Spey Fishery Board

Annual Report 2019




***Top Left Cover Photo**:* *Visiting lady angler Lisa Lubbock with her first fish, caught at Delfur in 2019, accompanied by Ghillie Davy Macintosh.* (Photo: Mark Melville, Head Ghillie, Delfur Fishings).

Top Centre Cover Photo: *Mark Camacho with a fine 17lb spring salmon, a recaptured fish first caught at Brae Water Beat 2 on the 1st April and caught again at Delfur 12 days later.* (Photo: Mark Melville, Head Ghillie, Delfur Fishings).

Top Right Cover Photo: *Visiting angler David Bowden at Delfur, with three loyal companions.* (Photo: Mark Melville, Head Ghillie, Delfur Fishings).

***Bottom Cover Photo**:* *The River Spey at Delagyle, September 2019.* (Photo: Roger Knight).

www.speyfisheryboard.com

Annual Report 2019

by

Roger Knight
Director

and

Brian Shaw
Biologist

January 2020

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Contents

Spey Fishery Board

Chairman: B***rian Doran,*** Mandatory for Craigellachie Fishings (Until February 2019)
Dr Alexander Scott, Mandatory for Craigellachie Fishings (Since February 2019)

Proprietors: ***William Mountain,*** Delfur Fishings
Oliver Russell, Mandatory for Ballindalloch Trustees
Angus Gordon Lennox, Gordon Castle Fishings & Mandatory for the Brae Water Trust
Peter Millar, Orton Estate (Until February 2019)
Dr. Catherine Wills, Knockando, Phones and Lower Pitchroy
Toby Metcalfe FRICS, Mandatory for Crown Estate Commissioners
Peter Graham FRICS, Mandatory for Rothes & Aikenway, Laggan and Wildland Fishings
David Greer FRICS, Mandatory for Seafield Estates (Since February 2019)
Callum Robertson, Easter Elchies, Upper Arndilly and Mandatory for Macallan and Kincardine (Since February 2019)

Co-optees: ***Grant Mortimer***, Strathspey Angling Improvement Association
Craig Mackay*,* River Spey Anglers Association

Invitees: ***Jennifer Heatley***, Scottish Natural Heritage
Richard Fyfe, Scottish Environment Protection Agency
Alistair Galloway, Scottish Environment Protection Agency

Clerk: ***William Cowie***, R. & R. Urquhart

Spey Fishery Board Members Attendance at Board Meetings

Date	*Brian Doran*	*Dr Alexander Scott*	*Angus Gordon Lennox*	*Peter Graham*	*Dr Catherine Wills*	*Oliver Russell*	*Toby Metcalfe*	*Callum Robertson*	*David Greer*	*William Mountain*	*Craig Mackay*	*Grant Mortimer*
08/02/29	X		X	X	X	X	X			X	X	X
25/03/19		X	X	X		X	X	X	X			X
17/05/19		X	X	X	X	X	X	X	X	X		
16/08/19		X	X	X	X	X	X		X	X		X
22/11/19		X	X	X	X	X	X		X	X	X	

Spey Scientific Committee

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

Members: P***rof. Eric Verspoor***, University of the Highlands & Islands
Dr Ronald Campbell, Tweed Foundation
Dr Alexander Scott, Mandatory for Craigellachie Fishings & SFB Chairman
Steve Brand, Head Ghillie, Ballindalloch Castle (Until June 2019)
Simon Crozier, Ghillie,Castle Grant Fishings
Jon Gibb*,* Lochaber District Salmon Fishery Board (Since July 2019)
Roger Knight, SFB Director
Brian Shaw, SFB Biologist

Spey Fishery Board Staff

Director:	**Roger Knight**
Office Administrator:	**Joanna Walker** (Part-Time and until April 2019) **Miranda Edwards** (Part-Time and since June 2019)
Hatchery Manager:	**Jimmy Woods**
Operations Manager:	**Duncan Ferguson**
Head Bailiff: **Bailiffs:**	**Richard Whyte** **Jason Hysert** **Alistair Grant**
Research:	**Brian Shaw** (Senior Biologist) **Steve Burns** (Assistant Biologist) **Jim Reid** (Assistant Biologist - Seasonal)
Spey Catchment Initiative: **Scottish Invasive Species Initiative:**	**Penny Lawson** (Project Officer) **James Symonds** (Project Officer)
Spey Foundation:	**Michael MacDonald** (Assistant Biologist - Seasonal)

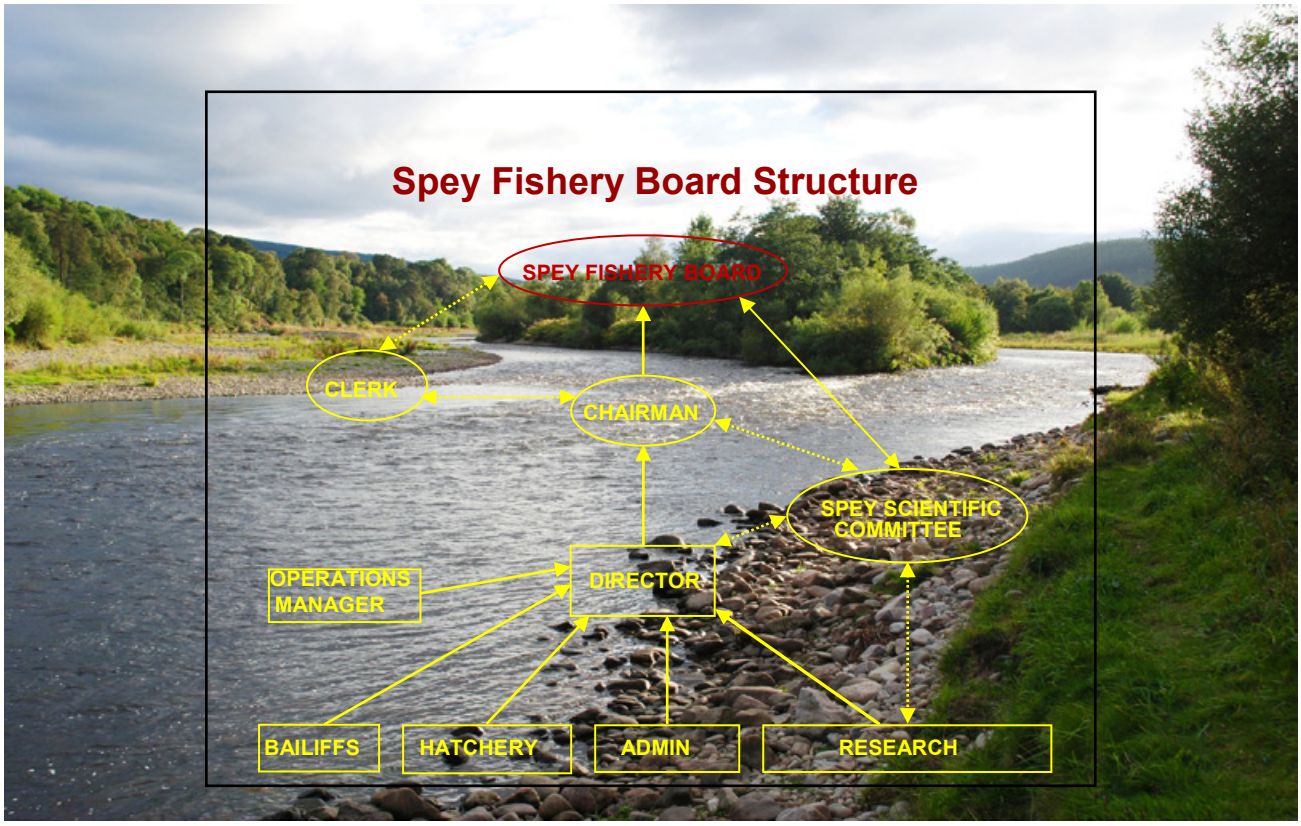


***Figure 1**: The Spey Fishery Board Structure*

A Word from the Chair

"We aim to maximise the number of smolts going to sea."

5,090 Salmon and Grilse were caught by rods in 2019, the second highest catch on rivers in Scotland. Despite our short season, in comparison to others, these figures were a significant improvement on 2018 but they are no cause for complacency. On a positive note, catches were characterised by an increase in large 20lb+ MSW salmon and a moderate grilse run. Because of this we forecast a continuing good run of MSW fish in 2020.

The Board has agreed a Strategic Plan with a Mission to maximise the number of smolts going to sea. In this regard we owe very special thanks to the Board's staff - a very small team who achieve an enormous breadth and depth of activity, of which you can read in this report. I am particularly pleased with the amount of work being done in our spawning tributaries to future-proof the catchment against the effects of global warming and diffuse pollution.

In these challenging times for salmon numbers, there are siren voices who see quick fixes and easy solutions often involving the use of hatcheries. The Board has operated a hatchery for many years. Half a million eggs were harvested in October and are now incubating ready to stock 10 burns, which have obstacles that would inhibit the passage of wild fish. In addition, a further burn will be stocked following a pollution incident. The output of these burns will be closely monitored following a change in Marine Scotland policy, which now permits only the use of eyed ova or unfed fry. Hitherto, we used fed fry and we will study the difference in smolt production for each modality. This work will be linked to a programme of activity with the local schools and communities.

In addition to our staff, I should like to thank all the members of the Board and its sub-committees, who bring huge experience in fisheries management. Their support has been invaluable. I should also like to make mention of my predecessor, Brian Doran, who led the Board for 5 years and navigated through some very turbulent times. Thank you.

A new Ghillies' Committee had its first meetings during the year. It was formed to provide a direct means of communication, discussion and feedback. We have all been struck by the enthusiasm, ideas and suggestions generated at our meetings. The Spey is an iconic salmon river with world class fly water. Our ghillies are on the front line in customer service and technical expertise, enthusing visitors from across the world and ensuring they have a truly memorable time.

As a passionate angler, I do hope that the signs of improvement in migratory salmon runs continue, not just for my own and fellow anglers' sport, but because the lives of so many people on Speyside depend on it.

Sandy Scott

Chairman

Part 1

Statutory Remit of the Spey Fishery Board

1.1 Constitution

The Spey District Salmon Fishery Board (SFB) was established under the 1860s Salmon Fisheries legislation as subsequently amended and stated in the Salmon Act 1986 and the Salmon Conservation (Scotland) Act 2001. This legislation was later streamlined into the Salmon and Freshwater Fisheries (Consolidation) (Scotland) Act 2003, which has subsequently 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's Strategy is outlined in Figure 3.

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. Under section 46D these new duties require 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 2019.

Table 1. Statutory Responsibilities of the Spey Fishery Board

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

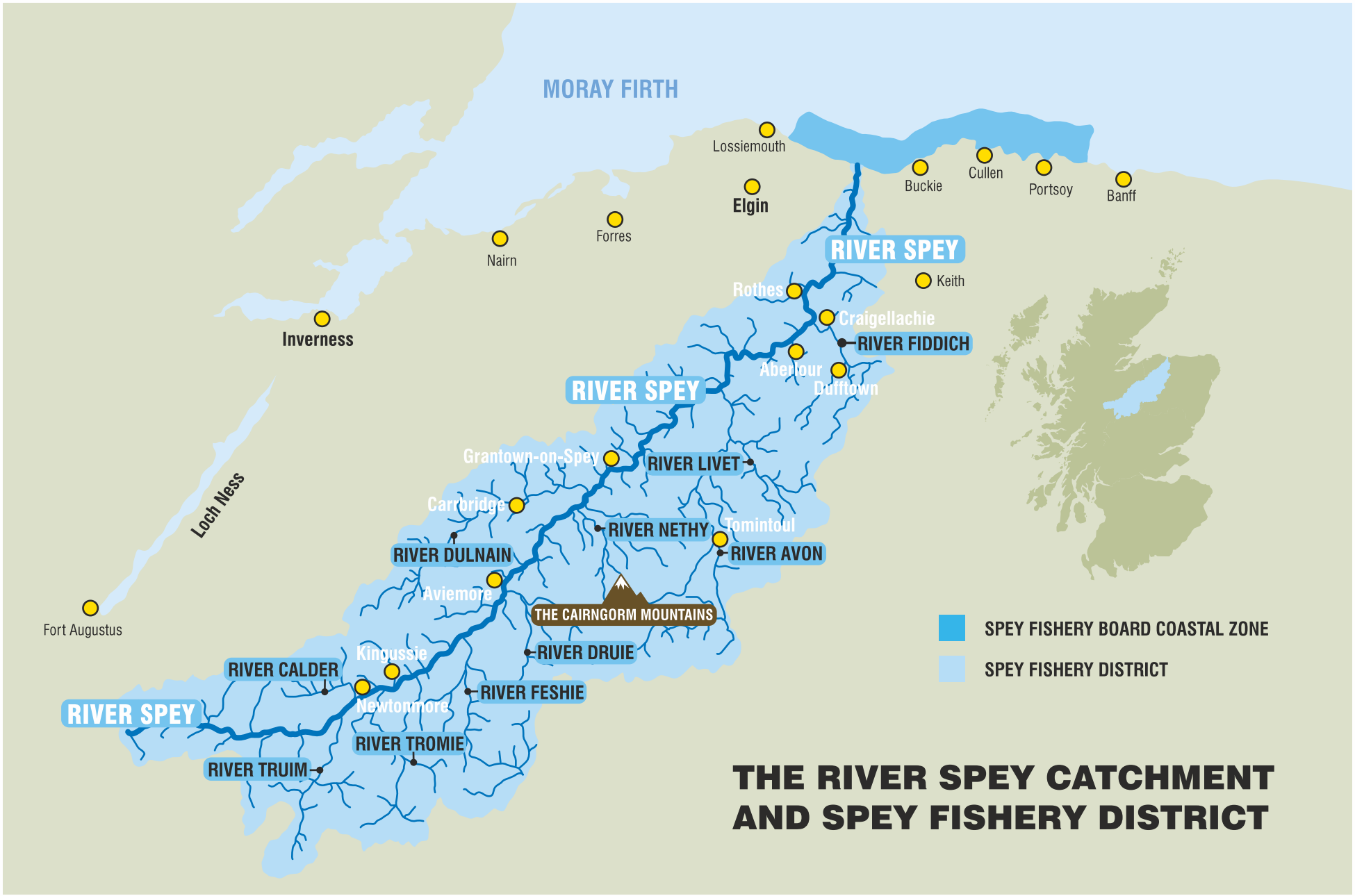


Figure 2: *The River Spey Catchment and Spey Fishery District*

Spey Fishery Board Strategy & Action Plan

The Spey Fishery Board's mission is to maximise the number of smolts reaching the sea.

