surveys were completed in 2009)

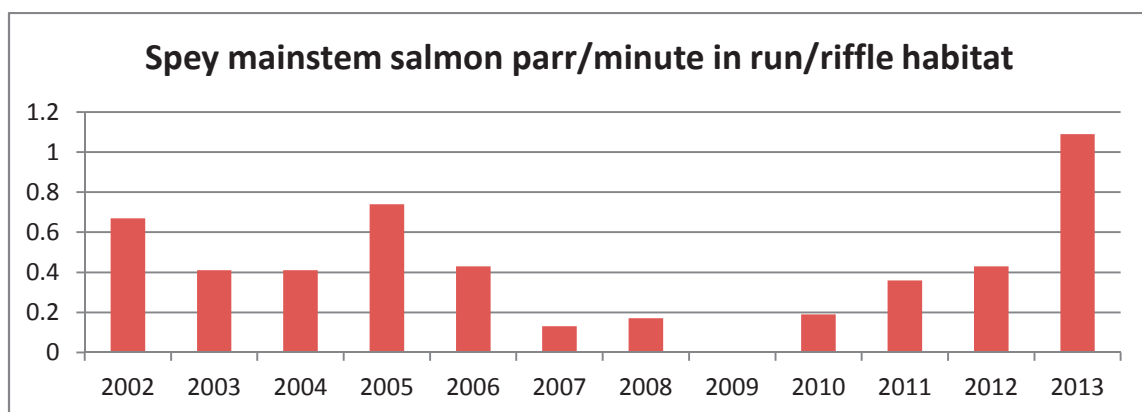


Figure 14: Spey mainstem salmon parr/minute results from run/riffle habitat

4.3 Avon Salmon Fry Index

The River Avon was one of the tributaries scheduled for survey in 2013. The Avon is a large and wide river, even at the upper limits of salmon access. Therefore the most appropriate survey technique for the Avon mainstem was the salmon fry index survey. Twenty three sites were surveyed in the Avon, from Ballindalloch to beyond Faindouran at 600m (2000ft) altitude.

Table 6: Avon mainstem salmon fry index results expressed as salmon fry/min. Note that results are ordered in an upstream direction.

Site code	Location	Salmon fry/min
TA01L1	Ballindalloch Castle	38.67
TA05L1	Golf Course	39.67
TA11L1	Haugh Pool	41.33
TA15L1	Upstream Black Burn	83.00
TA21R1	Little Dalrachie	22.33
TA24R1	Dell footbridge	25.00
TA29L1	Upstream Fodletter Bridge	26.33
TA34L1	Lochy mouth	18.67
TA38L1	Dalvrecht-Conglass confluence	22.00
TA43R1	At "S" bend below New bridge	23.67
TA49R1	Below Fordmouth Farm	15.00
TA56R1	Upstream Delavoar Bridge	14.00
TA60R1	Muckle Fergie confluence	9.33
TA65R1	Heathery island far channel	6.00
TA70R1	Opposite side channel	10.00
TA76R1	Upstream Builg confluence	7.33
TA81L1	Upstream Allt Loin	3.67
TA84L1	Glenavon Estate	11.00
TA89L1	Glenavon Estate	1.00
TA94L1	Glenavon Estate	2.67
TA99L1	Glenavon Estate	1.33
TA101L1	Glenavon Estate	1.00
TA105L1	Glenavon Estate	0.00

Salmon were found at all salmon fry index sites on the Avon, although in steadily decreasing numbers, with fry absent at the uppermost site. The mean number of salmon fry/minute in the Avon sites was 18.4, lower on average than the Spey, but it was a river of two halves. The mean from the lower 12 sites was 30.8, whilst in the upper sites it was 4.8.

The habitat gradient and substrate present in the Avon mainstem provide almost universally good parr habitat and many of the survey sites also supported high parr numbers.

The mean size of the fry, and parr, in the Avon were smaller than found in the Spey throughout but particularly in the Upper Avon where the mean size at some sites was just over 30mm. In these sites the mean size of the one-year-old parr was around 55mm – significantly smaller than the parr present in sites at similar altitude in the River Truim.

As a consequence of the slow parr growth, smolts from the Upper Avon are likely to be amongst the oldest in the Spey catchment.

4.4 Tributary surveys 2013

In accordance with the three-year survey rota of the Spey tributaries (see Figure 15 below), the Rivers Avon and Truim were scheduled for intensive survey in 2013. In addition, a selection of burns flowing directly into the mainstem were surveyed, as well as some sites where issues had been identified the previous year, and which were therefore repeated in 2013. Comprehensive monitoring of sites stocked with salmon (0+) in previous years was also completed. A total of 116 sites were surveyed, most using a single run Scottish Fisheries Coordination Centre (SFCC) area-based protocol, and some sites surveyed using multiple runs to allow estimates of total fish densities to be calculated. Note that the results from these surveys are expressed as fish captured per 100m². Full details of the SFCC electrofishing protocol can be found at the following website:

