Spey Fishery Board

SPEY FOUNDATION

Annual Report 2016

www.speyfisheryboard.com

***Top Left Cover Photo**:* *Peter Pleydell-Bouverie & 12 lb salmon* (Photo: Mark Melville, Head Ghillie, Delfur Fishings)

Top Centre Cover Photo: *Leaping Salmon* (Photo: Mark Melville, Head Ghillie, Delfur Fishings)

***Top* Right Cover Photo:** *SFB Research Team* (Photo: Brian Shaw)

***Bottom Cover Photo**:* *Gordon Castle Beat 1, September 2016.* (Photo: Roger Knight)

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Annual Report 2016

by

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and

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January 2017

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Spey Fishery Board

(Since February 2016)

Chairman:	**B*rian Doran,*** Mandatory for Craigellachie Fishings
Proprietors:	**William *Mountain***, Delfur Fishings ***Oliver Russell***, Mandatory for Ballindalloch Trustees ***Angus Gordon Lennox***, Gordon Castle Fishings & Mandatory for the Brae Water Trust ***Alan Williams,*** Carron Fishings ***Peter Millar***, Orton Estate ***Dr. Catherine Wills***, Knockando, Phones and Lower Pitchroy ***Toby Metcalfe FRICS***, Mandatory for Crown Estate Commissioners ***Peter Graham FRICS,*** Mandatory for Rothes & Aikenway and Laggan Fishings
Co-optees:	***Grant Mortimer***, Strathspey Angling Improvement Association **Craig Mackay**, River Spey Anglers Association
Invitees:	***Douglas Ross MSP*** ***Jennifer Heatley***, Scottish Natural Heritage ***Graeme Henderson***, Scottish Environment Protection Agency
Clerk:	***William Cowie***, R. & R. Urquhart

Spey Foundation Committee

Chairman:	***Peter Graham FRICS***, Mandatory for Rothes & Aikenway and Laggan Fishings
Members:	***Dr. Catherine Wills***, Knockando, Phones and Lower Pitchroy ***Edward Mountain MSP***, Delfur Fishings ***Angus Gordon Lennox,*** Gordon Castle Fishings & Mandatory for the Brae Water Trust ***Alan Williams***, Carron Fishings ***Brian Doran,*** Mandatory for Craigellachie Fishings & SFB Chairman ***Dr. Alastair Stephen***, Scottish & Southern Energy ***Steve Brand***, Head Ghillie, Ballindalloch Castle ***Simon Crozier***, Ghillie,Castle Grant Fishings ***Roger Knight***, SFB Director ***Brian Shaw***, SFB Biologist ***Duncan Ferguson***, SFB Operations Manager

Spey Fishery Board Staff

Director:	**Roger Knight**
Office Administrator:	**Sally Gross** (Part-Time)
Hatchery Manager:	**Jimmy Woods**
Operations Manager:	**Duncan Ferguson**
Head Bailiff:	**Richard Whyte**
Bailiffs:	**Jason Hysert**
	Alistair Grant
Research:	**Brian Shaw** (Biologist)
	Steve Burns (Assistant Biologist)
	Jim Reid (Assistant Biologist - Seasonal)
Spey Foundation:	**Jennifer Pattison** (Assistant Biologist - Seasonal)

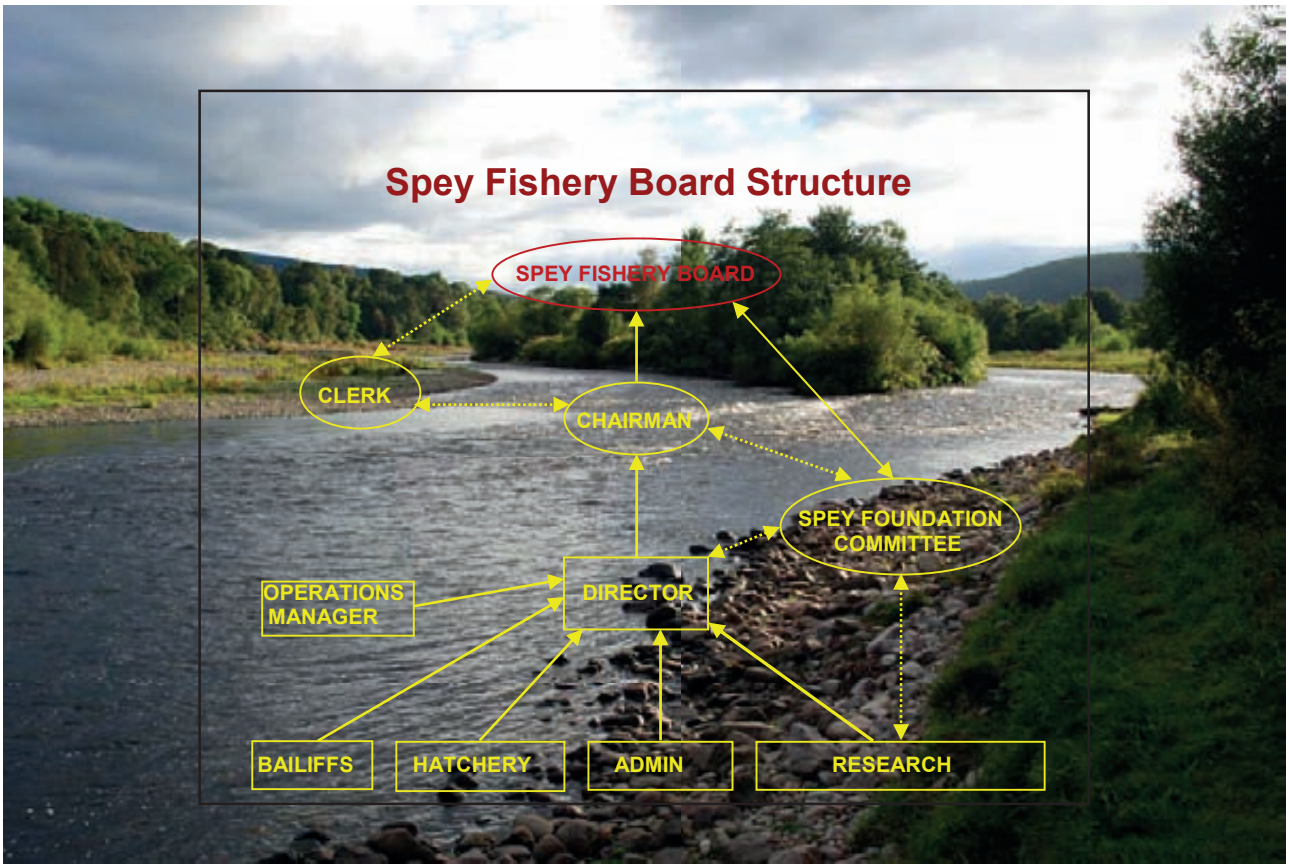

***Figure 1**: The Spey Fishery Board Structure*

Chairman's Foreword

The 2016 season can best be described as being like the Curate's egg; good in parts!

Expectations for the season were high following the 70% improvement in catches in the previous year. However, despite a very promising start, the second half of the season was a disappointment. Our count at the end of June showed that we were around 1,000 fish ahead of the same period in 2015. Catches declined from mid-July and we ended the year with 7,632 Salmon and Grilse, 96 fish down on the previous year. Sea Trout catches were poor with a total of 1,318 fish, a reduction of 857 over 2015. This situation was replicated across Scotland.

On a more positive note, however, Spey anglers demonstrated their firm commitment to conservation with 94% of Salmon and Grilse and 77% of Sea Trout caught being released.

From a management perspective, the Board was again heavily involved with a range of issues regarding the proposed new Wild Fisheries Management Reform, many of which were outlined in some detail in last years report. In particular, the establishment of Fisheries Management Organisations (FMOs) and Fisheries Management Areas (FMAs). Although no firm guidance has yet been given by the Scottish Government as to their intentions in this regard, including methods of funding, several discussions have taken place to consider the form and shape of both concerns. The legislative time table for the introduction of any new provisions is not yet clear but it is unlikely to be within the next 12 months.

In anticipation of that, The Association of Salmon Fishery Boards, ASFB, and the Rivers and Fisheries Trusts of Scotland, RAFTS have now come together under the new name of Fisheries Management Scotland. Following much debate which concluded at a meeting in Dunkeld in November, the constitution of ASFB was amended to allow members of RAFTS to join FMS. The existing Boards of ASFB and RAFTS will resign in January 2017 and nominations have been invited for Board members of the new organisation. An election will take place in January 2017. FMS will be an interim organisation as its structure may well have to be changed to reflect the requirements of the new legislation once these are known.

The Board's staff and members of the Board have played a very full part in all these discussions and this has occupied a great deal of our time and resource this year. My thanks must go particularly, again, to Roger Knight our Director who has borne the brunt of this work. Roger serves on several committees and is Chairman of the group established to manage the transition to the new legislation across Scotland. Brian Shaw, our Biologist, continues to provide guidance to representatives of the Scottish Government and Marine Scotland Science on the technical aspects and effects of the proposed changes. Brian is playing a leading role on a Liaison Committee established to look at the methodology used to establish conservation limits and the conservation status of all rivers in Scotland. Richard Whyte, Head Bailiff, has a prominent role advising the Scottish Government on enforcement issues. Duncan Ferguson, Operations Manager, is part of the Government's Training and Continuous Professional Development Group, whilst also serving on the Government's Stakeholder Reference Group, advising on a range of issues. Duncan is also very active in monitoring the effects on the Salmon populations of projects such as the dualling of the A9, windfarm construction etc.

My thanks go to them and all our staff for their ongoing commitment and enthusiasm to ensure that all of the proposed changes in the way we run our rivers create an improved environment for migratory fish.

In addition, I would also like to comment on the success of the Spey Catchment Management Initiative, an excellent example of a Public and Private Finance Initiative. This programme's success in is no small part due to the leadership of Liz Henderson, our Project Officer, reporting to Roger Knight.

Spey Dam, which I referred to in some detail last year, continues to occupy much management time. Following SEPA's decision to categorise the dam as an impassable barrier to migratory fish and the sale of Rio Tinto's Aluminium smelting operations at Fort William to a large Indian metals manufacturing group, we have entered into discussions with representatives of the new owners. Roger Knight and I met with them recently at Lochaber and outlined the issues regarding the functioning of the existing fish pass and the implications of SEPA's new classification of the dam itself as an impassable barrier.

I am pleased to report that we received a very warm welcome and their assurance that the new owners were very aware of their obligations and that they were anxious to be seen as environmentally responsible. Further meetings are planned and we expect to make real progress on this long running issue in the near future.

Returning to the river itself, our normal monitoring and management work including electro fishing, Smolt monitoring and mitigation stocking continued throughout 2016. Both Roger and Brian will cover these aspects of our operation in more detail in their own reports.

To end on a positive note, despite the number of fish caught this year, the river appeared to have an excellent head of spawning fish and the Redd counts were also good. Hopefully these auger well for future seasons.

I wish you all tight lines for the 2017 season.

Brian Doran
Chairman
Spey Fishery Board

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

The SFB has put in place measures to ensure it is in full compliance with the latest legislation.

Furthermore, since November 2013 and in addition to its annual public meetings, the Board has conducted the major part of all of its quarterly meetings in Open Session to enable members of the public to attend.

1.2 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 2016.