Conservation

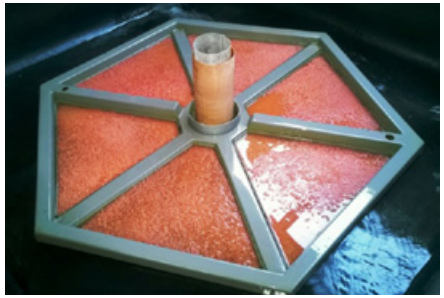
Water Quantity & Quality

We are committed to maximising the quantity & quality of water throughout the Spey catchment and actively oppose attempts to increase water abstraction from it.

Stocking

The SFB continues to stock above man-made barriers and has maximised the capacity of its hatchery. We anticipate a programme of restoration stocking above Spey Dam in due course and continue to seek to give the natural population a helping hand wherever we are allowed to.

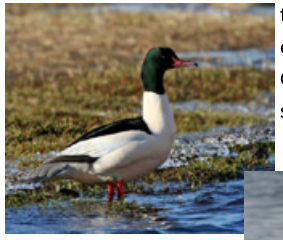
Below: Salmon eggs at the SFB Hatchery at Sandbank, Glenlivet.

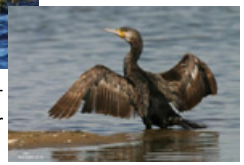


Protection

Predation Control

We are working with the Scottish Government and their advisers to improve the system for reducing the impacts of fish-eating birds, such as Goosanders, Mergansers & Cormorants.





We also manage the impacts of seals in the River Spey and its estuary.

Preventing Illegal Fishing

The Board's Water Bailiffs work tirelessly to protect the River Spey and its tributaries from illegal fishing. They work closely with Police Scotland and also protect our coastline. Often unseen, it is an essential way of protecting our iconic fish.

Below: SFB Water Bailiffs retrieving an illegal gill net at sea.

Enhancement

Barrier Removal & Habitat Restoration

We are committed to opening-up new spawning opportunities by removing or overcoming barriers to fish passage and restoring natural habitat .

Below left: the new fish pass on the Knockando Burn weir.

Above right: opening-up new river habitat by overcoming barriers to fish passage.

Invasive Non-Native Species Control

Many invasive non-native species de-stabilise river banks and reduce fly life if they are not controlled. American Mink and plants such as Giant Hogweed, Japanese Knotweed, Himalayan Balsam, White Butterbur and Ranunculus are identified and removed.

Below: Spraying Giant Hogweed

Promotion of Understanding

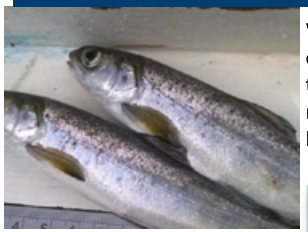
Education

We are working to promote greater understanding of the issues affecting salmon and its value to the local economy. We also aim to develop angling opportunities in order to recruit and retain new anglers.

Lobbying/Influencing

We continue to work with Fisheries Management Scotland to represent our views to the Scottish Government.

Smolt Tracking, Research & Monitoring



We continue to develop our knowledge of the in-river and coastal migration undertaken by Spey smolts.

We also check the health of the river by monitoring the young fish populations. This also highlights areas that need help, provides the scientific evidence we need for the Government's regulators and helps protect the river from harmful developments .

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Figure 3: *The Spey Fishery Board's Strategy and Action Plan.*

1.3 Wild Fisheries Reform (WFR): Progress During 2019

We have previously reported the Scottish Government's change in approach to WFR, the most significant aspect of which was the decision not to pursue the overhaul of the structure and remit of District Salmon Fishery Boards.

During 2019, the Scottish Government's Marine Scotland (MS), in collaboration with Fisheries Management Scotland, has continued to develop a Fishery Management Plan template which will facilitate a consistent approach to be taken by local DSFBs and Trusts across Scotland. It will also inform the development of the National Wild Fisheries Strategy and allow Scottish Ministers to identify, quantify and prioritise action to mitigate effects on damage to wild fish and fisheries in Scotland. To facilitate this, the National Electrofishing Programme Scotland, which assesses juvenile salmonid populations across 27 regions, under contract from MS, continued for its second year in 2019. This has provided vital data for a future juvenile assessment to complement the Scottish Government's existing adult model, as provided by the Conservation Regulations (see section 1.4).

Furthermore, the population of an online mapping-based pressures tool which, along with five other DSFBs/Trusts, the SFB had trialled during 2018, will be rolled-out nationally in 2020 and facilitated through MS funding. This online tool focusses on forty pressures across twelve priority themes that may affect fisheries and will enable individual DSFBs to illustrate the severity and status of each of these pressures across their catchment areas. This, in turn, will provide a national and local picture which will inform future Scottish Government policy thinking.

The twelve pressures include: Exploitation; Predation; Fish Health; Genetic Introgression; Invasive Non-Native Species; Habitat – Water Quality; Habitat – Water Quantity; Habitat – Thermal; Habitat – Instream; Habitat – Riparian; Barriers to Migration; Coastal and Marine. Further details on these twelve pressures and how they will be assessed can be found at:
https://www2.gov.scot/Resource/0054/00542437.pdf

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

2019 was the fourth season in which the Scottish Government Conservation Regulations applied. The basis of the regulations is compliance with modelled egg deposition targets (conservation limits), based on adult catches and factors such as river flows, fish size and age, release rates, wetted areas, fecundity, etc. For the Conservation Regulations rivers 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). In these rivers exploitation is sustainable therefore no additional management action is currently required.

Category 2: Districts which had achieved the conservation limit in three of the previous five years (60 to 80% compliance). For rivers in these categories, management action to reduce exploitation is required.

Category 3: Districts where the conservation limit had been achieved in fewer than three of the previous five years (less than 60% compliance). In these rivers exploitation was considered unsustainable therefore mandatory catch and release was required.

The Spey has been classed as a Category 1 river since the inception of the process and for the 2019 season it was classed at 88.7% compliance, with an average of 85.2% compliance over the previous five years. The River Spey was one of 48 rivers in the top category for 2019 and is one of 36 rivers to remain in Category 1 for 2020.

The major changes for the 2019 assessment were the introduction of river specific egg targets. In the case of the Spey this is now 2.83 eggs/m^2, lower than the previous national default value of 5.45, but higher than many other rivers, including the Tweed. The exploitation rates for the Spey are now based on earlier tagging work, and consequently is higher than the values assigned to many other rivers, including neighbouring. After a period when the system has "evolved" rather rapidly the Government has, quite sensibly, stated that it intends to let the system settle, consequently there will no further changes to the process for two years.

Following criticism that the conservation regulation process was too focussed on angler exploitation the Government have developed a fishery management template which allows local Boards and Trusts to consider the impact of a range of pressures affecting their catchments, as described in section 1.3. It is anticipated that the new national fishery management template should provide a comprehensive overview of factors affecting fisheries which is presently lacking and thereby enable the targeting of effective action at a national level, other than rod exploitation.

Above: A visiting angler at Delfur, *River Spey, in 2019. The River has been awarded Category 1 status under the Scottish Government's classification scheme.*
(Photo: Mark Melville, Head Ghillie, Delfur Fishings).

1.5 Fisheries Management Scotland

Fisheries Management Scotland (FMS) represents Scotland's network of District Salmon Fishery Boards, the River Tweed Commission and Rivers and Fisheries Trusts. FMS maintains a regular dialogue with Government and Agencies to ensure the interests of its members and Scotland's wild freshwater fisheries are represented clearly.

Although still a relatively new organisation, FMS has continued to make sound progress in developing its vision and objectives of being the pre-eminent, representative fisheries management body in Scotland, recognised as such by local fishery management, Governments and other agencies. It achieves this by promoting and ensuring the best fisheries management for the protection, conservation and development of Scotland's wild salmon and freshwater fish, along with their fisheries and environment. FMS also provides value to and represents the interests of its member organisations by enabling and supporting local fisheries management. It also works to ensure that its members are recognised by all relevant stakeholders as the foremost, professional and positive influence on all matters relating to the evidence-based management of fish and fisheries.

The SFB's former Chairman, Brian Doran, has remained a member of the FMS Board throughout 2019.

1.6 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.

We have reported previously that, significantly, SEPA re-classified Spey Dam at the end of 2015 as a barrier to fish passage, with a consequential down-grading of the water bodies above the Dam to "poor" status. Spey Dam is covered in more detail in section 1.8 of this Report. This re-classification of Spey Dam has remained throughout 2019. The SFB will continue to work closely with SEPA throughout 2020 on the implementation of the WFD.

1.7 Water Abstraction Update

1.7.1 GFG Alliance: Spey Dam

One of the greatest threats to the River Spey and its fish is that of increased water abstraction. The SFB remains concerned by the significantly high levels of water abstraction, particularly in the upper catchment by Liberty House Group and Simec as part of the Gupta Family Group (GFG) Alliance. They are licensed to divert substantial volumes of water from Spey Dam, some twelve miles from the source of the Spey, to Fort William.

Above: *Spey Dam near Laggan, which is operated by the Gupta Family Group (GFG) Alliance, May 2019.* (Photo: Roger Knight)

The impact of the abstraction and its associated infrastructure on the upper Spey salmon population is severe; in recent years the Board's electrofishing monitoring above the dam has found either no salmon fry present, or very low densities of salmon fry present at any of the ten sites visited. This was subsequently and independently verified by SEPA and in 2015 led to the designation of Spey Dam by SEPA as a barrier to fish passage.

The Board's monitoring during 2019 continued to show 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.

For many years the Board has remained concerned about the efficacy of the fish pass at Spey Dam and has also maintained 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 concerned 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, and continues to seek to better understand the movement of smolts from the upper Spey through the reservoir. A number of fish tagging projects have previously been proposed to facilitate the latter, but the resources required to implement them have been engaged elsewhere in Scotland on other tagging projects. We will continue to promote this during 2020.

Senior representatives of the SFB, together with SEPA, have continued to hold regular meetings with representatives of GFG as part of a Spey Dam Working Group, in order to raise awareness of our concerns, which have seen a much more positive relationship develop with the new owners than previously existed. They also led to GFG commissioning a technical assessment of the fish pass at Spey Dam, which went out to international tender in late 2018. In 2019 this technical assessment was awarded to international consultants, Multiconsult, who visited the Dam in September 2019 to undertake their review.

Multiconsult issued a draft report in November 2019, which concluded that, "The overall fish pass arrangement is to a high degree within acceptable tolerances for salmonids, for which the requirements of the current published guidelines are satisfied." It did, however, make a number of recommendations for investigation and improvement, which were subsequently discussed and prioritised by the Working Group. The SFB has also challenged the conclusion of the draft report, as it is concerned that factors such as the gradient of the fish pass may not have been adequately considered. The Board now awaits a response with regard to its concerns.

The SFB has also continued to press the Scottish Environment Protection Agency (SEPA), as the regulator of water quality and quantity, to address the Board's concerns. SEPA's designation of Spey Dam as a barrier to fish passage ensured its re-classification to "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 1.6). Significant remedial action will need to be taken in order for this area to achieve the requirements of the WFD by 2027. The SFB will continue to work with SEPA and GFG throughout 2020 to ensure these are achieved and the issues regarding Spey Dam may be satisfactorily resolved.

1.7.2 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 CAR (Controlled Activities Regulations) Licence Scheme. Water from Loch An-t Seilich (River Tromie), from Loch Cuaich (also impounded by SSE), from the off-take above Dalwhinnnie at the top of the Truim and from the Allt An't Sluie (another tributary of the Truim) is diverted to Loch Ericht, before being channelled to Loch Rannoch and on to Loch Tummel. In so doing, it passes through seven power-generating stations at Cuaich, Rannoch, Gaur, Tummel, Errochty, Clunie and Pitlochry, before being disharged into the Tay system.