www.scotland.gov.uk/Topics/marine/science/sfcc/Protocols

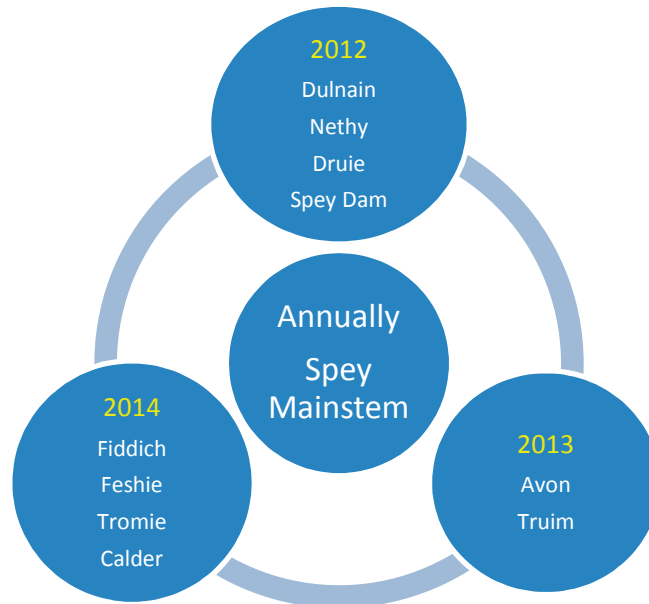


Figure 15: the three-year survey rota of the Spey tributaries.

To allow readers to put the electrofishing results from the Spey into context, the results from surveys where fish densities (*per 100m² wetted area*) were obtained are classified according to the SFCC Scottish national classification scheme. This was derived using data from over 1600 Scottish sites covering the period 1997-2002. Within the SFCC national classification scheme, regional classifications were defined, including corrections for stream width. The Moray Firth Region classification scheme based on stream width was adopted as the most suitable classification scheme for Spey results. Full details of the classification scheme can be found at:

<http://www.scotland.gov.uk/Topics/marine/science/sfcc/Background>

It should be noted that the Spey catchment is highly variable and salmon are able to access a wide range of habitat types. The potential carrying capacity and therefore expectations for fish densities even within the same tributary, e.g. lower Avon compared to upper should not be the same.

There is not sufficient space within this Annual Report to summarise the results from all sites, but a detailed report can be downloaded from the Spey Board website at:

http://www.speyfisheryboard.com/wp-content/uploads/downloads/2013/12/Spey_2013_electrofishing_survey-final.pdf

The results from the density survey sites on the Avon and Truim are highlighted and discussed below as an example of the 2013 survey results. The table has been colour coded as for the salmon fry index surveys, but based on the SFCC Moray Firth Region classification scheme. All the results in the table below are from the first of multiple run surveys or single run surveys only. Typically only 65% of the parr present will be captured during a single run survey. A number of sites were surveyed with multiple runs so that estimates of total fish densities could be derived.

Table 7: River Avon and tributaries electrofishing survey results 2013. Results are expressed as density/100m²