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

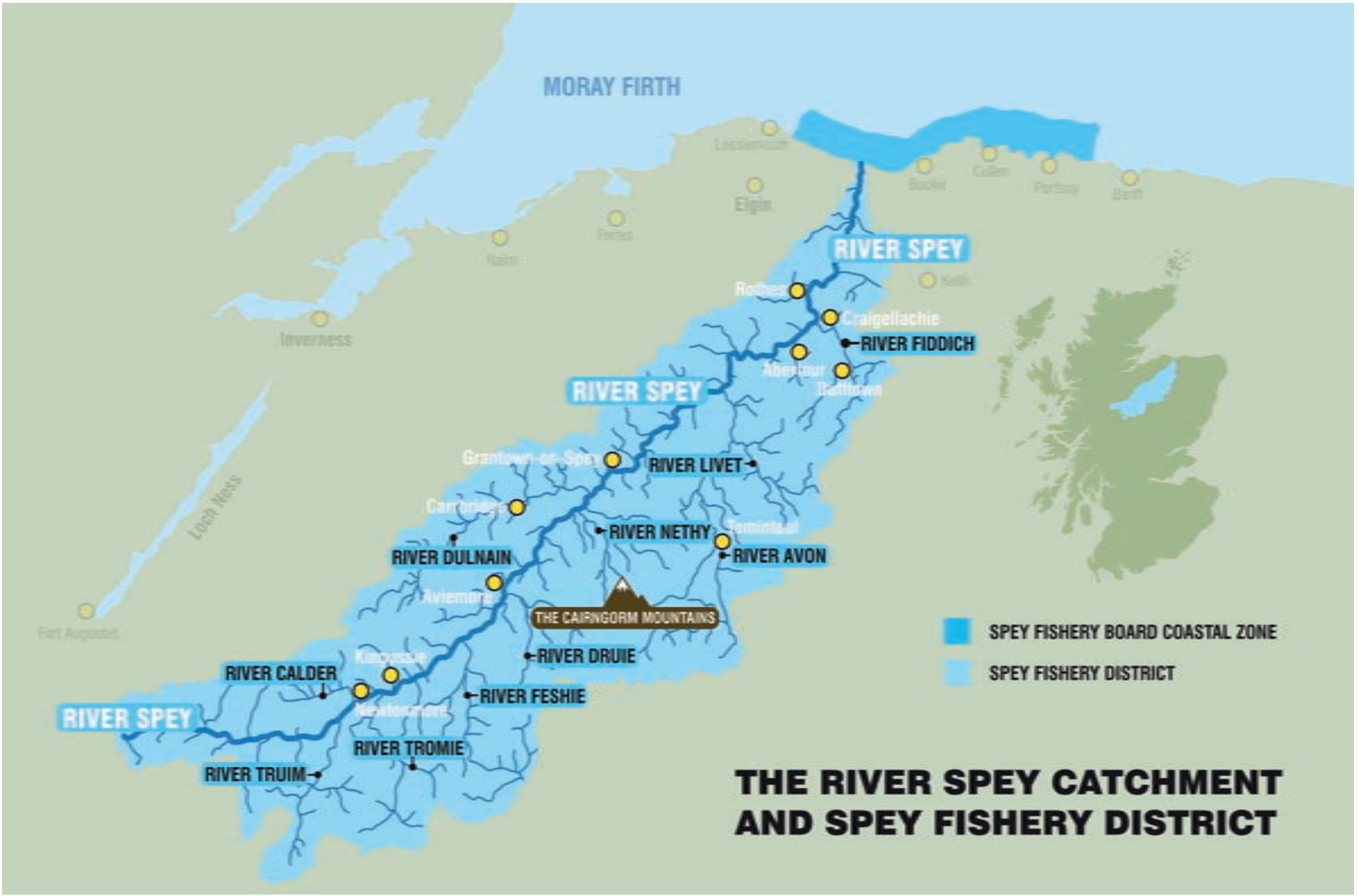

Figure 2: *The River Spey Catchment and Spey Fishery District.*

1.3 Wild Fisheries Review

We have previously reported that the Scottish Government had announced in January 2014 that a review of Wild Fisheries Management would be undertaken, led by Andrew Thin (former Chairman, Scottish Natural Heritage). This followed the Aquaculture and Fisheries Act 2013 and remains a Scottish National Party manifesto commitment to ensure that Freshwater Fisheries Management structures are fit for purpose for the 21st century. The Review Team presented their report, containing 53 recommendations, to Ministers in October 2014.

Since then, Wild Fisheries Review has developed to Wild Fisheries Reform, as the Scottish Government moved towards implementation of the Review's recommendations. Current Government thinking aspires to establish the following:

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

ii. Local delivery should be by a network of Fishery Management Organisations, which would be neither Boards nor Trusts, but likely to be a hybrid or merger of the two. These should operate to an agreed "all species" fishery management plan. A model constitution has also been recommended to be developed to ensure that these organisations are fit for purpose via "Approved Body Status", potentially operating as Community Interest Companies.

iii. A National Strategy is also being developed, focusing on: science, research & monitoring; enforcement; angling promotion; training & Continuous Professional Development.

iv. The categorisation of Rivers according to the status of their Conservation Limits. This should apply to both rods and nets and is covered in more detail in section 1.5.

1.4 Wild Fisheries Reform: Progress During 2016

The Scottish Government had published a 34-page response to the Wild Fisheries Review in May 2015 and had gone out to public consultation on the principles for Wild Fisheries Reform (WFR) . We reported last year that the SFB, following its own public consultation at three public meetings, submitted a comprehensive response to this.

On 8th February 2016 the Scottish Government published the draft provisions for a Wild Fisheries (Scotland) Bill and draft Wild Fisheries Strategy. This was a 76-page document on which the Scottish Government also went out to public consultation. The SFB had convened a sub-group of the Board to discuss its responses to previous Scottish Government consultations on WFR and this sub-group re-convened on 24th March 2016 to consider our response to this latest consultation.

The Board also subsequently held a public meeting in Aberlour on 19th April 2016 to present and discuss its draft response. To promote this meeting, we had written to all of the proprietors, ghillies and angling associations along the river and placed advertisements in the local media. The meeting was reasonably well-attended and allowed for a full and frank exchange of views. In particular, it was useful in raising public awareness of the Scottish Government's proposals for significant reform of the Wild Fisheries management structures.

The Board decided that its response to the consultation would once again be made jointly with the Spey Foundation and the final document was submitted to the Scottish Government in time for its deadline for responses of 2nd May 2016. It was also published on the Board's website and can be found at the following web link:

http://www.speyfisheryboard.com/wp-content/uploads/2016/05/Spey-Final-Response-to-the-Provisions-of-a-WFR-Bill-Consultation April-2016.pdf

The Government's Stakeholder Reference Group, established in 2015 to inform the development of the broad principles for a new management system and see these through to detailed proposals and new legislation, has continued to meet throughout 2016. Membership of the group includes: the Association of Salmon Fishery Boards; Rivers & Fisheries Trusts Scotland; The Salmon & Trout Association; representatives of the Coarse and Salmon Net Fishing Associations; a representative of the salmon proprietors; and a representative of the Scottish Gamekeepers Association (SGA). The SFB's Operations Manager, Duncan Ferguson, is the SGA representative because of the Association's representation of Ghillies and also because he is a former Head Bailiff.

The Joint Working Group developed by the ASFB and RAFTS to co-ordinate the responses of Boards and Trusts/Foundations to WFR has also continued to meet throughout 2016. Its aim is to develop ideas, as appropriate, on how best to respond to any Government initiative to take forward recommendations for WFR. Membership of this group consists of the ASFB Management Committee and the RAFTS Board. The SFB Director, Roger Knight (as a member of the former) continues to be a member of the Joint Working Group.

The Scottish Government has also formed a number of additional Working Groups to develop its thinking on specific issues within WFR. These Include: Regulatory Enforcement; Training and Continuous Professional Development; Fishery Management Plan Template; Change Management and Transitional Issues; and Promotion and Development. The Government also announced its intention to establish Working Groups addressing Finance and Science & Data, but in late 2016 it proposed to amalgamate the Finance Working Group with the Change Management and Transitional Issues Working Group. The SFB's Head Bailiff, Richard Whyte, is a member of the Regulatory Enforcement Working Group and the SFB's Operations Manager, Duncan Ferguson, is a member of the Training and Continuous Professional Development Working Group. The Scottish Government also appointed the SFB's Director, Roger Knight, to chair the Change Management and Transitional Issues Working Group.

Throughout 2016, the Spey Fishery Board and the Spey Foundation have been pressing the Scottish Government for decisions on three issues which it believes are crucial for the development of Wild Fisheries Reform: the identification of additional finance to bridge the shortfall inherent within the current system of fisheries management across Scotland and in the enhancement of this to address an all-species remit; the determination of the geographical areas of the new Fishery Management Organisations; and the timetable for the consideration of the Wild Fisheries (Scotland) Bill by the Scottish Parliament. The SFB will be working closely with the Scottish Government and Fisheries Management Scotland (FMS - formerly the ASFB and RAFTS, see section 1.6 for further details) over these and other WFR issues throughout 2017.

1.5 Conservation Limits and the Categorisation of Rivers According to Conservation Status

In September 2015 the Scottish Government introduced salmon conservation measures which were based on estimates of egg deposition derived from rod catches. Each of the 109 fishery districts in Scotland were categorised using a model to generate estimates of compliance with conservation limits (egg deposition targets). Districts were assigned into one of three categories:

- Category 1: Districts which had exceeded the conservation limit in four of the previous five years (80%+ compliance).
- Category 2: Districts which had achieved the conservation limit in three of the previous five years (60 to 80% compliance).
- Category 3: Districts where it had been assessed that the conservation limit had been achieved in fewer than three of the previous five years (less than 60% compliance).

2016 was the first season in which the Conservation Regulations were applied with the Spey District assessed as a Category 1 fishery, one of 19 such districts across Scotland. Category 1 status effectively meant that existing management could continue as stocks and exploitation were considered sustainable. Any district classed as Category 3 had mandatory catch and release imposed, whilst Category 2 districts required management action to reduce exploitation. All districts were expected to produce conservation plans, primarily so that existing pressures and threats could be identified and prioritised but these plans were not delivered in 2016.

In August 2016 the Scottish Government published a consultation on its 2017 Conservation Assessment. A number of refinements were incorporated, the most significant of which was assessment at river rather than district level. Other revisions also incorporated: the inclusion of run estimates by month; a correction factor to account for river flows; refined information on adult age structure; sex ratios and fecundity; and an update to the salmon distribution map. As a result of these revisions, stock estimates for many rivers were considered to be unrealistically high and a cap on adult numbers based on data from the North Esk was applied.

Of the 168 areas assessed for 2017, 47 were assigned Category 1 status, including the River Spey.

The assessment for all of Scotland's rivers is currently based on data from a limited number of rivers which have fish counters. In order to make the assessment more robust, there is an urgent need to generate river specific data. To that end, we are grateful to the beats which have assisted by collecting scales from rod-caught fish this year, and in previous years. Scale reading allows us to understand better the age composition of the stock; essential information as this factor relates to the sex ratio and the number of eggs per fish (fecundity). During 2017 we aim to extend our scale collection programme to ensure that we have as representative a sample as possible.

The introduction, and subsequent development, of conservation limits in Scotland has been late in arriving compared to most other Atlantic salmon producing countries and the process hasn't been without controversy. The run estimates generated in the 2017 Assessment for rivers with primarily spring and summer runs, such as the Spey, were higher than expected and considerably higher than those generated during the 2016 Assessment. The Spey run estimates were revised downwards as a result of the consultation process, which led to the incorporation of the rod recapture data from earlier tagging work on the Spey. However, rod recapture rates are likely to be lower than first time capture rates with the consequent risk of inflated the stock.

1.6 The ASFB and RAFTS

The onset of Wild Fisheries Reform (WFR) has prompted the Association of Salmon Fishery Boards (ASFB) and Rivers & Fisheries Trusts Scotland (RAFTS) to consider how best to represent their respective memberships in the future, particularly in light of the Scottish Government's proposals to create Fishery Management Organisations in place of the current network of Boards and Trusts. The RAFTS Board decided that in order for its organisation to continue to function, a new funding model and a significant reconfiguration of the organisation would be required. The RAFTS Board subsequently decided that the organisation should be decommissioned in early 2017.

The ASFB and RAFTS recommended to its members that a single organisation should represent the interests of the sector and proposed that the ASFB's Constitution be altered to allow RAFTS members (the Trusts and Foundations) to become members of it, alongside the District Salmon Fishery Boards. These proposals were considered at an Extraordinary General Meeting of the members of both organisations on 14th September 2016. The SFB, together with representatives of other significant rivers, objected to the proposals as drafted, which were subsequently rejected by the membership.