SSE had previously proposed to re-water the River Garry (in the Tay catchment) under the WFD and to take additional water from the Tromie and the Truim to make up for a minor drop in renewable energy that would come from re-watering the River Garry (because the water used would only go through three power-generating stations, rather than seven). These proposals were withdrawn in October 2014 after eight years of staunch objection from the SFB. In January 2017, SSE began re-watering the upper River Garry without taking any additional water from the Spey catchment.

Despite the SFB's objections to some of SSE's proposals, there had been positive proposals 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 (see photo on back cover), thereby denying access to it by migratory fish. The restoration of a flow down the lower Allt Bhran provides a significant river restoration opportunity and the SFB will continue to pursue this in 2020 .

However, the restoration of a flow down the lower section of the Allt Bhran provides a significant river restoration opportunity and the SFB, together with Wildland (the company which owns the estate on which Tromie Dam is located) met with representatives of SSE in July 2019 to discuss this. The Board will continue to pursue this in 2020.

Above: *The impoundment on the Allt Bhran, from which the whole flow of this tributary of the River Tromie is diverted in to Loch An-t Seilich, thereby denying access to it by migratory fish. The restoration of a flow down the lower section of the Allt Bhran provides a significant river restoration opportunity which the SFB is keen to continue to pursue in 2020.* (Photo: Roger Knight).

1.7.3 Scottish Water: Revised Water Abstraction Proposals

Scottish Water contacted the SFB in late March 2019 with regard to proposals they had to increase abstraction from the Kinakyle Boreholes near Aviemore Water Treatment Works. It was the original borehole proposals in 2007, alongside proposals to divert more water from the Tromie and Truim as part of plans to re-water the River Garry, which led the Spey Board to engage Envirocentre to report on water abstractions throughout the Spey Catchment.

The latest proposals follow forecasts of planned growth and development around the Aviemore area to 2042, which will see long-term demand for raw water supplies increase significantly. Accordingly, Scottish Water proposed to increase abstraction at Kinakyle by almost 30%, from 7,700m^3 per day to 9,943m^3 per day.

The SFB was contacted again by Scottish Water in early April 2019. This time it was regarding proposals to vary their Controlled Activities Regulations (CAR) Licence to abstract drinking water supplies (27 million litres per day) at the Dipple Wellfield at Ordiequish, near Fochabers. This followed difficulties they had experienced during 2018, when low flows in the River Spey presented problems in obtaining the required volumes of water from the boreholes there and required direct

abstraction from the River Spey. The new proposals continued that line, by adding a permanent river abstraction from a chamber created during the summer of 2018, although the proposals did not increase the overall volume of abstraction; it was a change to the method of abstraction, rather than the volumes, that was being proposed.

SEPA convened a meeting in early June to discuss all of the above, which was attended by Scottish Water, Scottish Natural Heritage and the SFB. The SFB also issued a strong objection to the proposals, which recognised that Scottish Water needs to supply adequate water supplies for human consumption, but called upon SEPA to manage water abstractions holistically. The objection explained that the River Spey was a finite resource,which currently lost 20% of its mean annual flow through water abstraction and it called upon SEPA to take into account the cumulative impact of abstractions throughout the catchment. It suggested that if more water was to be abstracted for drinking water supplies, a corresponding amount should be released from the impoundments around the catchment, from which huge volumes of water are diverted for hydro-electric generation.

The SFB also decided, at its Board Meeting in May 2019, to commission Envirocentre to re-visit and update its 2008 Report on Water Abstractions throughout the Spey catchment. This was agreed in light of the new proposals from Scottish Water and the significant increase in water abstractions throughout the catchment, particularly from distilleries, since the previous Report was published.

A subsequent meeting regarding the Dipple Wellfield proposals was held on-site in early September. This meeting was also attended by representatives of Gordon Castle, as the managers of the Brae Water Fishings and the SFB were able to reiterate the concerns outlined within its formal objection.

At this subsequent meeting, SEPA reiterated the need for Scottish Water to invest in the maintenance of the existing boreholes, which had been neglected for many years, so that they could be improved to ensure they were robust and emphasized that Scottish Water should only utilise the river abstractions once they (SEPA) had been convinced that every other possible option had been considered.

1.8 Angling, Canoeing and Access

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

To aid the resolution of any issues, core representatives of the Spey Users' Group (SUG), including the SFB, Scottish Canoe Association and Access Officers from the three Local Authorities, meet each year. This Group had developed a code of Guidance for Paddlers and Anglers, which has been successfully implemented since 2008 to promote harmony between the two river user groups. Principle concerns remain, however, 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. There are also developing concerns regarding the increase in irresponsible "wild" camping and some groups of river users who appear to be unsighted on the Guidance that has been developed.

Part 2

Fisheries and Conservation

2.1 Salmon and Grilse Catches

2019 was a significantly better season for anglers on the River Spey than the previous year. The declared rod catch amounted to **5,090** Salmon and Grilse caught, which is a **60% increase** on the 3,178 caught the previous year (Figure 5). 2019 was also a much wetter year then 2018, with regular rainfall supplanting the lack of snow melt in the spring and sustaining water levels throughout the summer as well.

A relatively slow start to the season produced an early spring catch (between 11th February and 30th April) of 464 fish, which was a 24% increase on the 373 caught for the same period in 2018. 620 fish were caught in May (more than double the 285 fish in May 2018) and 1,046 in June (a 133% increase on the 448 in June 2018). This brought the catch for February – June to a total of 2,130, which was over 1,000 fish more than the 1,106 caught during the same period in 2018.

A further 949 salmon & grilse were caught in July, almost three times the 340 caught in July 2018 and catches rose again in August to 1,173, which was just over double the 584 caught in August 2018. Catches dropped back to 838 in September, which was lower than the 1,148 caught during the same month last year, although the rainfall in September 2018 had been the first meaningful precipitation since April of that year and this was reflected in the catch (Figure 6).

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 David Lubbock with one of the 5,090 salmon & grilse caught on the River Spey during the season. This fish has been tagged to so that it can be identified if it is subsequently re-captured - see section 4.4.* (Photo: Mrs Lisa Lubbock)

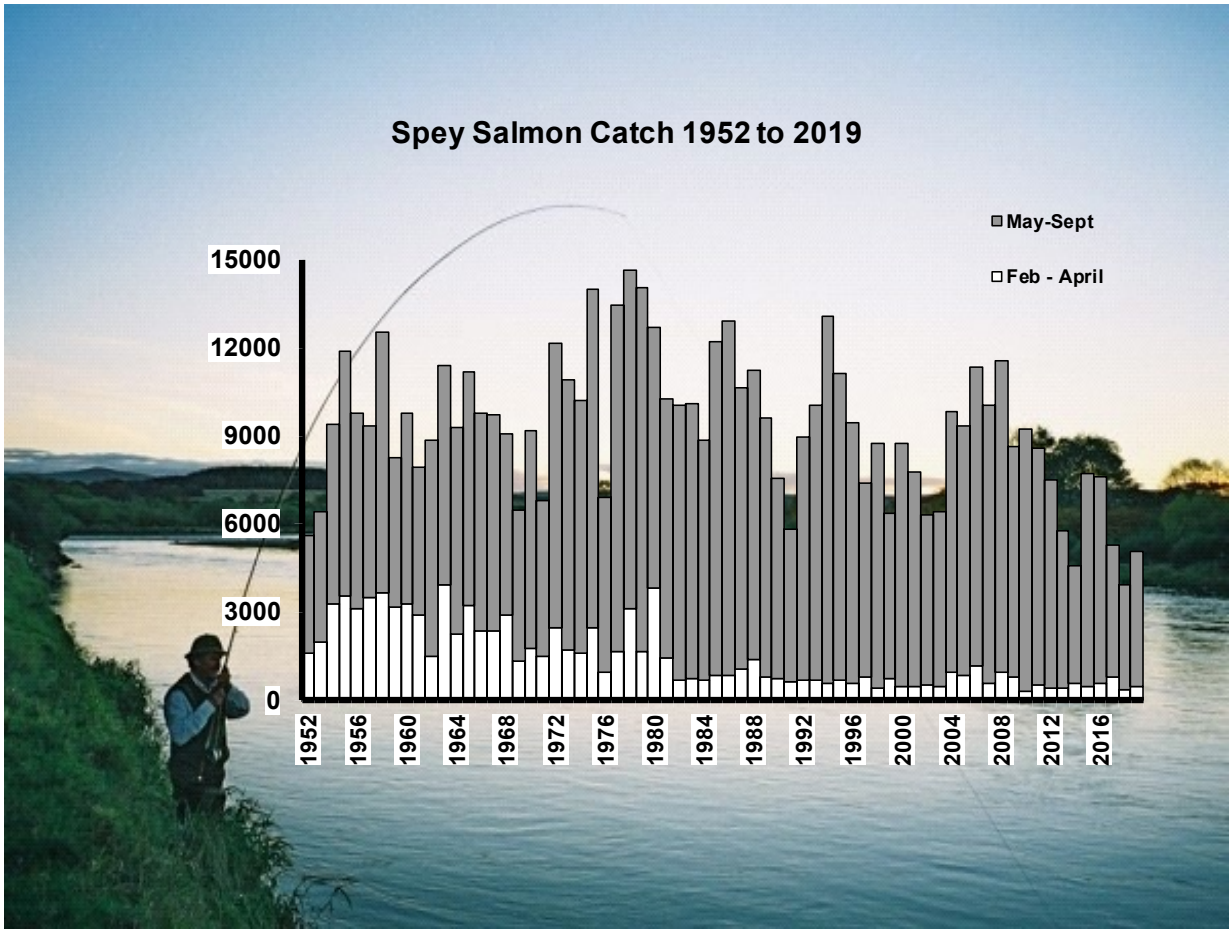


Figure 5: *Annual declared rod catch of wild Salmon and Grilse from the River Spey, 1952-2019. The 2002-2019 catches are from returns made to the SFB by proprietors.*

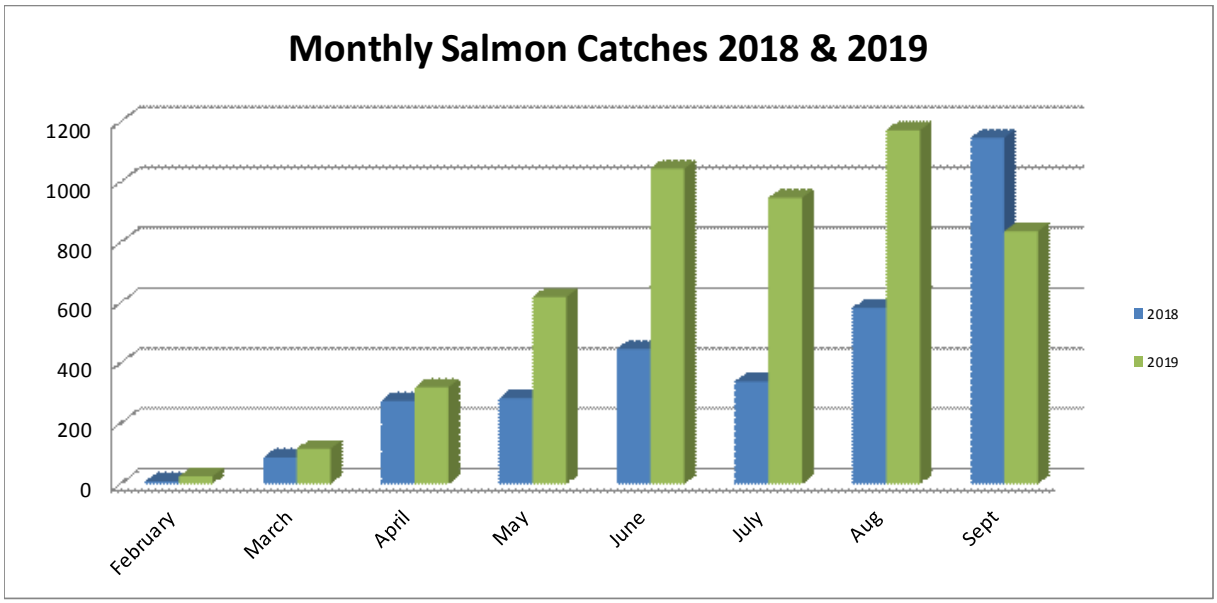


Figure 6: *Declared monthly rod catch of wild Salmon and Grilse from the River Spey in 2018 and 2019, calculated from returns made to the SFB.*

2.2 Sea Trout Catches

The 2019 declared rod catch for Sea Trout was **1,623,** (Figure 7), which was a slightly lower than the 1,830 caught in 2018. In contrast to many previous years (with the exception of 2014), monthly catches during 2019 showed that July was the most prolific month for Sea Trout. Previously, June has been the most prolific month for Sea Trout catches on the Spey. 602 Sea Trout were caught in July 2019, which accounted for 37% of the annual catch. June was the second highest month for Sea Trout catches on the Spey, with 449 caught (28%). Overall therefore, over half (65%) of Sea Trout caught were recorded in these two months.