SiteCode	Date	River	Average Width m	Area m ²	Salmon fry	Salmon parr	Trout fry	Trout parr
SA65	11/09/2013	Avon at Island (split channel)	11.3	87.3	18.3	24.0	0.0	0.0
SA70	11/09/2013	Avon at Dalestie	21.7	260	39.6	11.1	0.8	0.4
SA82	11/09/2013	Avon at Inverloin Bridge (half width)	7.25	92.8	37.7	26.9	4.3	3.2
SA85	16/08/2013	Avon upstream Loin Bheag (half width)	7.4	80.7	32.2	9.9	2.5	3.7
SA1d	14/08/2013	Tommor Burn at Delnashaugh	6.9	109	16.5	6.4	27.5	6.4
SALc	20/08/2013	Livet at Packhorse Bridge (split channel)	12.4	134.6	369.2	60.2	31.2	0.0
SALd	20/08/2013	Livet at Nevie Farm	8.0	72	256.9	12.5	40.3	0.0
SALa	07/08/2013	Livet at Whitefolds	9.2	85.9	150.2	45.4	86.1	5.8
SALb	27/08/2013	Livet at Suie	5.28	132	40.9	25.8	23.5	10.6
SALe	27/08/2013	Suie Burn at Suie	4.42	118.6	16.8	16.8	26.1	17.7
SALK	27/08/2013	Kymah Burn at Suie	3.67	98.8	14.2	13.1	45.5	12.1
SALTa	09/08/2013	Tervie old mill site	5.2	86.32	155.2	2.3	95.0	5.8
SALTb	09/08/2013	Tervie d/s road bridge	5.9	78.32	204.3	11.5	57.5	2.6
SALTc	12/08/2013	Tervie Hillhead of Morinsh	3.2	111.1	53.1	6.8	101.7	21.6
SALTDa	12/08/2013	Deskie below bridge	1.9	67.8	0.0	0.0	395.3	7.4
SALADa	19/08/2013	Allt Dregnie at watergate	2.6	55.9	46.5	1.8	261.2	30.4
SALC	19/08/2013	Crombie at Refreish	4.9	69	15.9	8.7	110.0	13.0
SALCa	19/08/2013	Crombie at Bochel Bridge	3.95	112.6	25.8	1.8	145.7	12.4
SALCb	19/08/2013	Crombie at Chivas Distillery	3.1	104.7	33.4	1.9	323.8	36.3
SALBb	27/08/2013	Blye Water at Ladderfoot	1.5	57.6	0.0	3.5	269.1	64.2
SALBc	27/08/2013	Blye Water at Achnascrew	3.38	96	9.4	1.0	206.5	47.9
SALOb	21/08/2013	Lochy above Inverloch bridge	5.65	163.8	13.4	37.8	6.7	7.9
SALOb	21/08/2013	Lochy at footbridge	5.6	233.8	188.2	33.4	19.2	5.9
SALOb	21/08/2013	Allt Iomadaidh below Bauminich	2.4	99	75.8	14.1	40.4	44.4
SA4b	14/08/2013	Chabet Water below forest track bridge	3.5	112.6	65.7	2.7	238.0	31.0
SA4c	14/08/2013	Chabet Water at Glenconglass Farm	2.3	57	0.0	0.0	232.6	21.1
SACa	11/09/2013	Conglass at Ruthven Farm	10.0	108.8	217.8	46.8	40.4	0.0
SACe	20/08/2013	Conglass at Bridge of Conglass	6.1	82	106.1	20.7	134.1	7.3
SACb	13/08/2013	Conglass Water at Glenmullie	6	105	71.4	7.6	199.0	17.1
SACd	14/08/2013	Conglass at Iron Mine	2.2	66.2	0.0	3.0	141.9	51.3
SACB	14/08/2013	Allt Blairnamarrow	2.6	62.7	0.0	0.0	202.6	30.3
SACL	14/08/2013	Allt na Lice	1.1	23.8	0.0	0.0	294.1	29.4
SAWAa	11/09/2013	Water of Ailnack at Delnabo	11.4	174.4	24.6	18.3	34.4	9.2
SABUa	04/09/2013	Builg Burn upstream ford	5.8	106	24.5	5.7	2.8	2.8
SABUb	04/09/2013	Builg Burn apex of bend	3.6	55.9	34.0	8.9	21.5	7.2
SABLa	04/09/2013	Burn of Loin at Lower Croft	5.87	101.5	34.5	6.9	36.5	12.8
SABLb	04/09/2013	Burn of Loin upstream ford	3.3	90.75	16.5	24.2	22.0	6.6

The results for salmon were varied, but the core salmon habitat e.g. Avon mainstem, Livet and larger tributaries such as the Lochy and Conglass, supported healthy salmon populations. A number of sites were in burns which were either inaccessible to salmon, or considered too small, and therefore more suited to trout. It should be clear from the table above that the Avon and tributaries support a very good trout population. Most of the sites surveyed are accessible to migratory fish and it is likely that spawning by sea trout contributed a high proportion of the trout eggs deposited in these burns.

The results from the River Truim and tributaries were different. Here salmon were the dominant species at most sites, with salmon parr densities at all but one site in the moderate to excellent categories. Upstream of Dalwhinnie, the salmon fry densities were lower, a consistent finding from this part of the river, but despite this parr densities were also generally good. Based on these results and the area of accessible habitat in the Truim, it is estimated that at the time of the surveys, the Truim was supporting a parr population of over 85000, 30% of which were 2 or more years old, the remainder being one year old. The 2012 smolt trap projection estimates for the Truim generated a smolt production estimate of over 17,000 smolts. The parr population found in 2013 is

capable of producing similar smolt outputs. The trout density in the Truim was much lower than that found in the Avon but few sea trout spawn this far up the catchment.

Table 8: River Truim electrofishing results 2013. Results are expressed as density/100m²

Site Code	Date	River	Average Width	Salmon fry	Salmon parr	Trout fry	Trout parr
TR19	18/09/2013	Truim at Glentruim Bridge	13.6	4.9	17.1	0.0	0.0
TR1	23/08/2013	Truim at Crubenmore	15.4	13.0	28.6	1.2	0.0
TR11	03/09/2013	Truim below Cuaich	4.7	131.4	64.5	4.5	1.1
TR20	03/09/2013	Truim at Cuaich bridge	8.6	120.6	8.0	13.6	0.0
TR12a	23/08/2013	Truim d/s Distillery	6.7	105.7	29.7	10.2	2.3
TR5	03/09/2013	Truim at hydro bridge	7.8	0.0	12.9	2.6	2.9
TR18	03/09/2013	Truim at conifers	8.1	6.1	15.3	1.0	7.1
TR2	23/08/2013	Truim at Balsporran	5.2	18.3	20.0	5.0	0.8
TRCUa	18/09/2013	Cuaich upsteam A9	3.3	6.5	14.2	8.7	20.7
TRCUB	18/09/2013	Cuaich midway	2.3	0.0	13.1	10.2	27.7
TR4	03/09/2013	Allt Coire Fhar	5.3	1.4	24.4	8.1	6.8

4.5 Truim and Tromie smolt traps

For the fifth successive year on the Tromie and the fourth on the Truim, rotary screw traps were operated during 2013 to sample and quantify the smolt run from these two upper tributaries. Following the excellent trapping conditions experience in 2012, the conditions prevailing during 2013 were the most difficult encountered so far. The traps were deployed on the 7th March, which transpired to be too early, as the following five weeks were characterised by very low temperatures and water levels. Indeed, between deployment and the end of March, the Truim trap for example was out of action on eight days as it was frozen solid. It is unlikely that many smolts were migrating during such low temperatures, so these non-operational periods were of little consequence.