The ASFB and RAFTS reconsidered the proposals and subsequently recommended the establishment of an interim organisation to represent the sector, particularly during the Parliamentary phase of the WFR process. The ASFB Constitution was amended to enable RAFTS members to also become members of it and it would be re-named Fisheries Management Scotland (FMS). These proposals were considered at the ASFB's Annual General Meeting on 17th November 2016 and were adopted. The SFB has agreed to become a member of FMS throughout 2017, subject to periodic review and to confirmation of the new organisation's management structure and strategy.

1.7 EU Water Framework Directive

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

SEPA divided Scotland into eight sub-basins, where catchments of similar types are grouped and managed collectively. The Spey is included in the North East sub-basin, which also includes the Rivers Deveron, Ythan, Don and Dee and is part of the North East Area Advisory Group. The first River Basin Management Plan (RBMP) concluded in 2015. The second RBMP runs from 2015 - 2021 and the third and final Plan will be implemented between 2021 - 2027.

Significantly, at the end of 2015 SEPA re-classified Spey Dam as a barrier to fish passage, with a consequential down-grading of the water bodies above the Dam to "poor" status. This is covered in more detail in section 1.8 of this Report. The SFB will continue to work closely with SEPA throughout 2017 on the implementation of the WFD.

1.8 Water Abstraction Update

Above: *Spey Dam, operated by Rio Tinto Alcan, in September 2016.* (Photo: Roger Knight)

1.8.1 Rio Tinto Alcan: Spey Dam

The SFB remains concerned by the significantly high levels of water abstraction, particularly in the upper catchment by Rio Tinto Alcan (RTA), which is licensed to divert substantial volumes of water from Spey Dam, some twelve miles from the source of the Spey, to Fort William. The impact of the abstraction and its associated infrastructure on the upper Spey salmon population is severe; indeed the Board's electro-fishing monitoring above the dam in 2014 found that there were no salmon fry present at any of the ten sites visited. This was subsequently and independently verified by SEPA, which also conducted electro-fishing surveys above Spey Dam during 2014. In common with 2015, the Board's monitoring during 2016 showed low numbers of salmon fry present at most sites electro-fished above Spey Dam, indicating that a few fish had ascended the Dam's fish pass and limited spawning had taken place.

The Board remains concerned about the efficacy of the fish pass at Spey Dam and also maintains that the water flows emanating from the Dam are insufficient to allow adult salmon to ascend up to and above it to spawn, or to allow salmon smolts to descend below it. The Board is also worried about the effectiveness of the screens at the off-take (which are in place to prevent juvenile fish from exiting the River Spey and its catchment and gaining access to Loch Laggan) and troubled by the water flow speeds through the off-take and down the Crunachden Cut. The heck on the River Markie, which enters the reservoir immediately above Spey Dam, also remains an issue as it appears to completely block access to migratory fish. Furthermore, the Board would like to see the restoration of the River Mashie, much of the flow from which is also diverted to Fort William.

In January 2016, RTA announced that it would be reviewing all of its highland operations, including the aluminium smelter, the hydro-electric generating facility and the 116,000 acres of land it owns.

In early 2016, RTA submitted an application to SEPA to vary the requirements of its Controlled Activities Regulations (CAR) Licence relating to the timing and duration of freshets delivered from Spey Dam. These freshets - or artificial spates - are provided to encourage the movement of migratory fish. The Board noted that the proposals offered an improved, more flexible and science-driven approach to the delivery of freshets than had hitherto been the case. The Board therefore supported the proposals, but with the strong caveat that the revised freshet regime did not resolve the Board's long-standing concerns regarding Spey Dam.

In June 2016, SEPA shared with the Board a report which analysed video footage from the resistivity counter at Spey Dam, which monitors the movement of migratory fish there. Analysis by the Board's Biologist, Brian Shaw, showed that whilst the suggested net movement of fish in the validation period was 29 fish, the actual net movement was only 2 fish. If the same correction factor was applied to the total (un-validated) count for 2015 of 421 fish, the net upstream migration was an actual 29 fish. This was also supported by the electrofishing results obtained in recent years by the Board's research team and was a significant anomaly in RTA's published figures.

Above : *The impoundment and off-take on the River Mashie. This River enters the River Spey between Spey Dam and Laggan, although the majority of its flow is diverted to Fort William. The lower River was artificially straightened in the nineteenth Century for agricultural purposes and the Spey Board would like to see this River restored to encourage migratory fish into its lower reaches* (Photo: Roger Knight).

SFB Director, Roger Knight, and SFB Biologist, Brian Shaw, met with representatives of SEPA and a representative of Scottish Natural Heritage (SNH) at the end of November 2016 to discuss Spey Dam. SEPA re-confirmed that Spey Dam had been classified as a barrier to fish passage. This has thereby re-classified Spey Dam as "poor" under the EU's Water Framework Directive (WFD), with a consequential impact on the water bodies above Spey Dam, which are now also classified as "poor" (see section 1.7). Significant remedial action will need to be taken during the second and third River Basin Management Plans (RBMPs) in order for this area to achieve the requirements of the WFD. However, SEPA also confirmed that many of the Spey Dam issues were now regulatory compliance issues, rather than RBMP matters and that Spey Dam would be published as a site which was failing to meet its CAR Licence requirements.

In November 2016, RTA announced the sale of its highland operations, in their entirety and as a going concern, to Liberty House and Simec, owned by the Gupta Family Group. SFB Chairman, Brian Doran, and SFB Director, Roger Knight, met with representatives of the new owners at the Fort William smelter on 13th December 2016. The SFB representatives were welcomed and given a presentation about the new owners' objectives and were able to explain all of the Board's concerns. The Board looks forward to developing a positive and mutually rewarding relationship with the new owners, as well as to continuing to engage positively with SEPA, so as to deliver improvements in this uppermost part of the river during 2017.

1.8.2 Scottish & Southern Energy: Tummel CAR Licence Scheme

Scottish & Southern Energy (SSE) divert water from 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 Scheme CAR Licence. Water from Loch An-t Seilich (River Tromie) and from Loch Cuaich, which is also impounded by SSE, 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 and Loch Cuaich, together with water from the off-take above Dalwhinnnie at the top of the Truim and from the Allt An't Sluie (another tributary of the Truim just below Dalwhinnie) then travels from Loch Ericht, through Loch Rannoch and on to Loch Tummel, passing through six further power stations at Rannoch, Gaur, Tummel, Errochty, Clunie and Pitlochry, before being disharged into the Tay system.

SSE had proposed to re-water the River Garry (in the Tay catchment, the flow from which is diverted to generate hydro-electricity) under the Water Framework Directive (WFD). In so doing, SSE had proposed to take additional water from Loch An-t Seilich and the River Truim to compensate for a minor drop in renewable energy generation that would arise from re-watering the River Garry. These proposals had been in place since September 2006, but were withdrawn in October 2014. In January 2017, SSE announced the re-watering of the River Garry without taking any additional water from the Spey catchment.

Whilst the SFB had objected to some of SSE's proposals, there had been positives as well, such as the re-watering of the Allt Bhran and the Cuaich. The whole flow from the Allt Bhran, which is the most significant tributary of the River Tromie, is currently diverted into the Tromie Dam at Loch An-t Seilich, thereby denying access to it by migratory fish. However, the restoration of a flow down the lower section of the Allt Bhran provides a significant river restoration opportunity and the SFB remains keen to develop this.

Above*: Scottish & Southern Energy's Tummel Scheme CAR Licence allows the diversion of water from the Spey Catchment into the Tay catchment for the generation of hydro-electricity. Pictured here is the Dam at the top of the River Tromie, from which water from Loch An-t Seilich is diverted to Loch Cuaich and then on to Loch Ericht at Dalwhinnie.* (Photo: Roger Knight).

1.9 Angling, Canoeing and Access

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

To aid the resolution of any issues, core representatives of the Spey Users' Group (SUG), including the SFB, Scottish Canoe Association and Access Officers from the three Local Authorities, met again in November 2016. However, 2016 was generally another settled year for paddling and angling relations, with only two incidents reported to the SFB. The principle concerns remain though, in relation to the significant numbers of paddlers between the Ballindalloch and Knockando areas of the River, which are acknowledged to be the busiest paddler sections of the River.

Part 2

Fisheries and Conservation

2.1 Salmon and Grilse Catches

Reported rod catches for the 2016 season on the River Spey amounted to **7,632** Salmon and Grilse caught, which was 96 fish less than the 7,728 caught the previous year (Figure 5). In common with 2015, spring catches during 2016 were more evenly-spread throughout the river between Grantown-on-Spey and Spey Bay than in recent previous years, which had tended to favour beats in the lower river.

The early part of the 2016 season produced a spring catch (between 11th February and 30th April) of 564 fish, an increase on the 486 caught for the same period last year and closer to the 578 caught for that period in 2014. Catches increased significantly in May with 1,027 fish caught (c.f. 874 fish in May 2015) and rose to 2,349 in June (c.f. 1,320 in June 2015). This brought the catch for February – June to a total of 3,940, which amounted to 1,260 fish more than the 2,680 caught during the same period in 2015. A further 1,695 salmon & grilse were caught in July (slightly up on the 1,603 caught in July 2015), but low water conditions saw catches slow in August to 1,271, lower than the 2,002 fish caught the previous year. Low water conditions continued throughout September and this saw catches fall back to 726, almost half of the 1,443 caught for the same period last year (Figure 6). Indeed, 2016 saw the River's best June catch since 1955 and its worst September catch since 1961.

Further details regarding catches by river area (lower, middle and upper) are available on the Board's website and can be found at the following link:

http://www.speyfisheryboard.com/spey-fishery-board-publications/

Above: *Visiting angler Rachel Denton with Craigellachie Fishings Ghillie, Dougie Ross, after landing a 14 lb salmon.* (Photo: Brian Doran)

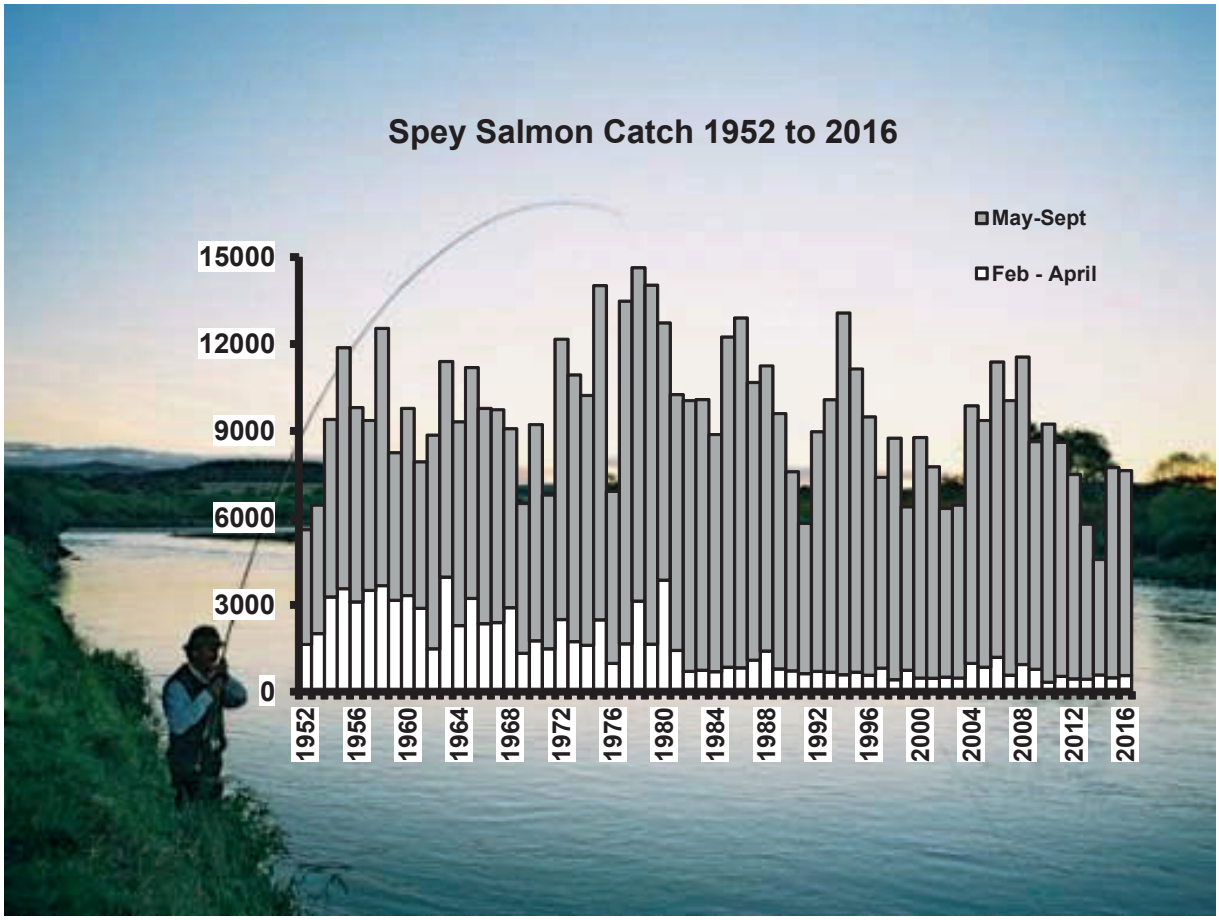

Figure 5: *Annual declared rod catch of wild Salmon and Grilse from the River Spey, 1952-2016. The 2002-2016 catches are from returns made to the SFB by proprietors.*