Above: *A total of 1,623 Sea Trout were caught on the River Spey during 2019.*
(Photo: Mark Melville, Head Ghillie, Delfur Fishings)

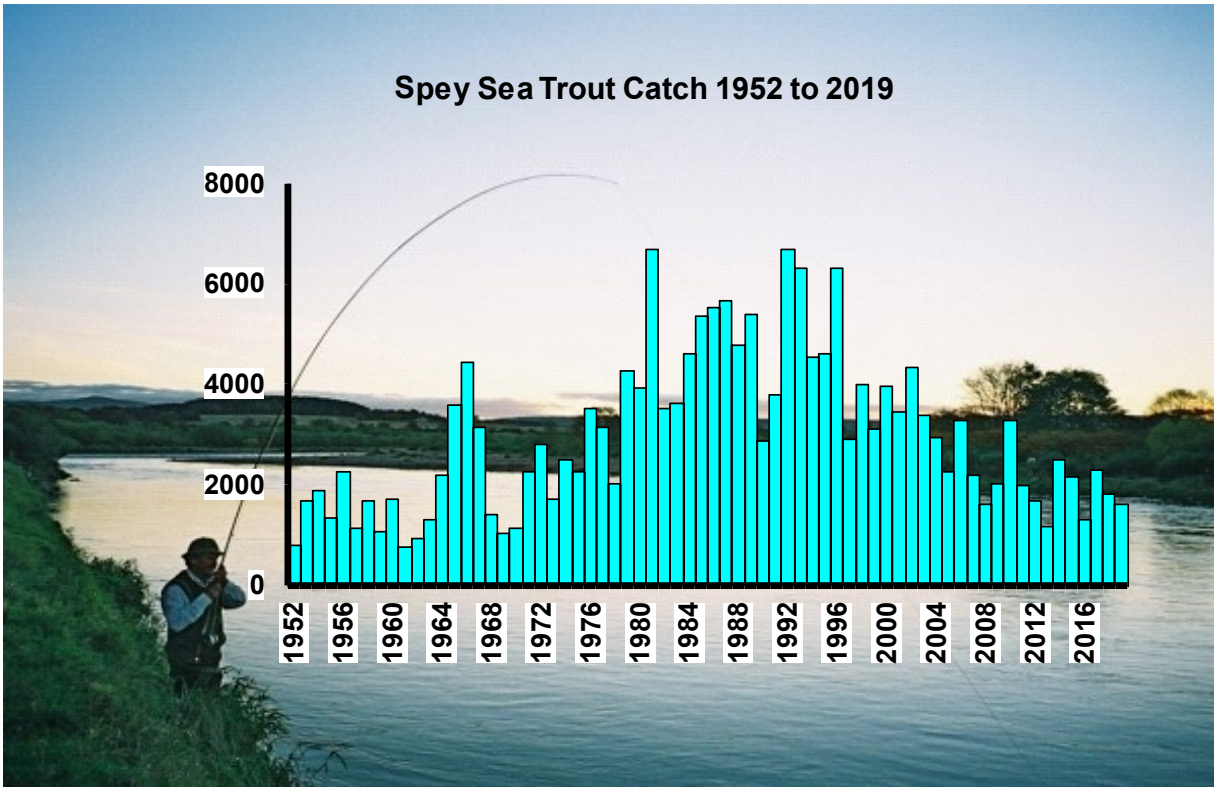


Figure 7. *Annual declared rod catch of Sea Trout from the River Spey, 1952-2019. The 2002-2019 catches are from returns made to the SFB.*

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 that 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. Furthermore, a high proportion of these fish are female, and therefore contribute an important part to the river's spawning stock. Studies by the former Spey Research Trust (the fore-runner to the Spey Foundation) have also shown that these fish are particularly vulnerable to capture and re-capture having been released.

Throughout the 2019 season on the River Spey, **98%** of salmon and grilse caught were once again 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, **4,975** Salmon and Grilse were released to spawn in 2019. 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 conservation, protection and enhancement. Catch statistics show that the Spey Sea Trout rod fishery has historically been one of the largest in Scotland, although catches have declined in recent years and the SFB has maintained a precautionary approach.

2019 saw the rate of catch and release for Sea Trout amount to **86%,** just 2% down from the 88% released in 2018 (see Figure 9).

When it reviewed the Conservation Policy during 2019, the Board decided that in line with its precautionary approach, the voluntary policy overall was working well and should remain unchanged for 2020. The Conservation Policy for 2020 is illustrated in Figure 10 and the SFB will continue to monitor the situation throughout the forthcoming year.

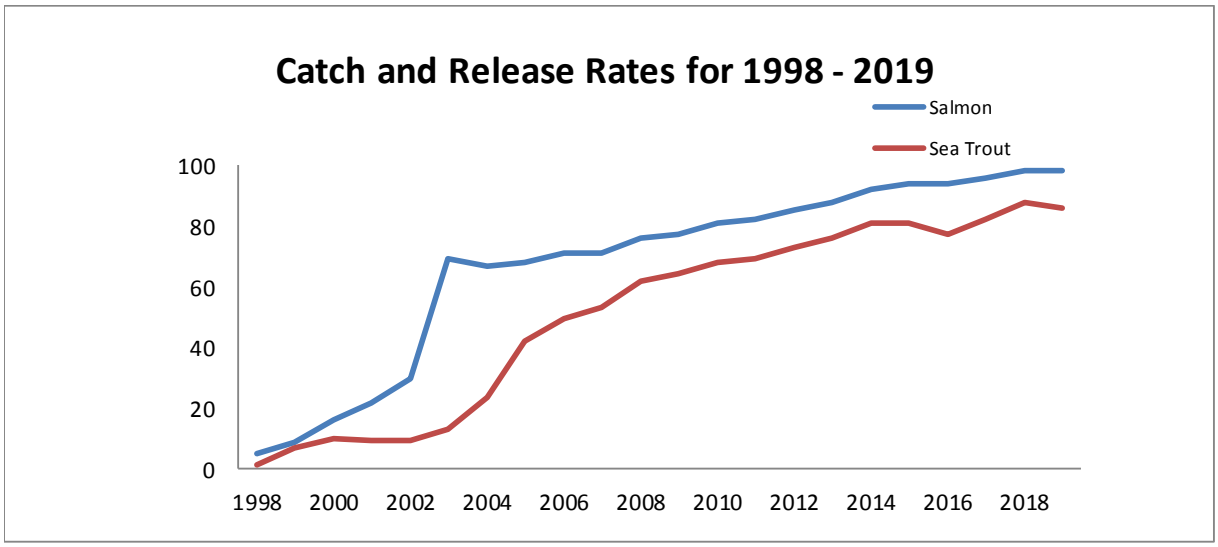


Figure 8: *Catch and Release Rates for the River Spey 1998-2019.*

Spey Conservation Policy 2020

SPEY FISHERY BOARD RESEARCH OFFICE
TEL: 01340 810841 E-MAIL: research@speyfisheryboard.com WEB: www.speyfisheryboard.com

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 2020.* ***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 2019, 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 above.

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 obstacle removal, as well as riverside amenity works to improve access and enjoyment of the River Spey for local communities.

A new River Spey Catchment Management Plan was published in 2016, replacing the original plan which dated back to 2003. The 2016 Plan sets out a broad strategic framework for the wise and sustainable use of the water resource for the following five years, as well as 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 new Plan, together with a comprehensive Business Plan, was successfully used to extend the SCI for a further five years and to stimulate funding. In 2019 the Spey Catchment Initiative also developed its own website, rather than appearing as a page on the SFB's website,as it had before. This can be found at:

https://www.speycatchment.org/

3.1.1 Tomintoul & Glenlivet Landscape Partnership (TGLP)

Back in 2017 the Heritage Lottery Fund approved £3.6 million of grants towards a multi-faceted regeneration project in the Tomintoul and Glenlivet area. This included £420,000-worth of activities associated with improving the water environment, which had been developed by the SCI Project

Officer. 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.

Work on these projects continued in 2019, with particular emphasis on the third project area - flood resilience-building measures for the River Avon. Braided sections of the upper Avon had been blocked by sediment as a result of Storm Frank in December 2015, which had forced all of the water flow down a single channel and caused significant damage to the river bank at Fordmouth Farm. Under the oversight of the SFB's Operations Manager, Duncan Ferguson, these braided channels were re-opened and an engineered log jam was created along the damaged section, reinforced by the sediment which had been removed from the previously-blocked braided sections of the river above it. This has also afforded protection to this area from the prospect of further damage in future.

Above: *The engineered log-jam under construction at Fordmouth Farm on the River Avon to repair the damage caused by Storm Frank in December 2015. The project was undertaken by the Spey Catchment Initiative, on behalf of TGLP.* (Photos: Penny Lawson, SCI Project Officer)

Above Left: *Once in situ, the engineered log-jam was secured in place with ratchet-straps and steel cables.*

Above Right: *The completed engineered log-jam. Sediment, which was removed from the blocked braided channels upstream of this section, was placed on top of the logs to complete the construction and ensure it would be resilient against future damage.*

(Photos: Penny Lawson, SCI Project Officer).

3.1.2 Riparian Enhancement at Glen Truim

During 2019 the SCI has worked to develop a project to replace degraded and porous fencing along the River Truim between Crubenmore and Cuaich, alongside the A9. This will be followed by the planting of willow, alder, broom and juniper to stabilise the river banks, enhance fish habitat and provide shading to control water temperatures.

Riparian woodland can also help to reduce the impact of climate change on rivers by intercepting rainfall and holding it in the catchment for longer, reducing the severity of the highest and lowest flows.

The SCI secured funding for riparian woodland creation from the Cairngorms National Park Authority and this has been enhanced by additional financial assistance and support from Phones Estate and Crubenmore Estate.

The SCI, supported by the SFB and estate workers, removed the degraded fencing in late 2019. The replacement fencing will be installed in early 2020 and the tree-planting will follow in the spring.

The SCI is grateful to the SFB, the CNPA and Phones and Crubenmore Estates for their enthusiastic support and generous financial contributions to this project.

Above: D*uring 2019 the SCI has developed a riparian enhancement project in Glen Truim. This involves the replacement of porous and degraded fencing along the River Truim, close to the A9, and the planting of trees to stabilise the river banks, enhance fish habitat and provide shading to control water temperatures.* (Photo: Penny Lawson, SCI Project Officer).

3.1.3 River Calder: Glenbanchor and Cluny

Throughout 2019 the SCI has also developed plans for a project to restore fish habitat over a 1.55 Km section of the upper River Calder, involving Glenbanchor and Cluny Estates.

Spey Fishery Board electro-fishing data has indicated that compared to other similar tributaries in the upper catchment, the Calder is under-performing in terms of its productivity for salmon and trout. It is suspected that this is partially due to the relative uniformity of channel geomorphology, linked to the sparsity of riparian woodland and, consequently, lack of woody debris in the main stem river.

The SFB, on behalf of the SCI, secured funding from SEPA towards this project in March 2019, which will see woody debris placed within the river to slow the flow of this highly mobile river, enable sediment deposition around the woody debris and enhance the habitat for juvenile fish. It will also promote natural flood management in this river. Extensive tree planting is also planned, linked to estate forestry plans and protected by deer fencing along both banks.

The SCI is grateful to SEPA for the funding it has provided towards enabling this project, which is expected to begin in 2020 and has the potential for landscape-scale improvements and real climate change adaptation in this relatively un-wooded upland glen.

Above: *Part of the 1.55 Km project site on the upper River Calder where woody debris will be placed, followed by riparian tree planting.* (Photo: Roger Knight)

Left: *woody debris such as this slows the flow, enables sediment deposition and enhances the habitat for juvenile fish.* (Photo: River Dee Trust).

3.1.4 Slugain Burn, Dalnahaitnach, River Dulnain

Throughout 2019 the SCI has also been developing plans to restore the Slugain Burn, which is a tributary of the River Dulnain at Dalnahaitnach. This burn was artificially straightened many years ago and caused significant damage during a major spate in the summer of 2019, breaking its banks, filling its former lower course with sediment and damaging a road.

The SCI Project Officer, Penny Lawson, and the SFB's Operations Manager, Duncan Ferguson, have been liaising with the land owner, Seafield Estates, as well as SEPA, the Highland Council and the Cairngorms National Park Authority (CNPA) over plans to potentially re-route the burn down its original, historical course. They have also been working closely with the CNPA to secure funding for project implementation. This has the potential to be the biggest project the SCI has yet undertaken and has the potential to create approximately 1.5 kilometres of additional habitat for fish and other species. It would also provide additional benefits from natural flood management benefits and the SCI, together with the SFB, will continue to develop this important project during 2020.

Above: *The Slugain Burn, a tributary of the River Dulnain at Dalnahaitnach. This burn caused significant damage during a major spate in the summer of 2019, breaking its banks, filling its former lower course with sediment and damaging a road.* (Photos: Penny Lawson, SCI Project Officer).

3.1.6 Riparian Enhancement at Kinchurdy

We reported last year that almost 2Km of riparian habitat at Kinchurdy, near Aviemore, had been improved during 2018. The river banks had been poached by livestock, causing them to collapse into the river and generate a diffuse pollution problem.

The SCI, with financial support from LEADER via the Cairngorms National Park Authority, match-funded by Seafield Estates, had fenced-off the river banks and planted trees to stabilise the banks and improve the habitat for fish and other wildlife species. This project was extended during 2019 by a further 2.5 Km., with the final tree planting completed in November. This has been another prime example of successful public/private partnership in action and has resulted in a significant diffuse pollution problem being overcome.