Above: the rotary screw trap on the Tromie (left) encased in ice in March 2013 and (right) the trap on the Truim following submersion during high flows. (Photos: Brian Shaw).

On the 14th April there was a change in the weather, with a rapid thaw in the significant snow accumulations, resulting in very high water levels. The drum on the Tromie trap was lifted, allowing it to ride out the high waters but the Truim trap was completely submerged for several days due to the force of the water and accumulated debris. However the moorings held and the trap was soon restored to working order.

In total, twenty operational days were lost on the Truim and thirteen on the Tromie. In the Truim, only 194 salmon smolts were captured in 2013, less than 10% of the total captured in any of the previous three years. On the Tromie, 714 salmon smolts were recorded, 55% of the 2010 catch, but only 7.9% of the 2013 total. The operation of these smolt traps in previous years had shown just how concentrated the run of smolts can be. In 2013, approximately 50% of the smolts migrated in a four day period when there had been a very modest rise in river levels.

The recapture rates for dye-marked salmon on the Truim was less than 4%, approximately 10% of that recorded in previous years. Consequently no smolt production estimates were calculated for 2013. The recapture rates on the Tromie were similar to that recorded in previous years, so smolt production estimates were calculated. At 0.7/100m², this is by far the lowest recorded during the five years of smolt trap operation at the site. However, the extended non-operational period during high water events, when many of the smolts would have migrated, means that there can be little confidence regarding the estimates generated.

The problems encountered during the operations of the smolt traps in 2013 highlight the need for data to be collected over a number of years, as trapping conditions, even in these regulated rivers, are highly variable. The lack of robust smolt trap data from 2013 is frustrating, as one of the objectives of the exercise was to try and quantify the variability in smolt outputs from these upper tributaries.

Table 9: Results from the River Truim Rotary Screw Trap

River Truim	2010		2011		2012		2013	
Start Date	25/03/2010		24/03/2011		05/03/2012		07/03/2012	
End Date	03/06/2010		24/05/2011		22/05/2012		22/05/2012	
Operating Period (Days)	70		61		78		76	
Total Days Lost	14		2		4		20	
Actual Fishing Days	56		59		74		56	
Fish Data	Salmon	Trout	Salmon	Trout	Salmon	Trout	Salmon	Trout
Number smolts captured	2845	67	2139	102	5490	77	194	11
Number parr/adult captured	41	71	17	426	23	359	44	103
River Age	%	%	%	%	%	%	%	%
1	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
2	46.5	12.1	36.5	7.3	39.4	6.7	63.0	11.8
3	45.1	33.3	55.8	26.8	53.1	18.3	37.0	11.8
4	0.3	15.2	0.6	14.6	6.1	23.3	0.0	23.5
5	0.0	21.2	0.0	36.6	0.0	20.0	0.0	17.6
6	0.0	0.0	0.0	0.0	0.0	21.7	0.0	29.4
7+	0.0	0.0	0.0	0.0	0.0	3.3	0.0	5.9
No Age Resolved	8.0	18.2	6.6	14.7	1.4	6.7	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Population Estimates	Salmon	Trout	Salmon	Trout	Salmon	Trout	Salmon	Trout
Number Dye Marked	2662	116	1668	194	3651	278	117	76
Recaptures	916	13	467	17	1127	45	4	8
Percentage %	34.4	11.2	28.0	8.8	30.8	16.2	3.4	10.5
Petersen Method Estimate	8268	1231	7639	2579	17825	2691		
Smolt production/m²	0.037	0.005	0.034	0.012	0.080	0.012		

Table 10: Results from the River Tromie Rotary Screw Trap

River Tromie	2009		2010		2011		2012		2013	
Start Date	17/03/2009		23/03/2010		04/03/2011		05/03/2011		07/03/2011	
End Date	29/05/2009		03/06/2010		24/05/2011		22/05/2011		22/05/2011	
Operating Period (Days)	73		72		81		78		76	
Total Days Lost	10		13		12		2		13	
Actual Fishing Days	63		59		69		76		63	
Fish Data	Salmon	Trout	Salmon	Trout	Salmon	Trout	Salmon	Trout	Salmon	Trout
Number smolts captured	4513	8	1294	199	2139	102	9005	164	714	37
Number parr captured	39	756	77	396	17	426	15	980	89	772
River Age	%	%	%	%	%	%	%	%	%	%
1	0	2.1	0.0	4.8	0.0	0.0	0.0	0.0	0.0	4.6
2	36.8	32.7	58.0	35.5	36.6	23.2	27.6	14.2	45.2	39.5
3	45.1	31.6	39.1	33.9	54.2	48.2	65.4	46.0	50.7	20.9
4	0	9.2	0.0	3.2	0.9	10.8	2.7	30.2	4.1	18.7
5+	0	6.1	0.0	4.8	0.0	8.9	0.0	9.6	0.0	12.8
No Age Resolved	18.1	18.3	2.9	17.8	8.3	8.9	4.3	0.0	0.0	3.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100
Population Estimates	Salmon	Trout	Salmon	Trout	Salmon	Trout	Salmon	Trout	Salmon	Trout
Number Dye Marked	2107	521	1208	506	2014	477	2954	880	516	686
Recaptures	1211	101	365	83	489	79	1935	272	278	199
Percentage %	57.5	19.4	30.2	16.4	24.3	16.6	65.5	30.9	53.9	29.0
Petersen Method Estimate	7348	3941	4283	3627	8810	3188	13770	3701	1490	2789
Smolt production/m2	0.034	0.018	0.023	0.023	0.041	0.015	0.063	0.017	0.007	0.013