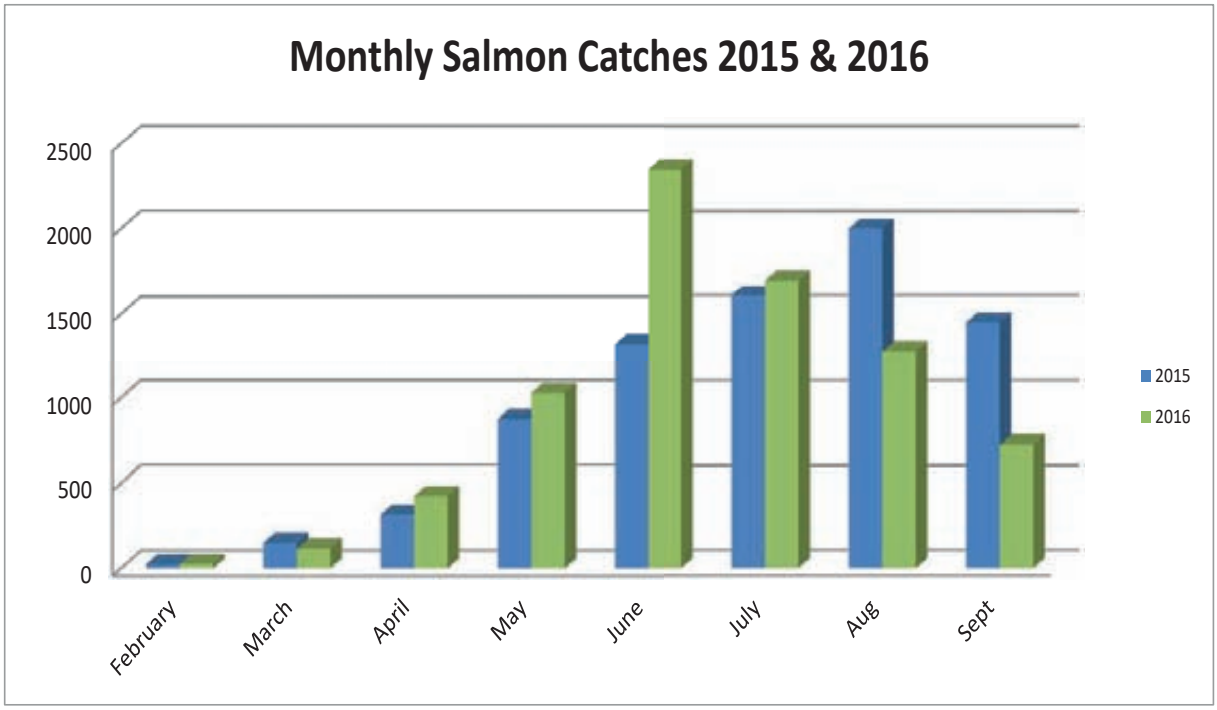

Figure 6: *Declared monthly rod catch of wild Salmon and Grilse from the River Spey in 2015 and 2016, calculated from returns made to the SFB.*

2.2 Sea Trout Catches

The 2016 declared rod catch for Sea Trout was **1,318** (Figure 7), which was a 39% reduction on the 2,175 caught in 2015. In common with many previous years (with the exception of 2014), monthly catches during 2016 showed that June was the month when the most Sea Trout had been caught in any one month. 460 Sea Trout were caught in June 2016, which accounted for 34.9% of the annual catch. July was once again the second highest month, with 347 caught (26.3%). Overall therefore, over 60% of Sea Trout caught were recorded in these two months.

***Above: A** Sea Trout caught at Kinchurdy in June 2016. A total of 1,318 Sea Trout were caught on the River Spey during 2016.* (Photo: Bobby Hall, Ghillie, Castle Grant & Kinchurdy)

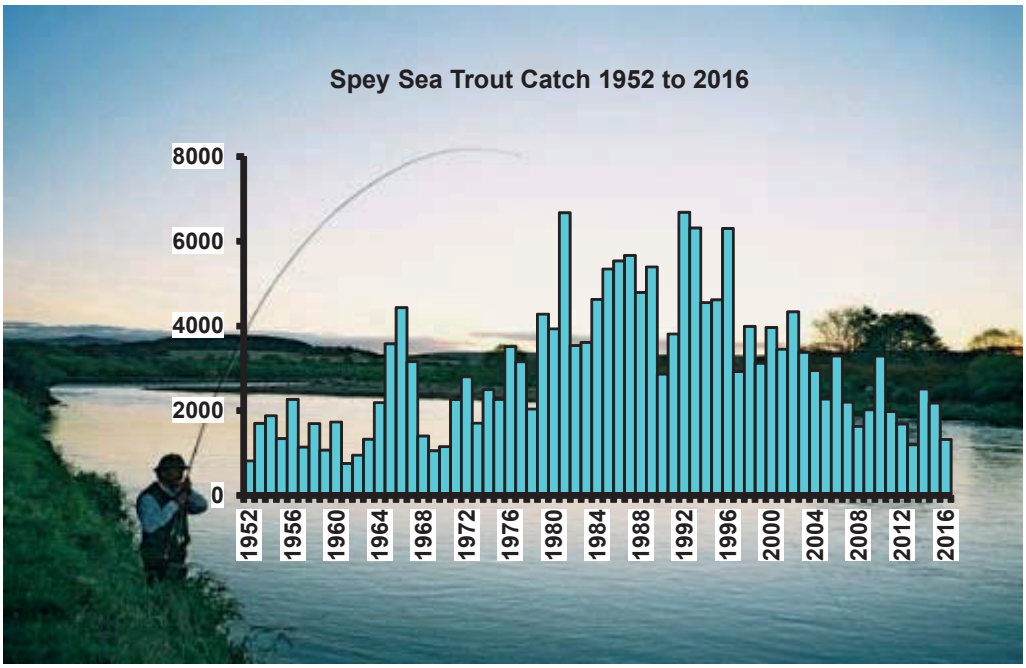

***Figure 7.** Annual declared rod catch of Sea Trout from the River Spey, 1952-2016. The 2002-2016 catches are from returns made to the SFB.*

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.

Throughout the 2016 season on the River Spey, **94%** of salmon and grilse caught were released (Figure 8). 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, **7,172** Salmon and Grilse were released to spawn in 2016. The Conservation Policy for 2017 is illustrated in Figure 10.

The SFB would also like to draw attention to the Conservation of Salmon (Annual Close Times and Catch and Release) (Scotland) Regulations, which came into force in January 2015 and which make it illegal to kill wild Atlantic salmon caught before 1st April each year.

2.4 Sea Trout Conservation Policy

Sea Trout are the sea-running form of Brown Trout. The majority of Sea Trout are female and Sea Trout and Brown Trout interbreed. 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, although that has not been the case in recent years and the SFB has maintained a precautionary approach.

2016 saw the rate of catch and release for Sea Trout fall to **77%** from 81% last year (Figure 9). This was the first time it had fallen since the Conservation Policy's inception. However, when it was reviewed during 2016, the Board decided that in line with its precautionary approach, the voluntary policy overall was working well and should remain unchanged for 2017. The SFB will continue to monitor the situation throughout 2017.

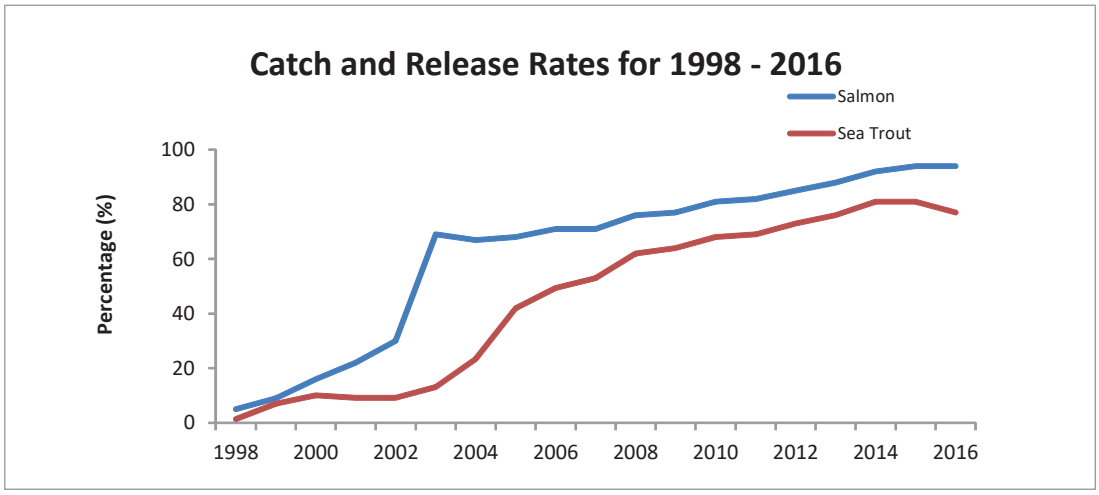

Figure 9: *The release rate for rod-caught wild Salmon & Grilse and Sea Trout on the River Spey 1998 - 2016.*

Spey Conservation Policy 2017

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Scottish legislation requires that all salmon caught before the 1st April must be released. In order to protect the integrity of the Spey stock and to maximise their spawning potential, the Spey Fishery Board's policy is that all fish caught up to and including the 31st May should be released alive. From the 1st June the policy set out below will apply.

SEA TROUT

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

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

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

Release all stale or coloured fish

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

SALMON

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

All hen salmon and hen grilse must be released

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

Escaped farmed salmon must be retained

Figure 10: *The Spey Fishery Board's Conservation Policy for 2017.* ***N.B. Since January 2015, it has been illegal to kill wild Atlantic salmon caught before 1st April .***

Part 3

Management Report

3.1 Spey Catchment Initiative

Throughout 2016, the Spey Fishery Board has continued to be the driving force behind the Spey Catchment Initiative (SCI), as well as providing it with substantial administrative and management

support. This is a highly effective demonstration of a public/private partnership and it is managed by the Spey Fishery Board. The SCI exists as a result of support from the organisations illustrated at the bottom of this page.

Since its inception in 2010, the SCI has enjoyed considerable success delivering a range of multiple-benefit projects, which in turn have enabled the SFB to secure significant fishery habitat enhancements. These have included river restoration and bankside improvement works, in-river habitat enhancements and riverside amenity works to improve access and enjoyment of the River Spey for local communities.

2016 saw the creation and publication of a new River Spey Catchment Management Plan, replacing the original plan which dated back to 2003. To facilitate this, a Stakeholder Forum was held in Boat o'Garten on 20th June 2016, so that the SCI Partners could also consult with and involve the local communities in the development of the new Plan.