Above: "Before and After" photos of the SCI's r*iparian enhancement at Kinchurdy, near Aviemore. Livestock had poached the riverbanks, causing them to collapse into the river and generate a diffuse pollution problem. By fencing-off the area and planting trees to stabilise the river banks, the habitat has been improved and a significant diffuse pollution problem has been resolved.*
(Photos: Penny Lawson, SCI Project Officer)

3.2 Dufftown Distillery Upper Weir

We reported last year that the SFB had worked closely with Diageo to replace the fish pass at the upper weir at the Dufftown Distillery near Dufftown. The previous fish pass had been installed as part of the CASS Life Project in 2006, alongside another one a little lower down-stream. The upper pass, however, had not proved to be successful and it was decided to replace it. This was completed in 2019 and should now provide a more effective solution for migratory fish passage. The Board is grateful to Diageo for their support for this project, and to SEPA for their assistance.

Above: The completed *fish pass at Dullan Water, Dufftown.* (Photo: Brian Shaw).

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 convened a Stocking Sub-Group to review the Board's stocking policy annually and make recommendations, initially to the Spey Scientific Committee, and then to the Board. In 2019, the new Board asked the Spey Scientific Committee to assume responsibility for recommendations with regard to stocking.

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 a low ebb back to previous abundance.
- **Enhancement:** where 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 throughout the catchment. The Board considers that there may be further opportunities for mitigation or restoration 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 650m (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 Fishery Board, with advice from the Spey Scientific Committee, has to consider its stocking policy and requirement for each year. To enable this, another comprehensive programme of electro-fishing was undertaken by the Board during 2019 (see section 4), initially to monitor its stocking in 2018 and to confirm the stocking locations for 2019 (see Table 2).

In late December 2018, the Board became aware, through Marine Scotland, of the Scottish Government's developing thinking on stocking. This was part of a five-year plan it would be submitting to the North Atlantic Salmon Conservation Organisation (NASCO). Within this, there was a commitment to review the Scottish Government's position on stocking and to establish a policy before the start of the 2020 season.

The SFB requested a meeting with the Scottish Government to clarify this and establish what impact this might have on the Board's own stocking policy and practice. Accordingly, representatives of the Spey Board met with representatives of Marine Scotland (Policy), Marine Scotland Science and Scottish Natural Heritage in early May 2019 to discuss the draft Scottish Government Stocking Policy which was about to be submitted to Ministers for approval. This policy sets out a series of principles which the Scottish Government will use to govern its assessment of stocking applications. The SFB suggested that this draft policy should go out to public consultation prior to submission to Ministers, but the policy was subsequently approved without this. It can be found at the following web link:

https://www2.gov.scot/Topics/marine/Licensing/fishintros/introduction/SalmonStockingPolicy

The Marine Scotland Wild Atlantic Salmon Stocking Policy adopts a presumption in favour of Mitigation Stocking, a neutral presumption in respect of introductions for restoration and/or scientific research and a presumption against all other forms of stocking. Significantly, the policy only permits the stocking of ova and/or unfed fry, rather than the fed fry that had hitherto been stocked by the SFB. The Scottish Government did, however, concede that if the Board's stocking plans were to follow those of previous years, it could submit its application earlier in the year than before and using the previous year's electro-fishing data, rather than waiting for the latest electro-fishing data to be compiled. Marine Scotland also confirmed that the Scottish Government aspired to take full control of the regulatory process for stocking activities, rather than the system of split responsibility that currently existed, currently the Scottish Government licence the broodstock capture, with the subsequent stocking authorised by the District Salmon Fishery Board.

The Spey Scientific Committee convened in late May 2019 to consider, inter alia, the impact of the new Scottish Government Stocking Policy on the Board's stocking policy and practice, and to agree its recommendations to the Board for stocking in

2020. The Committee subsequently decided to recommend the maintenance of a policy of mitigation stocking above man-made barriers, as previously practised by the Board.

The Committee also endorsed the earlier recommendations for the 2019 stocking programme, which were completed in September 2019 (Table 2).

In June 2019, the Board submitted a comprehensive application to the Scottish Government's Marine Scotland Science (MSS) for a licence to catch 196 fish from the River and its tributaries and to hold them as broodstock outside the Salmon net fishing season. The licence application was submitted to MSS, who in turn consult Scottish Natural Heritage (SNH).

The River Spey's status as a Special Area of Conservation (SAC) for Atlantic salmon requires the Board, as the Competent Authority for the stocking of juvenile salmon into the River Spey catchment, to complete a Habitats Regulations Appraisal (HRA), and subsequently an Appropriate Assessment, to determine whether such stocking of juvenile fish would adversely impact upon the integrity of the River Spey's SAC Status. The Board consulted local representatives of SNH over the completion of this HRA and Appropriate Assessment and are grateful for the advice received.

The Board's application was successful and it was granted a licence from the Scottish Government for the collection of 196 broodstock fish, which began in early October. The numbers of eggs subsequently laid down in Sandbank Hatchery are detailed in Table 3.

For several years the Board has also been conducting stocking of the Tommore Burn at Ballindalloch, with assistance from Ghillies and local volunteers. Stocking of this Burn has been carefully monitored and the results of this are reported separately in section 4. The Board is grateful to all who took part in this, and particularly to Ballindalloch Castle's Head Ghillie, Steve Brand, for coordinating this. This has 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.

			Stocking 2019		
	Site details		No. 0+ parr required		
Burn	Area (M^2)	Quality		Hatchery Source	Stocking Density
Burn of Brown	19,700	Good	36,000	Avon	1.8
Tommore Burn	8,800	Good	25,000	Avon	2.8
Knocknashalg Burn	8,500	Good	25,000	Avon	2.9
Corrie Burn/Dullan Water	46,000	Good	50,000	Fiddich & Dullan	1.1
Rothes Burn	10,000	Good	20,000	Lower Spey	2.0
Back Burn	17,500	Moderate	15,000	Lower Spey	0.9
Broad Burn	7,900	Good	15,000	Lower Spey	1.9
Knockando Burn	25,000	Good	35,000	Middle Spey	1.4
Batten Burn	8,750	Good	30,000	Dulnain	3.4
Total			251,000		

Table 2: Spey Fishery Board Stocking Numbers, Locations and Densities for 2019. All fish stocked as 0+ parr in September.

Above: *the SFB's Sandbank Hatchery in Glenlivet, August 2019.* (Photo: Roger Knight).

Table 3: Eggs laid down in Sandbank hatchery for stocking in 2020

Source	Number Females	Eggs laid down in hatchery
Avon	20	100,030
Fiddich	5	27,135
Lower Spey	13	67,370
Middle Spey	46	271,965
Upper Spey	10	56,290
Total	**94**	**522,790**

3.4 Pollution Incidents

There was one significant pollution incident during 2019, following an accidental discharge into the Aberlour Burn in late August. The Scottish Environment Protection Agency alerted the Board to this and the Board electro-fished the Burn to establish the extent of the damage, which had caused an extensive fish kill affecting three year-classes of juvenile fish. The Board subsequently provided statements to the regulator so that appropriate action could be taken. The Board has subsequently entered into discussions with the perpetrator with regard to a programme of measures to mitigate this damage.

3.5 Control of Invasive Non-Native Species: The Scottish Invasive Species Initiative (SISI)

The Scottish Invasive Species Initiative (SISI) aims to tackle Invasive Non-Native Species (INNS) directly through contractor control and dedicated staff, as well as working with **local organisations** and **volunteers** to provide a long-term control solution for some of the most problematic INNS present in the region.

Now two years in to the project, SISI continues to make impressive progress in the management of INNS along the Spey.

3.5.1 Giant Hogweed

Giant hogweed (*Heracleum mantegazzianum*) was introduced into gardens as an ornamental plant in the 1800's and has spread throughout our river systems, creating huge stands in the lower river. These plants out-compete native flora and have a devastating effect on the biodiversity of the areas they colonise. It also presents a significant risk to human health, as the plant produces a phytotoxic sap which, when it comes in to contact with the skin, can cause severe blisters that can reoccur for many years when exposed to sunlight.

The main source of the plants on the River Spey is the Mulben Burn, which enters the Spey at Boat O'Brig and although there are one or two isolated, and controlled, stands further upstream, the majority of plants are present from Orton downstream.

2019 saw a further increase in the work done the previous year, with plants again being treated on Orton and the Brae water by contractors, but with the ghillies undertaking a lot of work too. A huge volunteer and contractor effort on the Castle and Fochabers Association waters saw areas never treated before getting considerable attention. The tide is starting to turn in our battle to remove this species from the banks, but there is still a lot of work to be done. Any, and all, help is appreciated.

Above left: *A residential volunteer from Germany cuts down a flowering Giant Hogweed.*
Above right: *Volunteers and SWT staff prepare for stem injecting Japanese Knotweed on the Spey Bay reserve. Not as tedious as it might sound and very, very effective.*
(Photos: James Symonds).

3.5.2 Japanese Knotweed

Japanese knotweed *(Fallopia japonica)* is present along the Spey as far up as Ballindalloch, but it is not until the Fiddich joins the main stem at Craigellachie that it is present in higher density. The plant can re-grow from very small fragments of root or stem, meaning **it should not be cut or strimmed** until the stems have fully died-back in late winter.

Contractors again treated the Fiddich, Easter Elchies, Rothes and Delfur for Knotweed, with volunteers following-up on work done in 2018 and

making a start on Orton and the Brae water; a drop in the ocean at the moment, as the Knotweed coverage on the lower river is 'extensive', but with new equipment arriving, it is hoped we can make more significant progress in 2020.

If you are aware of any stands of Japanese Knotweed above Craigellachie, please contact James Symonds, the SISI project officer, with details. James can be contacted at J.Symonds@SpeyFisheryBoard.com

3.5.3 White Butterbur

White butterbur (*Petasites albus),* known locally as the "Spey Hyacinth"*,* is a rhizomatous plant favouring deciduous, riparian woodland. In areas where White butterbur is well established, biodiversity is dramatically reduced, as is bank stability, leading to increased bank erosion and subsequent sedimentation of the aquatic habitat.

Initial results from the trial site on the Fiddich were not surprising. Herbicide application proved to be very effective, whilst other methods (such as digging) were either too time-consuming to be practical, or just ineffective (such as strimming). In early 2019, riparian trees were planted in high densities to ascertain whether, once established, they will hinder the plants growth by shading-out the Butterbur below.

Above: *Trees planted at 50cm spacing to encourage maximum shading as they grow.* (Photo: James Symonds).

Above: *Thanks to the efforts of dedicated volunteers… and Brian Shaw… 500 trees were planted across two plots.* (Photo: James Symonds).

3.5.4 American Mink

Following the Scottish Mink Initiative and the ongoing vigilance of the Spey Ghillies and Game Keepers, American Mink numbers on the Spey appear to remain relatively low. Following reports of sightings on the lower river, we were able to catch and despatch five animals between Fochabers and the Spey Bay viaduct. Trapping continues in these areas. There were also reports of two captures from Craigellachie and one un-captured animal at Boat O'Brig.

These animals will travel long distances to find new territories, so maintaining a robust monitoring network of rafts on the river remains a high priority. Please keep an eye out for prints in the sand and mud, especially in backwater areas.

If you would like to monitor a raft, or If you sight a mink or a print, please get in touch and we will be able to supply rafts and traps, as well as training and support.

Left: *An American mink in live capture trap. Thanks to the mink police units provided by SISI, we can respond quickly to sightings without the need for a volunteer, as they send us regular updates on trap status. This resource is limited, however, and volunteers are crucial to our effective management of this predator.* (Photo: James Symonds).

Right: *A mink raft, such as the one shown here, detects the presence of mink, as well as other animals, using a clay pad.* (Photo: James Symonds).

3.5.5 Volunteering – Individual, Community and Corporate

The SISI project is reliant on volunteers. If you would like to help conserve the Spey, in any capacity, then please get in touch with James Symonds at J.Symonds@SpeyFisheryBoard.com

This could simply involve reporting a sighting of INNS along the river, monitoring a mink raft, or coming out and treating invasive plants on work parties. Formal and informal training is available and a constant supply of tea and biscuits is assured.

If you have a **community** or **corporate group** that would like to get involved, this can be accommodated and fun/team-building activities such as bushcraft can be built-in to the session, so please do get in touch.

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 has previously choked 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.

In the 2017 Annual Report, we explained that, having taken legal advice, the SFB had submitted a formal complaint to the Secretary-General of the European Commission regarding the Scottish Government's failure to take effective action to control this invasive plant which is non-native to the River Spey. The complaint was rejected by the Commission in 2018 and the Board subsequently decided to monitor Ranunculus fluitans through the Scottish Government's 12 pressures (see section 1.3), which it has identified as part of its Fishery Management Planning template. The SFB has continued to do this during 2019 and to utilise this to provide further evidence to the Scottish Government of the impact of this invasive plant.

Above: . *The SFB is monitoring Ranunculus fluitans in the River Spey through the Fishery Management Planning template to provide further evidence to the Scottish Government of the impact of this invasive plant.* (Photo: Roger Knight).