The Spey Foundation is grateful to Scottish and Southern Energy for funding for these smolt trap studies, from which important data on smolt production has been gathered to better inform the application to vary the Tummel Scheme CAR Licence, which affects water abstraction in the upper Spey.

4.6 Temperature Loggers

In association with the Spey Catchment Initiative, two temperature loggers (*Tinytag Aquatic2*) were placed in River Dulnain tributaries in March 2013. The information from these temperature loggers provided an insight into the instream environment during some of the best summer weather for a decade.

The loggers were deployed in the Allt Mor and in the Allt Lorgy, two Dulnain tributaries where habitat improvement works had been implemented (see Spey Fishery Board Annual Report 2012). These two burns are very different in character. The Allt Mor flows in a southerly direction with very few trees growing on its banks. It is a low gradient, relatively narrow and deep burn with few gravel banks, nor shallow margins. In contrast, the Allt Lorgy flows to the north, is largely wooded along its banks, with conifer plantations and natural Scots pine. It is a more typical Spey burn, with exposed gravel banks and shallow margins.

The results are shown in Table 11 and Figure 16 below. The maximum temperatures in both burns occurred on the 20th July, but there was a 4.9°C difference between the two. When considering the potential impacts of climate change and the predicted increase in summer temperatures, these results suggest that stream character is as important as other factors such as aspect and tree cover. It is encouraging to note that even during one of the best summers for a decade, the maximum temperature recorded in these burns were well within the limits of

tolerance for both salmon and trout, although there are other more exposed burns in the catchment where the maximum temperature is likely to have been higher. A network of loggers covering the catchment would be an extremely useful resource.



Above: (left) Typical habitat in the Allt Mor and (right) the Allt Lorgy temperature logger location. Upstream of the latter, the woodland is generally Scots pine. (Photos: Brian Shaw).

Table 11: Allt Mor/Lorgy temperature logger results March to Dec 2013

Burn	Altitude m	Mean °C	Minimum °C	Max °C
Allt Mor	230	8.0	0.8	17.9
Allt Lorgy	280	8.0	0.0	22.8

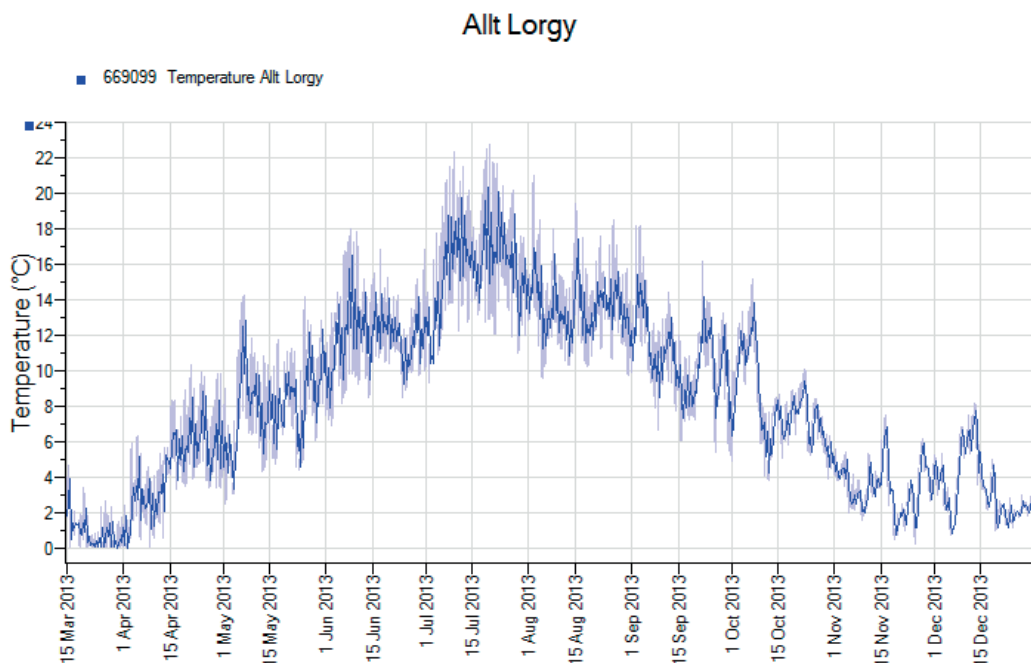


Figure 16: Water temperature profile in the Allt Lorgy March 15th to December 31st 2013