The 2016 Plan sets out a broad strategic framework for the wise and sustainable use of the water resource for the next five years, and for the protection and enhancement of the water quality and natural heritage throughout the whole River Spey catchment. It summarises in one document all the key issues, pressures and opportunities that currently exist as they relate to the local environment and provides a wealth of information on flood management, water quality, economic development, protected species and habitats, fisheries, forestry and woodland. The Plan also aims to enable all those with an interest in the river environment to work together more effectively. Implementation will require the SCI to be extended for a further five years, for which a business plan has also been developed to stimulate funding. The Spey Catchment Management Plan is available on line to view or download at:

http://www.speyfisheryboard.com/wp-content/uploads/2016/12/SCI-2016-Catchment-Management-Plan.pdf

3.1.1 Tomintoul & Glenlivet Landscape Partnership (TGLP)

After 18 months of development work, the Heritage Lottery Fund approved a £2.34 million grant in October 2016 towards a multi-faceted regeneration project in the Tomintoul and Glenlivet area. The remainder of the £3.6 million budget has also been secured, including grants from the European Union (LEADER & SRDP), Moray Council and Highland & Islands Enterprise.

The TGLP encompasses over 20 cultural, built and natural heritage projects which will be delivered in 2017 -2021. This includes £420,000 worth of activities associated with improving the water environment which have been developed by the SCI Project Officer, Liz Henderson. This is split into four discrete projects: improving fish passage where there are currently barriers; enhancing the condition of water margins in the area; flood resilience-building measures for the Avon; and increasing recreational angling participation through improved fishing access.

A team has been recruited to deliver the project over the next four years. However, the SCI will continue to be involved in a supervisory capacity on the Natural Environment working group.

3.1.2 Delagyle and Aviemore Backwaters

Plans to install culverts which will reintroduce flows to two backwater channels at Delagyle and Aviemore have been developed by the SCI during 2016. Utilising funding from the EU-sponsored Pearls in Peril Project, feasibility studies have been undertaken and contracts for the Aviemore project went out to tender in late 2016. It is hoped that at least this latter project will be completed in early 2017.

3.1.3 Allt Lorgy: River Restoration Prize

We have previously reported on the Allt Lorgy project near Carrbridge, which re-instigated natural processes to a straightened section of river. This was not functioning effectively and was impacting on both the water and land environments. In April 2016 the Allt Lorgy river restoration project won the prestigious Innovative Project category prize at the 2016 UK Rivers Restoration awards ceremony in Blackpool. It was the first time that a Scottish project had both won a category prize and been selected as a finalist for the overall UK prize.

Left: T*he Allt Lorgy, which had previously been straightened for agricultural purposes and has now been restored. This picture illustrates how the channel has altered to a more natural state after only a few years. The project won the prestigious Innovative Project category at the 2016 River Restoration Awards.*

3.2 Spey Action Plan

As we have previously reported, in 2014 the Spey Action Plan replaced the former Spey Fishery Management Plan, which had been in place since 2008. The latter had provided a comprehensive framework within which the Spey Fishery Board could identify target areas for research and apply specific funding. Its successor has been streamlined into something more user-friendly and, whilst principally for the Spey Foundation, but in close collaboration with the SFB, the Spey Action Plan has allowed us to determine and prioritise our future work.

The Spey Action Plan does not, however, replace the Spey Catchment Initiative. Rather, it complements it and focusses on more specific issues directly relating to the management of the Spey's fish stocks. Work on its implementation continues and progress has been reviewed at meetings of the Spey Foundation Committee and the Spey Board throughout 2016.

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 or stock components, or UDN-associated mortalities.

More recently, the SFB established a Stocking Sub-Group to review the Board's stocking policy annually. It makes recommendations initially to the Spey Foundation Committee, which then makes recommendations to the Board. These may then result in a number of refinements and changes.

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

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

Back in 2003, the number of salmon stocked on the Spey had been 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 "under-utilised" areas. Meanwhile, mitigation stocking upstream of man-made obstacles was also increased.

In recent years the focus has been on mitigation stocking. Whilst this is generally considered acceptable, providing best practice is followed, it is now illegal to stock above impassable waterfalls following implementation of the Wildlife and Natural Environment Act (the WANE Act), which makes it

an offence under the Habitats Directive 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 by man to migratory fish is less than 1%, a figure that is slowly reducing as more and more barriers are removed. Hence, we are now in a situation where we have a relatively small hatchery operation, focused on mitigation stocking, mainly in small tributaries in the middle and lower catchment. The Board considers that there may be further opportunities for mitigation stocking above Spey Dam in due course.

The identification of areas perceived to be under-utilised 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. 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 out-with 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

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

In 2013, the SFB had decided to retain the operation of the hatchery, at broadly similar levels to the current production, for the next five years. Since then, however, the Spey Foundation Committee and the Board have also had to consider the stocking policy and requirement for each year. To enable this for 2017, another comprehensive programme of electro-fishing was undertaken by the Board during 2016 (see section 4), initially to monitor its stocking in 2015 and to confirm the stocking locations for 2016 (see Table 2). The Board then reconvened its Stocking Sub-Committee, which considered the results from this year's electro-fishing. The Sub-Committee's findings were subsequently presented to and endorsed by both the Spey Foundation Committee and the Board (see Table 3). Thereafter, the Board applied for a licence from the Scottish Government to catch and hold broodstock outside the Salmon net 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 2016 stocking programme had been completed.

The Board has also been keen to develop its monitoring of the success of its stocking policy and to assist this, the Ghillies once again coordinated the fin-clipping of circa 90,000 autumn parr for stocking during 2016, so that hatchery-reared fish could be more readily identified in the future. The Board is grateful to all of the Ghillies and Proprietors who took part in this, and particularly to Ballindalloch Castle's Head Ghillie, Steve Brand, for his work in coordinating it. This highlighted the value of public engagement in our work.

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

3.4 Pollution Incidents

There were no significant pollution incidents during 2016.

Above: *the Ghillies once again coordinated the fin-clipping of circa 90,000 autumn parr for stocking during 2016, so that hatchery-reared fish could be more readily identified in the future.* (Photo: Steve Brand, Head Ghillie, Ballindalloch Castle).

3.5 Control of Invasive Non-Native Species

The growth of Invasive Non-Native Species - including Giant Hogweed, Japanese Knotweed and Himalayan Balsam - has been an emerging issue in recent years, particularly in areas of the lower catchment. Work to control these species in priority access areas used by the public had been undertaken by the Spey Foundation during 2015, having secured funding from the Landfill Communities Fund and the Crown Estate. In late 2016, the Spey Foundation was working with the Crown Estate to secure some additional funding to undertake further work to control INNS around the lower River Spey. If successful, SFB staff will undertake this work, on behalf of the Spey Foundation, between Fochabers and Spey Bay during 2017. SFB staff time will then subsequently be re-charged to the Spey Foundation.

Above: *The invasive non-native plant species, Giant Hogweed, pictured against one of the SFB's pick-up trucks to illustrate the scale of the problem around the lower River Spey.* (Photo: Brian Shaw)

Table 2: Spey Fishery Board stocking numbers and locations 2016. All fish stocked as 0+ parr in September.

Stocking location	Broodstock	Habitat quality	Area Stocked (m^2)	Number 0+ parr	Comments
Burn of Rothes	Lower Spey	Good	7,000	15,000	
Lower Mainstem	Lower Spey	Good	N/A	20,000	
Lower Mainstem (Craigellachie-Arndilly)	Fiddich	Good	N/A	80,000	
Dullan Water	Fiddich	Good	5,000	5,000	Adipose fin-clipped
Knockando Burn	Middle Spey	Good	10,000	25,000	Adipose fin-clipped
Tommore Burn	Avon	Good	8,800	35,000	Adipose fin-clipped
Avon	Avon	Good	N/A	25,000	Adipose fin-clipped
Batten Burn	Dulnain	Good	8,750	25,000	
Total				**230,000**	

Table 3: Eggs laid down in Sandbank hatchery for stocking in 2017

Source	Number females	Eggs laid down in hatchery
Lower Mainstem	13	69,600
Middle mainstem	7	44,080
Fiddich	19	106,850
Avon	15	71,660
Dulnain	7	44,320
		336,510

3.6 Control of Ranunculus

Ranunculus sp., or water crowfoot, is an invasive aquatic plant species which is non-native to the River Spey. It was accidentally introduced to the river over 40 years ago near Grantown-on-Spey and much of the River downstream of Grantown is now badly affected by this plant.

In the past the chemical Midstream, which contained the active and toxic ingredient Diquat, was used to control Ranunculus. As a result of EC legislation, we are no longer able to use this chemical and so the plant is spreading and in some areas choking the flow of the river.

The extensive mats of Ranunculus often accumulate sand and gravel underneath, choking the underlying substrate beneath it. This affects the Freshwater Pearl Mussel and Salmon fry habitat. Alternative methods of control, such as manual cutting and removal or hand pulling, are not considered practical as they are costly, labour-intensive and pose considerable health and safety issues for individuals working in a fast-flowing river.

A Scottish Natural Heritage (SNH) Position Paper in 2010 clearly explained how Ranunculus is detrimental to two of the four species (Atlantic Salmon and Freshwater Pearl Mussel) for which the River Spey is designated a Special Area of Conservation (SAC). The SFB subsequently identified the glyphosate herbicide, Roundup Pro Biactive, mixed with the sticking agent Top Film, as a potentially suitable chemical for plant control that had been accepted for use in and around watercourses. However, subsequent trials in the Rivers Don, Dee and Spey unfortunately showed this mixture to be ineffective.

In March 2016, the SFB and the Dee Boards wrote a joint letter to the then Minister for Environment, Climate Change & Land Reform, Dr Aileen McLeod. We explained that we had now done all that could be reasonably expected of District Salmon Fishery Boards to resolve this long-standing problem and determined that the Scottish Government and its agencies (SNH and SEPA) were failing in their obligations to prevent the deterioration of a site designated as a Special Area of Conservation. It also determined that they should now be required to assume a more proactive role in resolving the issue and suggested that if progress was not forthcoming, we may have no alternative but to refer the issue to the European Commission. The response we received from the Minster suggested a meeting with officials as the best way forwards and added that she would ask SNH for a report.

The Boards were not satisfied with this response and wrote again to Dr McLeod's successor, Cabinet Secretary for Environment, Climate Change and Land Reform, Roseanna Cunningham, in June 2016. We reiterated our concerns and said that if substantive progress was not forthcoming from the Scottish Government or its agencies within the next six months, the Boards would have no alternative but to refer the issue to Europe. This resulted in a meeting between the SFB, the Scottish Government, SNH and SEPA in October 2016.

During this meeting it was established that Diquat had recently been used in an English river and it was agreed that SEPA and SNH would revisit the properties of Diquat and Clearcast to see if there were any strong reasons to prevent an application being made for an experimental trial of these herbicides. Alongside this, the Scottish Government agreed to approach the Chemical Regulations Directorate (the successor organisation to the Pesticides Safety Directorate of the Health and Safety Executive) to explore how an application for an experimental trial of these herbicides might be made. We welcome the involvement of the Scottish Government as a facilitator in the licencing process and the SFB will continue to work closely with the Scottish Government and its agencies throughout 2017 to seek a resolution of this long-running issue.

Above: *Ranunculus fluitans at Rothes in the River Spey.* (Photo: Brian Shaw)

3.7 Sawbill Ducks and Cormorants

Since 2015, the Management Group that had been formed to consider Integrated Predator Management in the Moray Firth Region (see below), had agreed that our licence application each year should be for a licence to run from October until the following April/May, rather than from January until April/May as had previously been the case. Accordingly, and as we reported last year, the 2016 application had been submitted in June 2015, rather than in November.