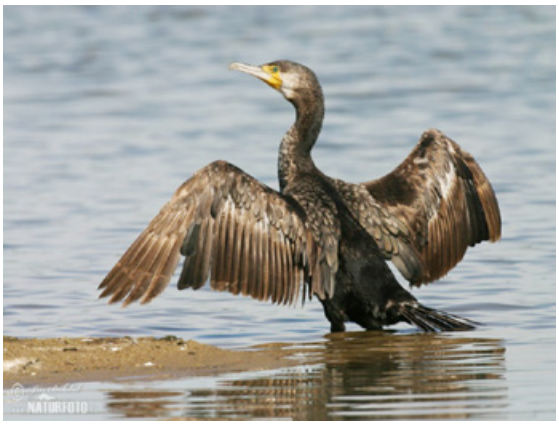
3.7 Sawbill Ducks and Cormorants

In January 2019, the SFB was contacted by the Scottish Natural Heritage (SNH) Licensing Team, as the licensing authority for pisciverous bird control, with an invitation to take part in a scientific study of the stomach contents of Goosanders and Cormorants. This would repeat a similar study done some twenty years previously, to determine whether the diet of these birds had changed and would also involve the Rivers Dee, Tweed and Nith, which had also been invited to take part.

The SFB accepted this invitation and the licence which had been issued to shoot 26 Goosanders, 2 Mergansers and 3 Cormorants between 1st October 2018 and 31st May 2019 was revoked at the end of February 2019. It was in turn replaced with a licence to shoot 36 Goosanders and 36 Cormorants for scientific research between 1st March 2019 and 29th February 2020, with no shooting permitted between 1st June and 31st August 2019, whilst the females were nesting and rearing their young and the males were away in Scandinavia. The licence also requested that at least 12 Goosanders and 12 Cormorants be shot during the smolt run period before the end of May 2019 and required all carcasses to be retrieved and submitted to the Centre of Ecology and Hydrology near Edinburgh, which had been awarded a contract by the Scottish Government for the analysis of the stomach contents of the birds that had been shot.

The SFB has also continued to coordinate a combined application to Scottish Natural Heritage for a sawbill licence to run from October until the following April/May. This application is to shoot a licensed number of Goosanders, Mergansers and Cormorants as part of a broader programme of "shooting to scare" in order to move these birds away from the river. The application is submitted on behalf of the Spey, Conon, Ness, Beauly, Kyle of Sutherland, Findhorn, Nairn, Lossie and Deveron Rivers. Although one application is submitted, separate licences (if granted) are issued to provide individual quotas for each river involved, following analysis by Scottish Government agencies of the respective supporting bird count data.

Although the Board had been issued with a scientific research licence which is effective until the end of February 2020, it is important to provide additional protection to salmon stocks during the annual smolt run, which extends throughout April and May. So we needed an additional licence to cover the period from March to May 2020.



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

To provide supporting evidence for this additional licence, the SFB continued counting Goosanders, Mergansers and Cormorants throughout the year, with counts carried out from Boat o'Garten to Spey Bay in late March and early May, early October and mid-December each year. The count is conducted by SFB staff counting sections of the mainstem River Spey,some of whom canoe a section of the River,whilst others walk and drive their sections. This enables 120 Km of the River to be covered,from Loch Insh to Spey Bay, over a period of 3-4 hours and usually commencing at first light. The data collated, together with that collated during the count in early October 2018, contributed to our 2020 Licence Application and the coordinated 2019/2020 applications for the other rivers, which was submitted to SNH in early July 2019.

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. By May, the male birds have generally departed for Scandinavia, leaving the females to remain on their nests. We reported last year that the count in October that year had seen the highest number of Goosanders we had ever recorded. By contrast, the count in October 2019 produced one of the lowest counts for that time of year, which was a pattern replicated on other rivers around the north east of Scotland.

This latest licence application was again successful and the Board has been granted a licence to shoot 43 Goosanders and 2 Mergansers between 1st October 2019 and 31st May 2020. This is in addition to the 36 Goosanders and 36 Cormorants that have been licensed to be shot for scientific research, for the analysis of the stomach contents. The SFB will continue to conduct its bird counts throughout 2020, which will provide the supporting data for the submission of our next licence application in July 2020. It should be noted, however, that this may result in a reduction in the quota licensed for 2019/2020 due to the reduction in the numbers of birds counted along the Mainstem of the River Spey in October and December 2020.

3.8 Fisheries Management Scotland Predation Committee

2019 saw Fisheries Management Scotland, which is the representative body for the 41 District Salmon Fishery Boards and 26 rivers Trusts/Foundations around Scotland, form a Predation Committee. The SFB's Director, Roger Knight, was invited to chair it and the Committee met in mid-December 2019.

The FMS Predation Committee brings together representatives of Marine Scotland Science, Marine Scotland (Policy), Scottish Natural Heritage (as the licensing authority for pisciverous bird control), the Centre for Ecology and Hydrology, Science & Advice for Scottish Agriculture, Fisheries Management Scotland and the Rivers Spey, Tweed, Dee, Ness and Deveron. These organisations are working together to better understand the impact of avian and seal predation and to develop effective management outcomes.

The SFB looks forward to continuing to work closely with these organisations during 2020 and we shall report next year on progress and developments.

3.9 Moray Firth Seal Management Plan

019 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, as well as salmon netting stations (although there is currently a Scottish Government Moratorium on netting out-with estuary limits) around the Moray Firth, to shoot Common/Harbour and Grey seals which have entered the rivers to predate on its Salmon and Sea Trout. It should be clarified, though, that no Common/Harbour seals have been licensed to be shot for the last three years.

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 (SMRU) 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. Overall, it provides for seal management for 16 rivers and 5 netting stations throughout the Moray Firth region.

In late 2018, the SFB had submitted a Licence Application for the period 1st February 2019 until 31st January 2020. This application had been successful and a licence was issued which permitted the shooting of 18 Grey Seals and 0 Common Seals. This remains a significant reduction from the 45 Grey Seals and 6 Common Seals which had been licensed to be shot throughout the Plan area in recent years.

The reason we are currently unable to control Common/Harbour seals is that their numbers throughout the Moray Firth have significantly declined in recent years. As a result, the Potential Biological Removal (PBR) figure has been 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 engine propellers from boats. Marine Scotland have previously told us that they are therefore unwilling to grant us any licence to control Common/Harbour seals, but would re-consider our case if supplementary information, particularly in the form of high-resolution photographs, could be submitted. This might help to clarify whether any future problems were being caused by a single predatory animal which could be clearly identified, or whether it was a group of different animals. Two years ago, the SFB invested in appropriate photographic equipment to collate high-resolution photographs of Common/Harbour seals entering the river, so as to provide the appropriate evidence for future applications to remove them.

More research and evidence is needed, particularly regarding the development of effective Acoustic Deterrent Devices (ADDs), for an effective and sustainable seal management strategy to be devised. In late 2019, the SFB was informed by the Scottish Government that there was work underway commercially to develop effective ADDs and incorporate these within acoustic fish counters. The SFB will continue to work closely with the Scottish Government, its advisers and other District Salmon Fishery Boards throughout 2020 to refine the approach necessary for the effective deterrence of seals from salmon rivers.

Above: *Grey seals are licensed to be managed by fishery managers under the Moray Firth Seal Management Plan, but Common/Harbour seals* **(See Below)** *have declined in numbers and remain outside the Plan's licence. More research and evidence is needed to provide an effective and sustainable seal management strategy.* (Grey Seal Photo above courtesy of elelur.com. Common/Harbour seal photo below courtesy of www.francisjtaylor.co.uk).

3.10 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 serious environmental damage, but also has a significant impact upon the local economy and causes damage to the rural community.

Throughout 2019, the Board's Water Bailiffs continued to work tirelessly to protect the River and its tributaries from illegal fishing. 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. The SFB's Director is also a member of the North East Scotland Partnership Against Rural Crime and the Rural Crime and Safety Partnership,both of which are chaired by a senior officer from Police Scotland.

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 2019. This RIB was a significant investment for the Board and in 2019 it successfully underwent the rigorous Coding examination that is required every 5 years. It does,however, enable 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. Numerous patrols were completed during 2019 to deter illegal netting and were it not for these patrols being undertaken, the level of illegal netting along our coastline would likely become prolific. The SFB was also contracted in 2019 to undertake a patrol for the Deveron DSFB, although it was unable to facilitate this due to poor weather conditions. The SFB 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.

Above: *The SFB's 6.4 metre Rigid-hulled Inflatable Boat (RIB) in 2019 during one of the patrols of the 20 miles of coastline for which the Board is responsible. The SFB also patrols some of the coastlines of other District Salmon Fishery Boards when contracted to do so.* (Photo: Roger Knight).

3.11 Administration and Staffing

The SFB said farewell to its Administrator, Mrs Joanna Walker, at the end of March 2018 after a year in post. We are most grateful to Sally for her tireless work in maintaining the Board's administration and we wish her every success in her new employment.

In June 2019 we welcomed Mrs Miranda Edwards as the Board's new Administrator, in succession to Joanna. Miranda has settled-in well to her new role and we wish her every success for the future.

Part 4

Spey Scientific Report

4.1 Juvenile surveys 2019

2019 was the second year of the Scottish National Electrofishing programme (NEPS) (https://www2.gov.scot/Resource/0053/00538332.pdf). As in 2018, this proved to be time-consuming, with 30 sites spread around the catchment. Consequently, our routine, three-yearly sampling programme around the catchment had to be scaled back. The Avon and Truim sub-catchments were due for surveying in 2019. These were largely completed, as was the stocking monitoring, and the surveys in the smaller burns. Contract work (habitat or electrofishing surveys) takes up an increasing proportion of our time. All of which means there is a constant juggling of resources to ensure the maximum coverage of juvenile surveys.

Almost 100 salmon fry index surveys (timed) were completed in 2019, along with 102 density sites. Wet weather curtailed surveying for a period in August, even in the small burns, and the mainstem surveys had to be fitted-in whenever river levels dropped. Almost all the mainstem sites, though, were surveyed during medium, rather than low, river heights. No survey days were lost due to high water temperatures, although one day was cut short, due to rising temperatures, whilst surveying the mainstem.

The poor catch of 2018 prompted concerns that the juvenile densities would be reduced in 2019. That proved to be the case for fry, although not so for parr. Many of the surveys in the more peripheral areas of the catchment found that salmon fry densities were much reduced compared to previous years. This was particularly the case in the NEPS sites. In contrast, in many of the Avon sites, salmon fry were present where they are often absent. Another factor affecting fry densities was river levels during the critical emergence phase i.e. when the fry leave the spawning gravels. High flows before and during the emergence period is known to affect fry recruitment. The full 2019 electrofishing report is available on the Spey Fishery Board website.

4.2 Salmon Fry Index Surveys

In 2019, all 62 annual salmon fry index sites were completed in the Spey mainstem, covering the entire river from Garmouth to above Spey Dam. The current Spey mainstem salmon fry index survey protocol, which started in 2012, developed earlier mainstem timed surveys, which are focussed on trying to assess the productivity of this hugely-important part of the catchment. In addition, 17 salmon fry index sites were surveyed along with the Avon mainstem: 8 in the Livet and 7 in the Truim; and a few other opportunistic surveys. All of these sites had been surveyed at least once before.

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. There is no national standard for salmon fry index surveys, therefore the Spey salmon fry index classification was developed, based on the five-year average for the years 2012 to 2016. As this five-year period covered a range of values, the classification was frozen so that future surveys can be assessed against this five-year average.