4.7 Invertebrate Sampling

During 2013 a number of invertebrate samples were collected from sites in the main river and some tributaries. The results were generally good and only sites in the Feshie and Upper Avon had British Monitoring Working Party (BMWP) scores below 100. This limited range of samples also showed the diversity of productivity present within the Spey catchment. The results from some of the surveys are shown in the table below. The Livet is known to be one of the most productive tributaries for juvenile salmonids in the Spey catchment and the invertebrate sample was the richest collected with over 2800 specimens sorted from a three-minute kick sample. The results from the lower and upper Avon mimic the fish densities recorded during the 2013 surveys. The sample from the upper Avon contained only 33 specimens, just over 1% of the Livet sample count. With such a sparse aquatic invertebrate population, insects from terrestrial sources are likely to form an important component of the fish diet in the upper Avon.

Table 12: Spey Invertebrate Samples: Abundance by Group and BMWP Score

	Brae Water 2 - Dark bed	Brae Water 3 - Bright bed	Laggan	Castle Grant 3	Upper Spey Ruthven	Livet at Allanreid	Lower Avon	Upper Avon	Feshie
Mayfly	315	1172	303	224	737	1256	124	3	73
Stonefly	129	74	156	156	648	897	706	3	16
Caseless Caddis	106	6	20	141	150	140	9	4	5
Cased caddis	21	3	131	526	96	69	32	0	153
Crustacea	0	3	12	55	0	0	0	0	0
Beetles	0	13	16	32	30	91	201	0	1
Mollusca	10	0	31	67	15	0	2	0	0
Diptera	184	70	50	195	457	340	75	10	48
Worms	9	1	39	71	9	34	32	9	2
Planaria	0	0	10	7	50	19	0	4	1
Total abundance	774	1342	758	1468	2142	2827	1196	53	295
BMWP score	123	102	147	167	141	164	160	47	95

Samples collected in close proximity to each other in the Brae Water, but in quite different habitat, highlighted the utilisation of the river by different groups of invertebrates (Table 13, below). The “bright” river bed was collected from an area of mobile, and lighter coloured, substrate in a run above a pool. In this sample, 87% of the invertebrates were mayflies, with 96% of those belonging to the Rhithrogena family (*March Browns and Olive Uprights*). Nymphs of this family are particularly adapted for life in fast flowing water. The sample from the “dark” river bed, more stable with algae coating, was much more varied and diverse.

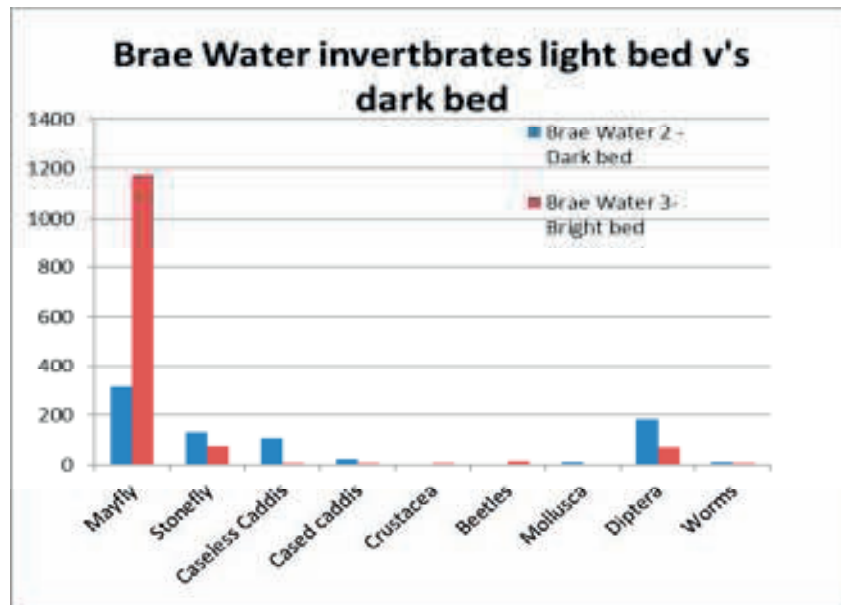


Table 13: Brae Water Invertebrate Samples

Invertebrate sampling is time consuming, but the information gained is invaluable in understanding the overall productivity of the river.

4.8 Education

In 2013 the “Salmon in the Classroom” project was delivered in five primary schools; Tomintoul, Rothes, Aberlour, West End and Aberlour House. This project continues to provide great stimulation to the pupils involved and each year we receive more requests from schools for this project than we are able to deliver.