To facilitate this, the SFB coordinates a combined application to Scottish Natural Heritage for the Spey, Conon, Ness, Beauly, Kyle of Sutherland, Findhorn, Nairn and Lossie Rivers to shoot Goosanders, Mergansers and Cormorants. Although one application is submitted, the licence (if granted) provides separate quotas for each river involved, following analysis by Scottish Government agencies of the respective supporting bird count data. The application for 2015/2016 was successful and a licence was issued, with the Spey being granted a quota of 27 Goosanders, 2 Mergansers and 2 Cormorants to be shot between 1st October 2015 and 31st May 2016. The latter date is significant because we need to provide additional protection to Salmon stocks during the annual smolt run. Carcasses of birds shot were also collected where possible for submission to the Marine Scotland Science laboratory in Pitlochry for the analysis of stomach contents.

Table 4: SFB Sawbill Count Data from March 2011 to Feb 2016 and (below) May 2011 to Apr 2016

	Mar-11	Mar-12	Mar-13	Mar-14	Mar-15	Feb-16
Goosanders	67	91	56	71	70	153
Mergansers	9	8	13	4	7	1
Cormorants	6	10	12	13	2	9

	May-11	May-12	May-13	May-14	May-15	Apr-16
Goosanders	57	70	33	56	41	97
Mergansers	19	26	2	10	12	21
Cormorants	0	0	0	0	2	2

Throughout 2016 the SFB continued counting Goosanders, Mergansers and Cormorants, with counts carried out from Boat o'Garten to Spey Bay in late February and late April. We had intended to conduct a count in December 2015, but river heights prevented this (the majority of sawbill birds migrate up into the tributaries when the mainstem river is in spate, rendering the data incomplete and incompatible with previous counts) and it was February 2016 before a count could be undertaken. The data collated, together with that collated during the count in October 2015, contributed to our 2016/2017 Licence Application.

Table 4 above shows the numbers of birds counted during the SFB sawbill counts in March and May between 2011 and 2015 and late February and late April 2016. This data shows that Goosander numbers on the River Spey were considerably higher in late February 2016 than they had been in March in the previous years and higher again in late April than in mid-May previously. Merganser and Cormorant numbers, meanwhile, have been relatively stable. Additional data from other counts during these years is also available, but the timing and number of these counts has not been consistent enough to tabulate for direct comparison. In general, counts in October have shown the highest concentrations of sawbill ducks on the Spey, which have then gradually declined over the winter and into spring.

Our 2016/2017 licence application was successful and the Board has been granted a licence to shoot 17 Goosanders, 3 Mergansers and 2 Cormorants between 8th September 2016 and 31st May 2017. This now enables us to control pisciverous bird predation on juvenile salmonids in the River Spey for almost nine months of the year.

Above: *The numbers of piscivorous birds such as Goosanders* (pictured left, photo courtesy of mullbirds.com)*, Mergansers and Cormorants* (pictured right, photo courtesy of Bruce Yolton) *are controlled on the River Spey under licence from the Scottish Government.*

We continue to aspire to create what is anticipated will be a Moray Firth Sawbill Plan, broadly along the lines of the successful Seal Plan for the area (see section 3.8). To assist this, and as we have previously reported, the Scottish Government had granted some funding towards Integrated Predator Management throughout the Moray Firth region and a Management Group had been formed to progress this. Due to the designation of the Inner Moray Firth and Cromarty Firth as SPAs for these species under the Habitats & Birds Directives, future management schemes must consider the potentially conflicting conservation obligations of other relevant authorities for piscivorous birds, against the obligations of District Salmon Fishery Boards (DSFBs) to conserve the fish stocks on which these birds prey. One of the issues facing the licensing authorities is the lack of data indicating whether there is a clear link between the estuarine and riverine populations of Goosanders, and whether birds migrate between these areas. Further work is still required to develop an effective project to progress our knowledge of this bird migration issue and we expect the Management Group to continue to consider how best to proceed with this during 2017.

The SFB will continue to work with SNH, the Scottish Government, the Science and Advice for Scottish Agriculture agency and neighbouring Boards and Trusts during 2017 to develop this work to establish a Moray Firth-wide management scheme for Sawbill Ducks and Cormorants.

3.8 Moray Firth Seal Management Plan

2016 saw the continuation of the Moray Firth Seal Management Plan, which the SFB has coordinated since October 2013. This Plan licences the SFB and other Fishery Boards (and previously salmon netting stations) around the Moray Firth to shoot Common and Grey seals which have entered the rivers to predate on its Salmon and Sea Trout. It 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.

The Moray Firth Seal Management Plan includes the Scottish Government's Marine Scotland, the Sea Mammal Research Unit from St Andrew's University, Scottish Natural Heritage, all of the District Salmon Fishery Boards from the River Deveron around the Moray Firth to the River Helmsdale, and a limited number of salmon net fisheries which have been active in the region.

In late 2015 the SFB had submitted a Licence Application for the period 1st February 2016 until 31st January 2017. This application was successful and a licence was issued which permitted the shooting of 18 Grey Seals and 0 Common Seals. This was a significant reduction from the 45 Grey Seals and 6 Common Seals which had been licensed to be shot throughout the Plan area the previous year.

Between late March and the mid-May 2016, a Common Seal (or seals) were observed within the River Spey between Spey Bay and Upper Arndilly near Craigellachie, some eighteen miles up-river from the coast. There had also been reports of Common Seal incursions into the Rivers Findhorn and Conon. The SFB therefore applied to Marine Scotland for a variation to the Moray Firth Seal Plan licence. We acknowledged that the Dornoch Firth was a Special Protection Area for Common Seals, but also highlighted the Special Area of Conservation status of the River Spey. We therefore called for a balanced approach and requested that two Common Seals be allocated to the 2016/2017 quota to enable the protection of these important salmon rivers.

Marine Scotland acknowledged our concerns but explained that the numbers of Common Seals throughout the Moray Firth had significantly declined in recent years and that, as a result, the Potential Biological Removal (PBR) figure was set at only four. The PBR determines the number of animals which may be removed without causing a detrimental impact on the population status and has to include all anthropogenic takes, including accidental mortality by shipping and boats. Marine Scotland told us they were therefore unable to vary our licence, but would re-consider our case if supplementary information, particularly in the form of high-resolution photographs, could be submitted to clarify whether a single predatory animal could be identified or whether it was a group of different animals which were causing the problem.

The SFB subsequently wrote to the Chief Executive Officer of Scottish Natural Heritage (SNH), as one of the organisations which advises the Scottish Government over seal licencing issues. We reiterated out case and called for a balance to be drawn when one protected species was preying on another protected species. The SFB also explained that it was being denied the opportunity to fulfil its statutory obligations and, of more concern to SNH, to adequately protect one of the four species for which the Spey was designated a Special Area of Conservation.

SNH responded sympathetically to the SFB's case, but was equally robust in its support for a precautionary approach, particularly as the PBR was set at only four animals. SNH suggested that we liaise with the Sea Mammal Research Unit at St Andrew's University to re-consider the deployment of Acoustic Deterrent Devices, as a non-lethal method of seal control, and SNH offered to meet with the Board to discuss our concerns further.

The SFB will pursue both these avenues of enquiry during 2017. The Board also submitted the 2017 licence application in October 2016 and will continue to take a leading role in the Moray Firth Seal Management Plan throughout 2017.

Above: *A Common Seal. One (or more) similar to the one pictured here caused considerable disruption to the lower Spey fishery between Spey Bay and Upper Arndilly from late March until mid-May 2016.* (Photo: courtesy of theguardian.com)

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.

The upturn in the numbers of fish within the river during the early part of the season brought with it an increase in illegal fishing activities. This was particularly apparent between May and July 2016. The Board is grateful to its team of Water Bailiffs, who worked tirelessly throughout the summer to protect the River and its tributaries. Throughout the year, the SFB has also continued to work closely with Police Scotland, with whom we have been fortunate to enjoy close links, in order to control the poaching of these valuable fish.

Coastal patrols between the Boar's Head stretch of coastline and Cowhythe Head, using our commercially-coded 6.4 metre Rigid-hulled Inflatable Boat (RIB), were also continued from April-September 2016. This RIB was a significant investment for the Board, but it enables us to conduct patrols along the 20 miles of coastline over which we have jurisdiction. Furthermore, our jurisdiction extends 3 nautical miles out to sea. Over 20 patrols were completed during 2016 to deter illegal netting. Nonetheless, the level of illegal netting along our coastline has historically been prolific before coastal boat patrols were undertaken. The SFB was also contracted in 2016 to undertake two patrols for the Dee (DSFB) and one for the Deveron DSFB. It has, in previous years, also conducted patrols on behalf of other DSFBs. Some of these patrols were used to enforce the weekly "slap" time at mixed stock net fisheries (prior to the moratorium on netting out-with estuary limits and when leaders had to be removed) and yielded evidence which was later submitted in court for successful prosecutions. These contracted patrols have also continued to enhance our already close ties with other regional DSFBs and illustrated the value of pooling resources to tackle shared problems, particularly coastal netting irregularities.

Above: *The SFB's coastal Patrol Boat at Lossiemouth Harbour, June 2016.* (Photo: Roger Knight)

Above: *SFB Water Bailiff Jason Hysert aboard the Patrol Boat with an illegal gill net recovered in August 2016.* (Photo: Richard Whyte, Head Bailiff, SFB).

3.10 Administration and Staffing

There have been no further changes to the employed staff since the redundancies that were made during 2015. Despite this, the SFB's Chairman and Director have continued to review the Board's expenditure in order to further reduce other costs where possible. This has enabled the Board to maintain the Assessment for 2016/2017 at 70p/£.

We reported last year that after 20 years of remarkable service, Edward Mountain had decided to step down as an elected Member of the Board to pursue his political ambitions. At the Triennial Elections in February 2016, Edward was succeeded by his brother, William Mountain. The SFB welcomes William to the Board, on which he has been an active member throughout 2016.

4.1 Juvenile Surveys 2016

The juvenile survey monitoring programme on the Spey occupies the Spey Foundation team for most of the time during July to September. Some of these surveys are investigative, but the main driver behind the programme is the collection of monitoring data against which the health of the catchment is assessed. The 2016 survey plan included salmon fry index surveys in the Spey mainstem, the mainstem of the Avon and larger tributaries, and in the Truim. Density-based surveys were completed in the same tributaries, plus a selection of the burns flowing directly into the Spey. In total, 105 salmon fry index surveys were completed, along with 104 density surveys. The findings of the 2016 programme were directly comparable with the results of the 2013 surveys. Weather and river flows during the summer of 2016 were generally benign and the survey programme was completed.

4.2 Salmon Fry Index Surveys

During 2016, 62 salmon fry index sites were completed in the Spey mainstem, covering the entire river from Garmouth to above Spey Dam. The programme included 30 salmon fry index sites in the Avon sub-catchment and 7 in the River Truim. In addition 6 surveys in the River Dulnain were completed for comparison with 2015.

Salmon fry index surveys do not provide an absolute value for fish densities at any site, but when changes to variables such as time of year, survey team and location are minimised, the results from this type of survey are very good for establishing trends, particularly in large watercourses where density-based surveys are impracticable. As there is no national standard for salmon fry index surveys, a Spey salmon fry index classification has been developed based on the five year average of the 2012 to 2016 surveys (Table 1). The breakpoints in the classification system increased steadily from 2012 to 2015, but the reduced fry counts in 2016 lowered the average values for each breakpoint. As this five-year period covered a range of values for fry counts, a decision has been made to freeze the classification, so that future surveys can be assessed against the current five-year average.

The results from the 2012 to 2016 Spey mainstem salmon fry index surveys are shown in the table on the next page.

During these surveys, salmon parr and other fish species are also caught. Over the last four years, the salmon parr counts have shown a higher degree of variability than the fry counts (times 3.5 compared to 1.8 for fry). Following the low salmon parr counts recorded in 2015, the mean count in 2016 increased to 4.2/minute, almost matching the 2014 count of 4.3/min. Whilst these surveys primarily target salmon fry, the parr counts are considered to be a good reflection of the actual situation in the river, with this finding matching that from many of the tributary surveys.

Table 1: Spey salmon fry index classification scheme 2012/16

2012/16 Salmon fry breakpoints (No/min)	Classification
0.0	Absent
< 5.0	E Very low
5.1 <10.9	D - Low
11.0 <17.3	C - Moderate
17.4 28.0	B - Good
>28.1	A - Excellent

Table 2: Spey mainstem salmon fry index (fry/min) 2012/13/14/15/16.