Table 1: Spey Salmon Fry Index

Salmon fry/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 and salmon parr counts 2012 to 2019

		Salmon fry/min								Salmon parr/min							
Site code	Location	2012	2013	2014	2015	2016	2017	2018	2019	2012	2013	2014	2015	2016	2017	2018	2019
S007R1	LW2	24.7	22.7	16.3	27.3	5.7	46.3	9.7	3.3	1.0	4.3	2.3	1.0	3.3	0.0	1.7	2.0
S012R1	LW1	11.3	17.0	17.3	20.3	10.7	14.7	44.3	3.0	1.0	0.3	0.0	0.7	0.3	0.0	0.0	0.0
S017L2	Gordon Castle	31.7	52.7	24.7	20.0	13.0	32.0	31.0	15.3	0.7	2.3	0.7	2.3	5.0	0.3	8.3	9.7
S019L2	Gordon Castle	13.3	57.7	28.7	34.7	17.3	59.3	33.3	19.0	1.3	1.0	4.0	3.0	3.7	0.7	3.0	4.0
S025L1	Gordon Castle	7.7	26.0	23.0	26.0	20.7	24.0	22.3	17.7	0.0	2.7	1.3	0.3	0.7	0.0	0.7	4.7
S029L1	Orton Water	6.3	41.0	15.0	31.7	15.7	29.0	28.3	14.7	0.0	4.7	7.7	0.7	4.3	0.0	0.0	4.3
S032L1	Orton Water	9.0	44.0	17.7	28.3	14.7	36.3	42.7	19.3	0.0	1.7	4.0	0.7	4.3	4.0	13.0	2.7
S034R1	Delfur	19.7	12.0	55.0	27.0	5.0	27.7	24.7	11.3	1.7	2.0	4.0	0.0	6.3	0.0	0.7	2.3
S040L1	Delfur	6.7	14.0	13.3	22.0	4.7	50.3	22.7	15.7	0.0	0.0	3.7	1.7	8.3	0.0	3.0	6.7
S040L2	Delfur		90.0	66.0	29.0	15.7	52.7	61.3	30.3		2.7	1.0	0.0	0.0	0.0	1.3	0.7
S042L1	Rothes	7.7	44.0	10.3	14.7	12.0	31.7	6.0	11.3	1.3	7.0	1.7	2.0	7.0	0.7	2.0	3.3
S047L1	Rothes	6.3	9.3	9.0	18.3	4.7	21.7		6.3	0.0	12.0	14.0	1.3	12.7	1.3		9.3
S050R1	Arndilly	13.7	29.7	28.3	16.0	13.3	31.0		17.3	0.0	3.0	0.0	1.7	3.7	0.3		1.7
S052L1	Arndilly	15.7	15.7	19.7	23.7	9.3	21.3		13.3	0.3	0.0	3.0	2.0	6.3	0.0		3.7
S056L1	East Elchies	17.7	34.7	43.7	39.7	16.0	50.3		38.3	0.3	0.0	1.0	0.3	3.7	0.0		2.7
S059R1	Craigellachie	36.7	28.3	33.3	23.0	17.3	45.7	24.7	20.3	0.7	4.0	2.0	0.3	2.0	0.7	3.3	0.0
S060R1	Craigellachie	13.0	12.3	23.0	11.7	17.7	20.3	15.3	13.3	0.3	0.0	3.0	0.0	2.7	0.3	0.3	1.3
S061R1	Craigellachie	20.3	12.3	22.0	10.0	4.7	16.0			1.0	6.7	9.7	0.7	8.0	3.3		
S062L1	Macallan							32.3	16.7							4.3	5.3
S066R1	Aberlour	10.0	15.3	27.7	17.0	11.0	31.3	15.7	19.0	2.0	35.7	19.7	1.3	18.7	14.3	17.0	12.0
S068R1	Kinermony	3.3	7.3							0.7	3.0						
SO68L1	Wester Elchies		15.7	12.0	9.3	3.3	38.7	1.3	10.3		13.7	15.7	3.7	12.3	5.3	11.3	6.3
S071R1	Delagyle	7.0	6.3							3.0	2.3						
SO72L2	Wester Elchies		19.3	7.3	28.3	3.0	22.7	18.3	16.7		5.7	3.3	2.3	3.3	0.3	4.3	2.0
S074L1	Laggan	7.0	5.3	9.0	13.7	2.0	18.0	8.3	9.0	1.0	8.3	4.3	0.7	4.7	6.0	2.3	1.7
S077L1	Laggan	36.7	10.0	31.3	27.7	7.7	32.0	18.3	21.7	0.7	3.3	1.3	0.0	7.7	2.0	3.7	0.7
S079R1	Carron	15.7	31.0	16.3	18.3	11.7	27.0	9.3	21.7	1.7	2.0	6.3	1.3	3.0	6.0	3.3	4.0
S082L1	Knockando	8.3	9.3	17.7	15.0	8.7	18.7	5.7	11.7	2.3	12.7	13.0	3.3	7.7	8.3	7.7	7.3
S087L1	Phones		3.7	6.0	4.7	0.7	7.0	3.3	3.0		5.3	6.3	0.0	3.7	5.3	2.3	0.7
S093R1	Lower Pitchroy	21.3	25.7	20.3	41.7	16.7	40.7	25.3	43.7	4.7	9.7	9.7	1.7	11.7	10.3	17.0	9.7
S096R1	Ballindalloch	11.0	20.0	49.0	37.0	20.3	52.0	30.0	27.7	1.7	2.3	11.0	2.3	6.0	8.7	4.3	9.3
S104L2	Ballindalloch	20.3	61.3	40.7	43.0	25.0	54.7	45.0	26.0	1.3	5.0	4.7	2.3	3.0	8.3	2.7	3.0
S105L2	Tulchan D	35.0	65.7	33.7	45.7	33.3	39.0		26.0	0.0	2.0	1.0	1.3	1.7	8.0		2.0
S112L1	Tulchan C	10.3	35.0	11.3	31.3	14.7	28.7		27.0	4.0	8.0	7.7	5.3	10.3	9.0		4.0
S119L1	Tulchan B	28.0	30.7	10.0	27.7	12.7	31.0		19.0	2.7	10.7	4.0	3.7	8.3	9.3		5.0
S124R1	Tulchan A	13.0	38.0	14.7	18.7	11.7	33.7		9.3	2.3	1.7	1.3	2.7	5.0	5.7		0.7
S131L1	Castle Grant 3	29.0	40.0	21.0	34.3	24.0	35.3	29.3	18.0	10.0	7.0	6.7	3.0	5.0	5.3	11.0	5.3
S135L1	Castle Grant 2	17.7	44.0	36.3	20.0	10.0	32.3	49.3	16.3	0.7	0.7	1.0	1.3	4.7	0.7	2.3	4.3
S141L1	Castle Grant 1	3.7	8.0	9.3	17.0	24.3	19.7	18.3	15.3	1.0	0.0	2.0	1.3	1.3	2.7	1.3	5.3
S147L1	SAIA	11.0	17.3	16.0	45.3	24.7	42.3	4.3	36.7	1.0	7.7	13.0	6.0	6.7	8.7	8.7	5.3
S149L1	SAIA	12.0	10.3	14.7	21.7	23.7	23.0	6.7	17.3	1.3	8.3	11.3	5.0	5.3	2.3	8.7	1.7
S163L1	Abernethy AA	33.7	73.3	59.3	28.0	28.3	68.3	106.0	43.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
S177L1	Abernethy AA	23.0	53.0	24.0	31.0	24.3	45.3	46.3	31.3	0.0	1.7	0.3	0.7	1.0	0.3	2.3	2.3
S183L1	Kinchurdy	5.7	45.0	21.0	29.7	17.3	38.0	50.3	10.7	0.0	0.0	0.0	1.7	0.0	2.0	2.0	1.0
S195L1	Aviemore AA	14.0	36.0	13.7	11.0	14.3	17.7	51.3	11.7	0.0	0.0	0.0	0.7	0.7	0.0	0.0	0.3
S209L1	Kinrara	19.0	28.3	13.3	19.3	12.3	27.0	41.7	22.7	0.0	0.7	0.0	0.7	0.0	0.0	1.7	1.0
S212R1	Kinrara	16.0								0.0							
S215L1	Dalraddy	24.3	63.3	47.7	24.0	21.3	24.3	81.7	20.0	1.0	0.0	0.0	0.3	1.0	0.0	0.0	1.7
S243R1	Ruthven Bridge	8.7	14.3	17.7		36.7	56.0	25.0	31.7	0.0	1.3	0.0		0.0	1.7	1.3	0.3
S254R1	Golf course	6.0	8.0	18.3	10.7	12.0	18.7	28.0	11.0	1.0	4.0	0.0	1.3	1.7	2.7	6.7	1.7
S258L1	Calder Mouth	12.7	11.0	19.3	5.7	38.3	37.0	42.3	21.0	0.7	1.3	4.7	4.0	5.7	4.3	14.0	11.3
S260L1	Badenoch AA				20.7	22.7	23.7	16.3	16.3				1.3	4.0	2.3	8.7	5.0
S264R1	Truim	22.0	4.3	5.3						4.7	4.0	2.3					
S282R1	Laggan	19.7	17.7	18.7	26.0	20.7	30.0	36.0	13.3	1.0	3.3	0.3	0.3	2.7	3.3	7.0	0.7
S287L1	Laggan	12.3	21.3	14.7	5.0	29.7	25.3	24.0	18.7	2.0	5.0	2.3	3.0	9.3	3.7	8.7	3.0
S290L1	Below Spey Dam	18.0	25.0	5.7	8.0	17.0	8.0	18.7	3.0	4.7	11.3	7.0	7.0	10.3	2.3	18.0	10.0
S298R1	Glenshirra	0.0	0.0	0.0	0.3	0.0	0.0	2.3	2.7	0.7	3.7	1.3	0.0	3.3	0.0	0.7	6.3
S305R1	Garvamore	3.3	3.7	0.0	2.7	0.0	0.3	11.3	5.3	0.3	5.7	1.0	0.0	1.3	0.7	5.6	3.7
S305R2	Garva Bridge	1.3	1.3	0.0	1.0	0.0	1.0	2.3	2.3	1.3	4.0	0.7	0.0	1.7	0.3	1.7	2.3
S311L1	Upper Spey	4.0	0.0	0.0	0.0	0.0	1.0	9.7	1.7	0.0	0.7	0.0	0.0	0.3	0.0	0.0	1.3
S312L1	Upper Spey	4.7	0.0	0.0	0.3	0.0	2.7	3.3	1.0	1.3	4.7	0.7	0.0	1.7	0.0	1.7	2.0
S315L1	Upper Spey	5.7	0.0	0.0	8.0	0.0	2.0	6.3	2.3	0.0	3.3	0.7	0.0	1.3	0.0	0.3	1.0
S317L1	Upper Spey	7.0	0.0	0.0	1.0	0.0	6.7	12.7	8.0	0.3	2.0	0.3	0.0	0.3	0.3	2.0	1.7
S318L1	Upper Spey	3.0	0.0	0.0	0.3	0.3	1.3	3.0	2.7	1.0	1.0	0.0	0.0	0.7	0.0	1.0	3.0
S319R1	Upper Spey	0.7	0.0	0.0	0.0	0.7	1.3	3.0	2.3	0.3	4.7	1.3	0.0	1.0	0.7	2.7	2.7
S324L1	Upper Spey				0.0	2.0	0.7	2.0	1.3				0.0	0.0	0.0	0.7	0.3
S326L1	Upper Spey	5.7	0.0	0.0	0.0	0.7	0.0	13.0	1.0	0.3	0.7	0.0	0.0	0.3	0.3	0.3	1.7
Mean		13.9	23.6	18.8	19.2	13.0	27.0	24.5	15.6	1.2	4.3	3.8	1.4	4.2	2.6	4.4	3.5

The salmon fry counts in the mainstem were down on the previous two years but fry were present at all sites. The mainstem salmon parr counts were above average and there were only two sites where none were recorded, the lowest number of zero sites in the series. As in 2018, salmon fry, and parr, were present at all sites upstream of Spey Dam. The elevated flows that persisted during most of the summer meant that the wetted area available for juvenile fish increased, significantly so, compared to 2018.

In the River Avon, the salmon fry and parr counts were good. There were fewer sites in the top category for fry than in previous years, with the exception of 2016, but the general pattern was similar. The parr results were good, especially in the middle and upper reaches with sites from TA34L1 to TA84L1 producing their highest counts.

Table 3: River Avon Salmon fry, and parr, counts from the Salmon Fry index surveys in the Avon.

Avon		Salmon fry/minute					Salmon parr/minute				
Site code	Location	2013	2016	2017	2018	2019	2013	2016	2017	2018	2019
TA01L1	Ballindalloch Castle	38.7		14.7			21.7		3.3		
TA05L1	Golf Course	39.7	1.3	17.0	30.7	34.0	28.3	12.3	1.7	17.0	12.3
TA11L1	Haugh Pool	41.3	6.7	34.0	37.0	12.7	12.3	3.0	2.7	15.3	3.0
TA15L1	Upstream Black Burn	83.0	4.3	83.0		20.7	7.0	2.0	1.3		5.0
TA21R1	Little Dalrachie	22.3	5.3	39.7	37.0	14.7	15.7	2.0	4.0	7.0	3.0
TA24R1	Dell footbridge	25.0	5.7	30.3		26.7	12.3	6.3	0.7		7.0
TA29L1	Upstream Fodletter Bridge	26.3	4.0	38.0	22.7	19.3	18.0	3.3	6.0	5.3	12.0
TA34L1	Lochy mouth	18.7	6.0	11.0		20.7	5.3	3.0	3.3		10.3
TA38L1	Dalvrecht-Conglass confluence	22.0	3.3	12.3		19.7	14.0	5.0	6.3		17.3
TA43R1	At "S" bend Kylnadrochit	23.7	5.7	17.7	31.7	18.3	1.7	0.0	2.0	11.0	11.0
TA49R1	Below Fordmouth Farm	15.0	4.7	19.3			9.7	1.7	3.3		
TA56R1	Upstream Delavoar Bridge	14.0	1.3	12.7	20.3	5.3	10.7	4.0	8.3	11.3	13.0
TA60R1	Muckle Fergie confluence	9.3	4.7	13.0		6.0	4.7	1.3	3.7		7.7
TA65R1	Heathery island far channel	6.0	1.3	7.0	12.7	8.0	6.0	2.7	2.0	9.7	15.3
TA70R1	Opposite side channel	10.0	3.3	6.0		12.3	3.0	1.3	3.0		7.7
TA76R1	Upstream Builg confluence	7.3	3.0	5.0		6.7	3.7	3.0	0.3		5.0
TA81L1	Upstream Allt Loin	3.7	0.7	3.7			4.0	1.0	0.7		
TA84L1	Downstream Allt Loin Bheag	11.0	1.3	9.0		7.0	1.7	1.7	3.7		8.0
TA89L1	Glenavon Estate	1.0	0.3	5.0			3.3	1.3	0.3		
TA94L1	Glenavon Estate	2.7	1.7	3.0		2.3	4.3	0.7	2.0		1.7
TA99L1	Faindouran	1.3	0.7	3.0			1.7	1.3	1.3		
TA101L1	Glenavon Estate	1.0	0.7	1.7		0.7	0.7	0.0	0.0		0.7
Mean		**19.2**	**3.1**	**17.5**		**13.8**	**8.6**	**2.7**	**2.7**		**8.2**

The River Livet is the largest, and most productive of the Avon tributaries, as can be seen from the table below. The Livet has only been surveyed using this technique three times but the parr counts in 2019 were the best in the series, particularly in the upper sites where the juvenile population was outstanding.