Above: Pupils and staff from West End Primary School taking part in the Salmon in the Classroom Project during 2013. (Photo: Bob Laughton)



Above: Pupils from Aberlour House the preparatory school for Gordonstoun taking part in the Salmon in the Classroom Project during 2013. (Photo: Bob Laughton)

Other educational activities included:

- Working with the Knockando Woolmill at their Youth Open day and with the Young Friends of Knockando Woolmill.
- A joint Countryside, Food and Farming event with the Royal Highland Educational Trust was attended at Culfoich Farm
- A school visit to the Allt Lorgy habitat restoration site with Carrbridge Primary school was completed. Here the children got a chance to look for and discuss the fish and invertebrates found in the burn.
- A stand at the Gordon Castle Highland Games in May 2013. The Games attracted over 8,000 visitors and the Spey Foundation stand was popular with a steady stream of callers.
- A stand at the Highland Field Sports Fair at Moy in August 2013, in conjunction with the Findhorn, Nairn & Lossie Fisheries Trust and the West Sutherland Fisheries Trust.
- Electrofishing demonstrations were completed for staff of Scottish Natural Heritage at Allt Ruadh, and for staff of the Royal Society for the Protection of Birds at the River Tromie.

Part 5

Publicity

5.1 Media Coverage

Both the Board and the Foundation have continued to receive regular media coverage throughout 2013. The year has been a challenging one for salmon catches, but it has 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.

5.2 Briefings

Four comprehensive Briefings were published during 2013, 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/>

5.3 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

Soon after his arrival in January 2012, the Board's Biologist, Brian Shaw, started the "Blog" on the Board's website. This has enabled him to quickly publish regular accounts of his work and the research that is being undertaken. It was immediately well-received and its popularity has continued to grow throughout the year. During 2013 the "Blog" was enhanced with video footage which showed the Board's Biologists electro-fishing, with powerful imagery of the results they were obtaining. There is also a facility for visitors to the "Blog" to 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.

5.4 Public Meetings

Following the Board's Public Meeting at the Fleming Hall in Aberlour in September 2012, it was decided that a similar presentation should be made in London, to enable visiting anglers to hear more about the work of the Board and the Foundation. This took place at the end of April 2013 at the headquarters of Royal Institute of Chartered Surveyors, near Parliament Square. It was attended by approximately 85 proprietors and anglers and provided the Board with the opportunity to raise awareness of the extensive research that it has been conducting,

as well as the habitat enhancement work being undertaken by the Spey Catchment Initiative. An explanation of the water abstraction issues facing the river was also provided. The Board is grateful to Smiths Gore and to Peter Graham & Associates for their generous sponsorship of this event, which the Board looks forward to repeating in April 2014.

Meanwhile, another Public Meeting was held at the Fleming Hall in Aberlour in September 2013. Approximately 100 proprietors, ghillies and anglers attended this event, which allowed the Board to explain the results of its latest research, in particular the extensive programme of electro-fishing that had been undertaken over the summer. An update on water abstraction was also provided, together with a presentation by renowned fisheries biologist, Dr Phil McGinnity, on his recent research into the impacts on natural reproduction which may result from hatchery-reared fish subsequently spawning with wild Fish.

The Board looks forward to continuing its programmes of Public Meetings in the future.

5.5 Committees

Throughout 2013, SFB Chairman Alan Williams was also Chairman of the Association of Salmon Fishery Boards and SFB Director Roger Knight continued to be Company Secretary to the Spey Fishing Trust Limited. SFB and Spey Foundation staff were also members of the following committees:

- River Directors' Group – Chair
- Spey Fishing Trust Limited – Company Secretary
- Moray Firth Sawbill Management Plan Group - Coordinator
- Findhorn, Nairn and Lossie Fisheries Trust – Director
- Moray River Watch Group
- Moray Firth Sea Trout Project Management Committee
- FASMOP Genetic Analysis Project Steering 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

Part 6

Spey Fishery Board Financial Summary

Income and Expenditure Account - Year ended 30 September 2013

	2013	2012
INCOME	£	£
Assessments issued	487,595	504,867
OTHER INCOME AND INTEREST RECEIVABLE		
Recharges to The Spey Foundation	32,233	27,695
Spey Catchment Initiative	5,600	-
Other operating income	1,390	3,356
Interest received	669	873
	39,892	31,924
	527,487	536,791
EXPENSES		
Personnel costs		
Salaries	303,340	283,565
Social security costs	29,727	27,327
Training	2,106	1,935
Contributory pension scheme	28,907	26,941
Assistant biologist costs	11,523	31,057
	375,603	370,825
	-	-
Direct expenses		
Rent	1,500	1,500
Light and heat	936	953
Insurance	7,110	10,146
Repairs and maintenance	946	2,236
Protective clothing	1,320	3,316
Equipment costs	666	3,205
Hatchery	4,771	5,622
Patrol Boat	2,395	1,138
Health & Safety	508	549
Fuel	25,871	25,040
Other Motor vehicle costs	15,962	17,102
	61,985	70,807
General expenses		
Meeting expenses	2,738	2,803
Telephone	3,640	3,736
Publicity	7,999	5,907
Stationery and printing	1,623	1,439
Clerk's expenses	6,000	6,000
Clerk's admin costs	242	-
Sundry	1,051	768
Admin repairs and overheads	-	38
Computer costs	1,221	1,475
Subscriptions	15,245	15,171
Staff Entertaining	547	-
General Ongoing Spey Projects	47	-
UDN Research Project	5,018	-
Spey Catchment Project	5,760	-
Other professional fees	174	-
Accounting and audit fees	3,603	3,584
Depreciation	53,310	53,262
Profit on disposal of fixed assets	(12,622)	(29,630)
	95,596	64,553
Bank interest and charges	452	559
Hire purchase and finance lease charges	6,109	3,861
	6,561	4,420
	539,745	510,605
Contribution to Research Project	-	26,186
	(12,258)	-
(DEFICIT)/SURPLUS FOR YEAR	(12,258)	26,186