Site code	Location	2012	2013	2014	2015	2016
S007R1	Gordon Castle	24.7	22.7	16.3	27.3	5.7
S012R1	Gordon Castle	11.3	17.0	17.3	20.3	10.7
S017L2	Gordon Castle	31.7	52.7	24.7	20.0	13.0
S019L2	Gordon Castle	13.3	57.7	28.7	34.7	17.3
S025L1	Gordon Castle	7.7	26.0	23.0	26.0	20.7
S029L1	Orton Water	6.3	41.0	15.0	31.7	15.7
S032L1	Orton Water	9.0	44.0	17.7	28.3	14.7
S034R1	Delfur	19.7	12.0	55.0	27.0	5.0
S040L1	Delfur	6.7	14.0	13.3	22.0	4.7
S040L2	Delfur		90.0	66.0	29.0	15.7
S042L1	Rothes	7.7	44.0	10.3	14.7	12.0
S047L1	Rothes	6.3	9.3	9.0	18.3	4.7
S050R1	Arndilly	13.7	29.7	28.3	16.0	13.3
S052L1	Arndilly	15.7	15.7	19.7	23.7	9.3
S056L1	East Elchies	17.7	34.7	43.7	39.7	16.0
S059R1	Craigellachie	36.7	28.3	33.3	23.0	17.3
S060R1	Craigellachie	13.0	12.3	23.0	11.7	17.7
S061R1	Craigellachie	20.3	12.3	22.0	10.0	4.7
S066R1	Aberlour	10.0	15.3	27.7	17.0	11.0
S068R1	Kinermony	3.3	7.3			
SO86L1	Wester Elchies		15.7	12.0	9.3	3.3
S071R1	Delagyle	7.0	6.3			
SO72L2	Wester Elchies		19.3	7.3	28.3	3.0
S074L1	Laggan	7.0	5.3	9.0	13.7	2.0
S077L1	Laggan	36.7	10.0	31.3	27.7	7.7
S079R1	Carron	15.7	31.0	16.3	18.3	11.7
S082L1	Knockando	8.3	9.3	17.7	15.0	8.7
S087L1	Phones		3.7	6.0	4.7	0.7
S093R1	Lower Pitchroy	21.3	25.7	20.3	41.7	16.7
S096R1	Ballindalloch	11.0	20.0	49.0	37.0	20.3
S104L2	Ballindalloch	20.3	61.3	40.7	43.0	25.0
S105L2	Tulchan D	35.0	65.7	33.7	45.7	33.3
S112L1	Tulchan C	10.3	35.0	11.3	31.3	14.7
S119L1	Tulchan B	28.0	30.7	10.0	27.7	12.7
S124R1	Tulchan A	13.0	38.0	14.7	18.7	11.7
S131L1	Castle Grant 3	29.0	40.0	21.0	34.3	24.0
S135L1	Castle Grant 2	17.7	44.0	36.3	20.0	10.0
S141L1	Castle Grant 1	3.7	8.0	9.3	17.0	24.3
S147L1	SAIA	11.0	17.3	16.0	45.3	24.7
S149L1	SAIA	12.0	10.3	14.7	21.7	23.7
S163L1	Abernethy AA	33.7	73.3	59.3	28.0	28.3
S177L1	Abernethy AA	23.0	53.0	24.0	31.0	24.3
S183L1	Kinchurdy	5.7	45.0	21.0	29.7	17.3
S195L1	Aviemore AA	14.0	36.0	13.7	11.0	14.3
S209L1	Kinrara	19.0	28.3	13.3	19.3	12.3
S212R1	Kinrara	16.0				
S215L1	Dalraddy	24.3	63.3	47.7	24.0	21.3
S243R1	Badenoch AA	8.7	14.3	17.7		36.7
S254R1	Badenoch AA	6.0	8.0	18.3	10.7	12.0
S258L1	Badenoch AA	12.7	11.0	19.3	5.7	38.3
S260L1	Badenoch AA				20.7	22..7
S264R1	Truim	22.0	4.3	5.3		
S282R1	Laggan	19.7	17.7	18.7	26.0	20.7
S287L1	Laggan	12.3	21.3	14.7	5.0	29.7
S290L1	Below Spey Dam	18.0	25.0	5.7	8.0	17.0
S298R1	Glenshirra	0.0	0.0	0.0	0.3	0.0
S305R1	Garvamore	3.3	3.7	0.0	2.7	0.0
S305R2	Garva Bridge	1.3	1.3	0.0	1.0	0.0
S311L1	Upper Spey	4.0	0.0	0.0	0.0	0.0
S312L1	Upper Spey	4.7	0.0	0.0	0.3	0.0
S315L1	Upper Spey	5.7	0.0	0.0	8.0	0.0
S317L1	Upper Spey	7.0	0.0	0.0	1.0	0.0
S318L1	Upper Spey	3.0	0.0	0.0	0.3	0.3
S319R1	Upper Spey	0.7	0.0	0.0	0.0	0.7
S324L1	Upper Spey				0.0	2.0
S326L1	Upper Spey	5.7	0.0	0.0	0.0	0.7
S328R1	Upper Spey	0.0	*			
Mean		13.6	23.6	18.8	19.2	12.8

This type of data becomes more valuable as the time series increases. The reduction in mean fry counts recorded in 2016 were largely due to the lower counts recorded downstream of the Avon confluence. Downstream of the Avon confluence, the mean fry count per minute in 2016 was 10.8, compared to an average of 21.5 over the previous four years. In contrast, the mean counts from sites upstream of the Avon to Spey was 21.7, close to the series average of 23.7/min.

- In 2016 there were 8 sites in the "very low" category (red) compared to a maximum of 2 in previous years. All were located downstream of the Avon confluence.

- In contrast, the results from the sites located between Loch Insh and Spey Dam were the highest recorded, reaching 184% of the previous four-year mean.

- Upstream of Spey Dam, salmon fry abundance was low and the distribution was biased, unusually, towards the upper reaches.

- The low fry counts downstream of the Avon confluence are considered to be as a consequence of the high flows that occurred in the River Avon and in the Spey below the confluence during mid-winter (discussed below).

- Despite the reduced fry counts downstream of the Avon, these surveys continue to show that salmon fry are ubiquitous throughout the Spey mainstem, with recruitment only a significant issue upstream of Spey Dam.

Table 3: 2016 River Avon salmon fry index results.

		Salmon fry/minute		Salmon parr/minute	
Site code	Location	2013	2016	2013	2016
TA01L1	Ballindalloch Castle	38.67		21.7	
TA05L1	Golf Course	39.67	1.33	28.3	12.3
TA11L1	Haugh Pool	41.33	6.67	12.3	3.0
TA15L1	Upstream Black Burn	83.00	4.33	7.0	2.0
TA21R1	Little Dalrachie	22.33	5.33	15.7	2.0
TA24R1	Dell footbridge	25.00	5.67	12.3	6.3
TA29L1	Upstream Fodletter Bridge	26.33	4.00	18.0	3.3
TA34L1	Lochy mouth	18.67	6.00	5.3	3.0
TA38L1	Dalvrecht-Conglass confluence	22.00	3.33	14.0	5.0
TA43R1	At "S" bend Kylnadrochit	23.67	5.67	1.7	0.00
TA49R1	Below Fordmouth Farm	15.00	4.67	9.7	1.67
TA56R1	Upstream Delavoar Bridge	14.00	1.33	10.7	4.00
TA60R1	Muckle Fergie confluence	9.33	4.67	4.7	1.33
TA65R1	Heathery island far channel	6.00	1.33	6.0	2.67
TA70R1	Opposite side channel	10.00	3.33	3.0	1.33
TA76R1	Upstream Builg confluence	7.33	3.00	3.7	3.00
TA81L1	Upstream Allt Loin	3.67	0.67	4.0	1.0
TA84L1	Downstream Allt Loin Bheag	11.00	1.33	1.7	1.7
TA89L1	Glenavon Estate	1.00	0.33	3.3	1.3
TA94L1	Glenavon Estate	2.67	1.67	4.3	0.7
TA99L1	Faindouran	1.33	0.67	1.7	1.3
TA101L1	Glenavon Estate	1.00	0.67	0.7	0.0
TA105L1	Glenavon Estate	0.00		0.3	
Mean		**18.39**	**3.14**	**8.3**	**2.7**

The reduced salmon fry counts in the Spey mainstem downstream of the Avon confluence were noted above. In the Avon itself, the results of the salmon fry index surveys were more striking.

The table opposite shows the results of the Avon salmon fry index surveys, along with the parr counts at the same sites. In 2013 a classic decline in fry counts with altitude was found, with the counts in the lower Avon in the good or excellent categories. In contrast, there were no sites classed higher than low in 2016. The parr counts were also reduced, although not to the same extent.

The primary cause of this significant decline in the fry counts is considered to be the extreme high flows that occurred during late Dec/early Jan when redd washout is likely to have occurred. Parr counts were also lower but to a lesser degree.

A selection of the salmon fry index sites surveyed in the River Dulnain in 2012 and 2015 were also re-surveyed in 2016, to investigate whether the reductions in the salmon fry counts observed in the Avon were replicated in the Dulnain. The Dulnain is a western tributary draining the Monadhliaths, rather than the Cairngorms, which missed the worst of the heavy winter rain. The fry counts in the Dulnain were lower than recorded in the previous two surveys (48% of previous average, but even this is not significantly different) and not to the same extent as in the Avon. Furthermore, parr counts in the Dulnain were actually higher than the previous surveys.

4.3 Tributary Surveys 2016

2016 was the fifth year of the three year rotational survey programme introduced in 2012. Consequently in 2016 the Avon and Truim catchments, previously surveyed in 2013, were re-surveyed providing an opportunity to assess trends in the juvenile stocks. In addition a selection of the burns flowing directly into the Spey were also re-surveyed along with contract monitoring sites.

The general finding from these surveys was that salmon fry densities were reduced compared to previous surveys, with more stable parr densities. However, only in the Avon was there a significant reduction in salmon and trout fry densities compared to 2013 (65.1 compared to 23.6/100m^2 for salmon and 108.3 c/w 44.3/100m^2 for trout). There were no significant differences in the salmon parr densities in the Avon catchment (mean density 14.1/100m^2 in 2013 compared to 13.9 in 2016) or in the burns (21.9/100m^2 in 2013 compared to 18.9 in 2016), although in the Truim there was a significant difference (22.5/100m^2 compared with 10.2). In the Truim there was a non-significant reduction in salmon fry densities, whereas in the burns the salmon fry densities were identical in both survey years.

The conclusion drawn is that the smaller tributaries and burns were less affected by the extreme flows during the winter than the larger watercourses such as the Avon, where stream power during high flows is so much greater. The reduction in salmon fry densities recorded in the Spey in 2016 was replicated in many catchments across the country. Whereas in the Spey, high flows appears to provide a plausible explanation, the same reason is unlikely to apply across the whole country; perhaps there is more to be learnt regarding the factors influencing fry

recruitment. On a positive note, the spawning in 2016 was good and, in the absence of extreme flows this winter, a recovery in fry numbers is anticipated in 2017.

4.4 Avon & Tommore Smolt Traps

For the third successive year, twin rotary screw traps were redeployed in the lower River Avon during the smolt season. In the Tommore Burn, the "Wolf" trap was operated for the second year to monitor the smolt output from the stocking carried out over the last three years. In addition, the Tommore trap was deployed during the autumn to monitor movements of autumn parr after stocking.

The Tommore Burn trap is a complete capture trap, with all fish caught processed and released downstream. The Avon traps only sampled part of the run, therefore mark and recapture techniques (*described in the American Fisheries Society Salmonid Field Protocols Handbook*) are used to generate an estimate of the Avon smolt run. This involved a number of individual trials where marked smolts were transported 1.2km back upstream and released.

The number of salmon (pre smolts and smolts) captured in the Avon trap in 2016 was 2,300, considerably lower than the last two years (5,378 in 2015 and 14,181 in 2014). Trap efficiency has become lower in each year; in 2014 one in eight of the fish migrating downstream were recaptured, one in eleven in 2015, but only one in twenty-six in 2016. The highest daily total for salmon in the Avon traps was 155 on the 18th April and the median date (the date when 50% of the smolts were captured) occurred on the 5th May, ten and seven days later than in the previous two years. In contrast, the number of trout captured has increased. In 2016 938 trout were captured, compared to 740 in 2015 and 524 in 2014. The recapture rate remained low for trout at 1.5%.

As a consequence of the low capture efficiencies, the estimated salmon smolt run from the Avon was similar to that generated for 2015, although only 52.6% of the 2014 estimate (Table 4). For both salmon and trout, the confidence limits associated with the estimates were wide in 2016, reflecting the lower overall catch and capture efficiencies.

During the smolt run, the Tommore Burn trap captured a total of 317 fin-clipped salmon (377 in 2015), and 11 non-clipped (likely to be naturally spawned fish from the accessible part of the burn between the trap and the culvert). In 2015, scale readings showed that all the smolts leaving the burn were two-year olds, whereas in 2016 24% were three-year olds, the remainder 2-year olds. In 2015, two 1+ parr were captured in the trap, but in 2016 the number captured increased to 113. The multiple age classes of the migrating smolts and the increased number of migrating 1+ parr may be a reflection of increased competition within the burn; perhaps a consequence of high stocking levels in successive years.

During the autumn trapping period in the Tommore Burn, a total of 381 0+ fin-clipped parr were captured, along with 8 older parr from previous stockings. This was a relatively low number,

Table 4:Avon smolt trap mark and recapture run estimates 2016

Species	Salmon (pre smolts and smolts) captured	Marked fish M_i	Recaptures m_i	Estimate of salmon smolt run	95% confidence limits
Salmon	2,300	788	31	56,709	+/- 19,084
Trout	938	264	4	49,714	+/- 39,507

equivalent to approximately 1% of the number stocked in September 2016. This suggests there was no large-scale migration of stocked parr out of the burn in the immediate period after stocking.

2016 was the first year when returning fin-clipped fish were expected from the 2015 smolts. It is reported that eight fin-clipped grilse were caught on the river ,along with two multi-sea-winter fish, origin unknown.

4.5 Spey Dam Number of Breeders Study

In order to provide an independent assessment of the numbers of breeding fish upstream of Spey Dam, a collaborative study with the Rivers and Lochs Institute (RLI), University of the Highlands and Islands (UHI), Inverness, was initiated in 2016. The Spey Dam resistivity fish counter produces counts of fish arriving at the foot of the dam, but not necessarily of fish passing through the dam. By genetically screening DNA samples collected from juveniles, family relationships can be reconstructed based upon full- and half-sibling relationships. This information can be used to provide an estimate of the number of families and by combining this information across sample sites, an estimate of the total breeding population in the area can be generated.

In 2016, 210 individual DNA samples were collected from juveniles from above Spey Dam and are currently with RLI for analysis.

4.6 Education

Three primary schools participated in the “Salmon in the Classroom” project in 2016: Craigellachie; Mosstodloch; and Aberlour. In addition, talks on salmon and freshwater pearl mussels were given at Grantown Primary, a rivers-based interactive event was staged at the Moray Science Festival in Moray College, UHI in Elgin, and a talk was given to the U3A group in Elgin on the River Spey. A field trip with students and lecturers from the University College London completed a diverse range of educational activity in 2016.

Above: *The SFB’s Senior Biologist, Brian Shaw, with pupils from Craigellachie Primary School, as part of the Spey Foundation’s “Salmon in the Classroom” Project for 2016.* (Photo: Liz Henderson, SCI Project Officer)

Part 5

Publicity

5.1 Media Coverage

Both the Board and the Foundation have continued to receive media coverage throughout 2016. The improvement in salmon catches, particularly those in May and June, brought with them positive press reports, including an article on the benefits that salmon angling on the Spey brings to the local economy. SFB Director, Roger Knight, was also interviewed by Scottish Television at Spey Dam with regard to the water abstraction from the upper Spey (see section 1.8), which was aired on 3rd June 2016. Meanwhile, the Spey Foundation's "Salmon Goes to School" project has continued to remain as popular as ever with the press.

5.2 Opening Ceremony

The SFB coordinated another successful annual Opening Ceremony at Aberlour on 11th February 2016, to celebrate the start of the fishing season. The Board would like to sincerely thank the sponsors for this event, particularly Aberlour Distillery, Walkers Shortbread and Le Petit Gourmand.

5.3 Briefings

Four comprehensive Briefings were published during 2016, 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/spey-fishery-board-publications/

5.4 Website

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

The "Blog" on the Board's website has continued to enable swift publication of regular accounts of the Biologists' work and the research that is being undertaken. It has continued to be well-received and its popularity grows year-on-year. There continues to be the facility whereby visitors to the "Blog" may leave comments or ask questions, but whilst this does not imply that the Board's website is a salmon forum, it has helped to make our work even more transparent.

5.5 Public Meetings

The Board held a Public Meeting at the Fleming Hall in Aberlour on 19th April 2016 to present and discuss its draft response to the Scottish Government's consultation on a draft Wild Fisheries (Scotland) Bill. The meeting was reasonably well-attended and provided a useful opportunity to raise public awareness of the Scottish Government's proposals for significant reform of the Wild Fisheries management structures.

Meanwhile, the Board and the Spey Foundation held their annual local Public Meeting also at the Fleming Hall in Aberlour on 30th November 2016. This was attended by approximately 25 proprietors, ghillies and local anglers. The Board's Director, Roger Knight, presented an update on the Scottish Government's proposals for the reform of wild fisheries management (see section 1.6) and outlined the major issues currently affecting the river, with particular regard to water abstraction (see section 1.9). The Board's Biologist, Brian Shaw, also presented the results of our scientific monitoring throughout the catchment during the year.

Part 7

Financial

SPEY DISTRICT FISHERY BOARD
INCOME AND EXPENDITURE ACCOUNT
FOR THE YEAR ENDED 30 SEPTEMBER 2016

	£	2016 £	£	2015 £
Income				
Fishery assessments		410,578		458,797
Other income and Interest receivable				
Recharges to the Spey Foundation	18,189		23,398	
Spey Catchment Initiative	29,354		27,978	
Other operating income	1,923		4,297	
Interest received	176		284	
Miscellaneous funding	0		1,200	
Inver House allocation	0		20,000	
		49,642		77,157
		460,220		535,954
OVERHEADS				
Personnel Costs		322,642		373,265
Redundancy Costs		0		10,968
Direct Expenses		56,531		51,192
General expenses		44,101		55,427
Financial Costs		2,998		4,424
Spey Catchment Initiative		29,354		27,931
UDN Research Project		0		4,000
General Ongoing Spey Projects		0		801
		455,626		528,008
PROFIT FOR YEAR		**4,594**		**7,946**

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

SPEY DISTRICT FISHERY BOARD
BALANCE SHEET
AS AT 30 SEPTEMBER 2016

	2016	2015
	£	£
FIXED ASSETS		
Tangible assets	40,970	69,516
CURRENT ASSETS		
Debtors	42,597	74,473
Bank - Deposit Account	232,286	213,705
Bank - Current Account	43,310	26,314
	318,193	314,492
CURRENT LIABILITIES	(13,677)	(40,841)
NET CURRENT ASSETS	304,516	273,651
TOTAL ASSETS LESS CURRENT LIABILITIES	345,486	343,167
LIABILITIES DUE AFTER ONE YEAR		
HP Creditor	0	(2,275)
NET ASSETS	345,486	340,892
REPRESENTED BY:		
Capital accounts	38,569	38,569
Current accounts	266,917	262,323
Inver House Designated fund balance	40,000	40,000
Surplus as at 30 September 2016	345,486	340,892

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THE SPEY FOUNDATION
COMPANY LIMITED BY GUARANTEE
COMPANY REGISTRATION NUMBER SC366048
CHARITY NUMBER SC005794
STATEMENT OF FINANCIAL ACTIVITIES (CONTINUED)
FOR THE YEAR ENDED 30 SEPTEMBER 2016

	Unrestricted Funds	Restricted Funds	Total Funds 2016	Total Funds 2015
Incoming Resources				
Voluntary Income	£	£	£	£
Fishspey Bookings	0	0	0	0
Rotary Smolt trap and trailer donated	0	0	0	0
RAFTS - SMI Audit	0	0	0	10,127
Sponsorship	10,000	0	10,000	10,950
	10,000	0	10,000	21,077
Investment Income				
Bank interest receivable	498	0	498	363
Incoming resources from Charitable Activities				
Small contracts	17,469	0	17,469	17,111
Work relating to windfarms	26,023	0	26,023	17,284
	43,492	0	43,492	34,395
Other Incoming resources from Charitable Activities				
Miscellaneous income	2,203	1,500	3,703	1,951
Total Incoming Resources	56,193	1,500	57,693	57,786

	Unrestricted 2016	Restricted 2016	Total Funds 2016	Total Funds 2015
Resources Expended	£	£	£	£
Cost of Generating Funds				
General running	35,379	1,500	36,879	38,467
Spey Research Projects - General	0	2,850	2,850	3,899
Rotary Screw Traps	0	0	0	847
Wind Farms	10,512	0	10,512	9,053
SMI Audit/Initiative	0	0	0	2,408
Pearls in Peril	2,826	0	2,826	0
Schools and Education	313	0	313	1,540
Rotary smolt trap	0	0	0	0
	49,030	4,350	53,380	56,214
Governance Costs				
Accounting fees	2,500	0	2,500	2,400
	2,500	0	2,500	2,400
Total Resources Expended	51,530	4,350	55,880	58,614
Net incoming resources for year	4,663	(2,850)	1,813	(828)

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

THE SPEY FOUNDATION
COMPANY LIMITED BY GUARANTEE
COMPANY REGISTRATION NUMBER SC366048
CHARITY NUMBER SC005794
BALANCE SHEET AS AT 30 SEPTEMBER 2016

	2016	2015
	£	£
FIXED ASSETS		
Tangible assets	8,223	13,860
CURRENT ASSETS		
Debtors	4,321	4,817
Cash at bank and in hand	113,107	80,278
	117,428	85,095
CREDITORS: amounts falling due within one year	(39,524)	(14,641)
NET CURRENT ASSETS	77,904	70,454
TOTAL ASSETS LESS CURRENT LIABILITIES	86,127	84,314
FUNDS		
Restricted income funds	26,160	29,010
Unrestricted income funds	59,967	55,304
TOTAL FUNDS	86,127	84,314

The trustees are satisfied that the charitable company is entitled to exemption from the provisions of the Companies Act 2006 (the Act) relating to the audit of the financial statements for the year by virtue of section 477, and that no member or members have requested an audit pursuant to section 476 of the Act.

The trustees acknowledge their responsibilities for:

(i) ensuring that the charitable company keeps adequate accounting records which comply with section 386 of the Act, and

(ii) preparing financial statements which give a true and fair view of the state of affairs of the charitable company as at the end of the financial year and of its profit or loss for the financial year in accordance with the requirements of section 393, and which otherwise comply with the requirements of the Act relating to financial statements, so far as applicable to the charitable company.

These financial statements have been prepared in accordance with the special provisions for small companies under part 15 of the Companies Act 2006 and with the Financial Reporting Standard for Smaller Entities (effective January 2015).

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***Top Left Cover Photo**:* *Visiting angler Bjorn Sahlqvist with 7 lb salmon* (Photo: Mark Melville Head Ghillie, Delfur Fishings)

Top Centre Cover Photo: *Visiting angler Duncan Fletcher with 15 lb salmon* (Photo: Mark Melville Head Ghillie, Delfur Fishings)

***Top Right Cover Photo**:* *Gordon Castle Ghillie David Buley with 14 lb Salmon* (Photo:David Craig, Scottish Canoe Association)

***Bottom Cover Photo**:* *Gordon Castle Beat 2, September 2016.* (Photo: Roger Knight)