1. The above figures must be considered as draft until approved by the Board's Annual General Meeting.
2. A copy of the Board's full Financial Statements will be published on its website (www.speyfisheryboard.com), once they have been approved at the Annual General Meeting.
3. The notes on pages 7 to 9 of the Board's full Financial Statements form part of the above Financial Statements.

Spey Fishery Board Financial Summary

Balance Sheet - 30 September 2013

	Note	2013 £	£	2012 £	£
FIXED ASSETS					
Tangible assets	2		148,607		131,254
CURRENT ASSETS					
Debtors	3	97,216		64,884	
Current account		1,125		43,127	
Deposit account		134,273		155,433	
		<u>232,614</u>		<u>263,444</u>	
CURRENT LIABILITIES	4	<u>49,417</u>		<u>54,897</u>	
NET CURRENT ASSETS			183,197		208,547
TOTAL ASSETS LESS CURRENT LIABILITIES			<u>331,804</u>		<u>339,801</u>
LONG TERM LIABILITY					
HP/Finance leases - > 1 Yr			35,315		31,054
NET ASSETS			<u>296,489</u>		<u>308,747</u>
			=====		=====
			==		==
FINANCED BY:					
Capital accounts	5		38,569		38,569
Current accounts	5		257,920		270,178
			<u>296,489</u>		<u>308,747</u>
			=====		=====

The Spey Foundation Company Limited by Guarantee

Statement of Financial Activities
(Incorporating the Income and Expenditure Account)
Year ended 30 September 2013

	Note	Unrestricted Funds £	Restricted Funds £	Total Funds 2013 £	Total Funds 2012 £
INCOMING RESOURCES					
Incoming resources from generating funds:					
Voluntary income	2	15,602	16,157	31,759	29,112
Investment income	3	725	–	725	905
Incoming resources from charitable activities	4	–	57,962	57,962	73,444
TOTAL INCOMING RESOURCES		16,327	74,119	90,446	103,461
RESOURCES EXPENDED					
Charitable activities	5/6	(30,623)	(69,534)	(100,157)	(95,058)
Governance costs	7	(3,862)	–	(3,862)	(3,641)
TOTAL RESOURCES EXPENDED		(34,485)	(69,534)	(104,019)	(98,699)
NET (OUTGOING)/INCOMING RESOURCES BEFORE TRANSFERS					
Transfer between funds	8 9	(18,158) 51,960	4,585 (51,960)	(13,573) –	4,762 –
NET (EXPENDITURE)/INCOME FOR THE YEAR		33,802	(47,375)	(13,573)	4,762
RECONCILIATION OF FUNDS					
Total funds brought forward		46,612	65,093	111,705	106,943
TOTAL FUNDS CARRIED FORWARD		80,414	17,718	98,132	111,705

Balance Sheet – 30 September 2013

FIXED ASSET			
Tangible assets	11	17,118	23,533
CURRENT ASSETS			
Stocks	12	–	200
Debtors	13	5,227	15,957
Cash at bank		118,451	125,590
		–	–
		123,678	141,747
CREDITORS: Amounts falling due within one year	14	(42,664)	(53,575)
		–	–
NET CURRENT ASSETS		81,014	88,172
TOTAL ASSETS LESS CURRENT LIABILITIES		98,132	111,705
NET ASSETS			
		98,132	111,705
FUNDS			
Restricted income funds	16	17,718	65,093
Unrestricted income funds	17	80,414	46,612
		–	–
TOTAL FUNDS		98,132	111,705

- Included in other creditors is £8,790 (2012 - £25,547) for the Genetic Analysis Project, nil (2012 - £8,303) for the Berry Burn Wind Farm, £3,850 (2012 - £3,726) for audit and accountancy and £27,298 (2012 - £10,365) owed to the Spey Board. The remaining balance of £2,350 (2012 - £4,487) relates to sundry accruals.

Home & dry

HANG THE BUG OUT TO DRY



Fishing or doing water sports abroad?

Just come back from Denmark, Finland, France, Germany, Italy, Norway, Portugal, Russia, Spain or Sweden?

Ensure your equipment is not carrying the highly contagious Gs parasite which has the ability to wipe out freshwater salmon stocks.

What is the Gs Parasite?

The Gs parasite is a highly contagious bug that has devastated salmon stocks in Norway. We want to keep it out of Scotland's rivers.

Here's what you need to do

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



Gyrodactylus salaris parasite magnified



For more info call: 0131 244 6225 or go to: www.infoscotland.com/gsbug



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