Table 4: River Livet Salmon Fry and Parr Counts from the Salmon Fry Index surveys 2013/2016/2017/2019

		Salmon fry/min				Salmon parr/min			
Site code	Location	2013	2016	2017	2019	2013	2016	2017	2019
TSAL01	Drumin	69.0	2.3	36.0	29.7	4.7	3.7	1.7	7.0
TSAL05	Packhorse Bridge		30.0	127.3	73.0		19.7	8.0	16.7
TSAL08	u/s Glenlivet Bioplant		20.0	57.7	48.7		11.0	0.0	4.3
TSAL14	u/s Bridge of Livet		11.0	36.0			3.7	1.0	
TSAL18	d/s bridge at Tombae Farm		1.7	21.3	30.0		7.7	3.0	5.3
TSAL23	Ford u/s Allanreid		4.0	47.7	30.7		10.3	5.0	9.7
TSAL27	Ford u/s Achdregnie Farm		12.7	27.7	28.0		6.0	6.7	14.3
TSAL29	30m d/s corrugated iron		10.0	44.7	31.3		8.7	4.0	19.3
TSAL33	U/s Glassachoil		9.7	25.3	24.3		5.7	4.3	10.7
Mean			11.3	47.1	37.0		8.5	3.7	10.9

The monitoring series in the River Truim is shorter but a change in the distribution of salmon parr was evident. In 2016 the highest parr, and fry counts, were in the middle reaches, in the prime spawning habitat. In 2019, the parr counts in the lower reaches were excellent, the habitat here is more suited to parr, but it is not known if this was due to displacement or spawning relocation.

Table 5: River Truim Salmon Fry and Parr Counts from the River Truim sites 2016 & 2019

River Truim salmon per minute		Salmon fry		Salmon parr	
Site code	Location	2016	2019	2016	2019
TSTU01	Invertruim Farm, right channel	1.0	11.0	4.0	10.3
TSTU04	0.5km upstream Invertruim bridge	0.7	8.3	6.0	12.3
TSTU10	Upstream Truim Falls	3.3	2.7	6.7	10.7
TSTU17	An Stac	20.7	12.7	9.3	12.7
TSTU24	Upstream bridge above Cuaich	40.7	14.0	8.3	3.0
TSTU30	Opposite distillery	24.3	10.0	4.7	0.7
TSTU36	Upstream hydro intake	0.7	1.0	2.0	4.0
Mean		13.1	8.5	5.9	7.7

4.3 National Electrofishing Programme Scotland (NEPS)

2019 was the second year of the National Electrofishing Programme Scotland (NEPS). This programme was designed by Marine Scotland scientists and funded by the Scottish Government with additional funding from SNH and SEPA. The survey involved visits to 30 randomly selected, sites across the Spey catchment, 10 of which were fully-quantitative (fished three times in succession) and the other 20 fished once. Ten of these sites are surveyed annually the other 20 are surveyed on a three or nine year rota, hence they were 20 new sites in 2019. Only the smaller streams (Order 2 to 4) were surveyed, a weakness in a large river system such as the Spey, where the vast majority of production occurs in the larger streams. However, Marine Scotland Science are looking at extending the scope of the surveys into order 5 streams, which would include, for example, the Fiddich downstream of Dufftown.

Marine Scotland published their analysis of the 2018 NEPS surveys in April 2019 . The Spey was classed as a category 1 river for both salmon fry and parr, one of only eight Category 1 areas in Scotland, only two of which were two south of the Great Glen. This finding was in accord with our own conclusions for 2018; it had been a particularly good year for the juvenile stock. In 2019 the salmon fry densities in the NEPS survey sites were much lower, although the parr were similar to the previous year. Marine Scotland will publish the findings of the 2019 survey in spring 2020.

Above: *Setting up the stop nets for a fully quantitative (three-run) NEPS survey at a site in the upper Allt Chomhraig, a Feshie tributary. 58 salmon parr were captured in this 30m long site, but only 6 salmon fry, a reflection of the strong 2018 and weaker, 2019-year classes. This site is 125 Km from the sea, and very remote, but it still supported an excellent parr density.*
(Photo: Brian Shaw)

4.4 Adult Tagging Project 2019

During the Board's annual meeting with the Spey Ghillies in December 2018, the Ghillies requested that the Board repeat the adult tagging project previously conducted in 2000 – 2002, to monitor the numbers of fish that are caught, released and subsequently re-captured. This was agreed by the Board and from the commencement of tagging in early March to the end of September 2019, the total number of adult salmon tagged was 847. This was a great effort by the Ghillies as the number tagged in 2019 almost equalled the number tagged over three seasons during the earlier recapture study, when a total of 859 fish had been tagged. By the end of the season, 21 tagged fish had been re-captured by rod and line. However, a recent study in Norway concluded that 12.7% of T-bar tags were lost between tagging and recapture. If the same tag loss rate is applied here the recapture rate in 2019 was 2.85%* (5.6% in earlier Spey study).

One recaptured fish lost its tag during landing and there was limited information from another, but the full details of the remaining 19 fish were available. The elapsed time between original tagging and re-capture varied from 4 to 89 days (average 31.6 days), and the distance travelled from -6.5 to 39 Km (average 9.8 Km). The average distance travelled per day ranged from -0.3 to 2.7 Km (average 0.5 Km/day). For fish recaptured during the spring (to the end of May), the distance travelled per day was 0.7 Km; for summer fish the figure was 0.2 Km/day. No fish were recaptured more than once. In addition, four tagged fish were recaptured during the broodstock fishing in October. These fish were originally landed and tagged in June to September, but none had moved more than 10 Km, despite a time differential of up to 145 days.

The tagged fish were not scale sampled, but it is estimated that 100 were grilse, none of which were re-captured. This is similar to the findings of the earlier study.

Ghillies and anglers are requested to watch out for tagged fish in 2020, as the study will be repeated. Only fresh-run fish are being tagged, however, kelts landed in the spring may well be bearing tags from last year. Ghillies and anglers are therefore kindly requested to record and report these to the Spey Fishery Board in the same way as in 2019.

Table 5: Number of fish tagged per month and recapture rate

Month	No. tagged	No. recaptured	% recaptured
Mar	34	2	5.88
Apr	112	8	7.14
May	162	5	3.09
Jun	195	4	2.05
Jul	131	2	1.53
Aug	141	0	0.00
Sep	72	0	0.00
Total	**847**	**21**	**2.85***

Above: *In 2020 yellow, pink or green tags will be used, although kelts bearing white tags may also be present.* (Photo: Brian Shaw).

4.5 Avon and Tommore Smolt Traps

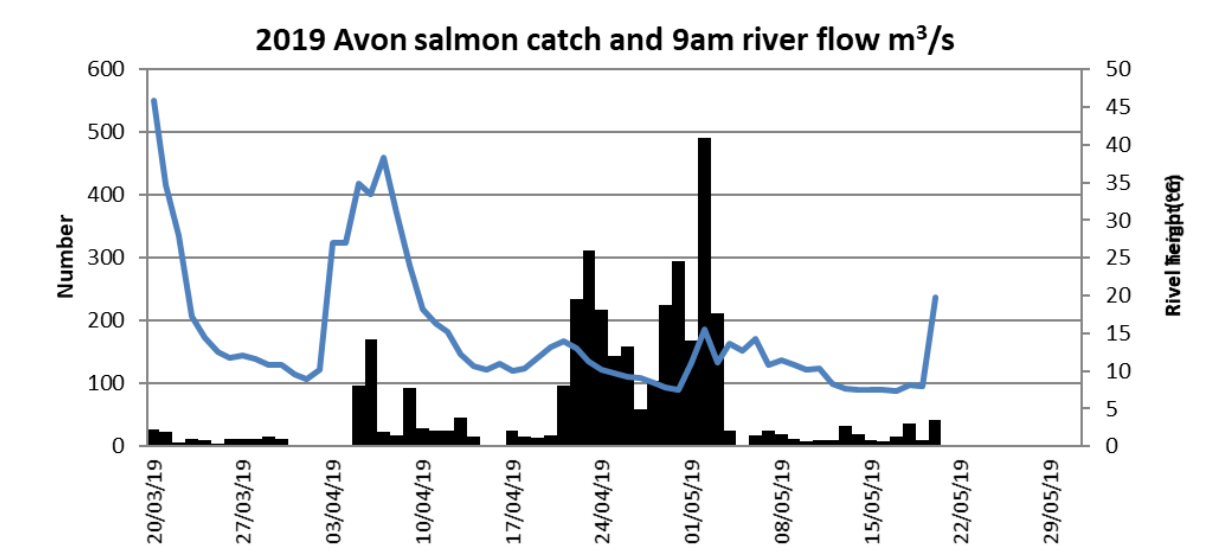
After operating the rotary screw trap in the River Dulnain in 2017 & 2018 trapping was switched back to the River Avon in 2019, primarily to capture smolts for the Missing Salmon Project. The Tommore Burn trap was also operated for the fifth successive year. The Tommore Burn has been stocked since 2013 as part of the Spey Fishery Boards mitigation strategy.

The Tommore Burn trap is a "Wolf" style trap. When operational, the Tommore trap catches all the downstream migrating fish, which are then processed and released downstream. Until 2016, the autumn fry stocked in the Tommore Burn were fin clipped prior to stocking out; thereafter they were not fin clipped. In order to maintain the ability to identify the stocked fish from the Tommore Burn all unclipped salmon smolts, and parr, caught in the trap in 2019 were fin clipped prior to release into the burn below the trap. The rotary screw smolt traps, as used in the Avon, only sample a small proportion of the run, therefore mark and recapture techniques, were used to generate an estimate of the total smolt run. This involved a number of individual trials where marked smolts were transported 1.2 Km upstream and released.

2019 turned out to be a difficult trapping season with widely varying river levels, which were almost entirely dependent on rainfall due of the lack of snow. A number of operating days were lost in the Avon when the traps became blocked by debris during high flows. At the other extreme, water depths at the trapping location appear to have become shallower over the years. Consequently the operating depth of the larger six foot diameter trap had to be reduced when the river dropped, resulting in poor efficiency and loss of fish from the trap. In addition, in the Tommore Burn the trap was inundated on two occasions with subsequent loss of fish. For these reasons the output figures produced for 2019, for both traps, should be regarded as a minimum estimate.

The primary role for the Avon traps in 2019 was to supply suitable smolts for the Missing Salmon Project. In that regard, it was a success with sufficient salmon, and sea trout, smolts, of a size large enough for tagging were caught. The total number of salmon smolts caught in the Avon traps was 3,920, along with 421 trout. Trap efficiency for salmon was 6.5% i.e. only one fish in fifteen passing the traps were captured. Only 5.9% of the Avon smolts caught in 2019 were larger than the 130mm threshold for tagging.

Figure 1: 2019 Avon Salmon Catch and 9am River Flow



Above: *A large fin-clipped salmon smolt from the Tommore alongside a trout, which was showing little signs of smolting.* (Photo: Brian Shaw).

The 2019 salmon smolt catch in the Tommore Burn was 564, the highest since number to date; this was despite the loss of two days due to high water. Of note was the high number of salmon parr caught in 2019. This was over 1000% higher than the average of the previous three years (2015 excluded as only two year classes of fish were present at that point). The most plausible explanation for this huge increase in the downstream migration of salmon parr is that the Burn of Knocknashalg, a tributary, was stocked for the first time in 2018. This is a higher gradient stream, and potentially less well suited for salmon stocked at high density.

Figure 2: Tommore Burn Salmon Smolt and Parr Catch

Tommore trap	Salmon parr	Salmon smolt (stocked)	Salmon smolt (with fin)	Trout	Stocked salmon smolt production (No./100m2)
2015	2	352	23	115	4.0
2016	104	316	11	105	3.6
2017	75	260	9	91	2.45
2018	65	537	19	174	6.1
2019	877	564	n/a	184	6.4

The Tommore Burn monitoring has demonstrated a good correlation between juvenile densities in any given year and smolt production the following year. The mean salmon parr densities in 2017 and 2018 were considerably higher than in the previous years. The smolt production in the following years increased in accordance. Considering that the salmon parr densities recorded in 2019 were even higher, the salmon smolt output in 2020 should increase further. It is also interesting to note that when the salmon smolt output increased so did the trout, and vice versa.

4.6 The Missing Salmon Project

The numbers of salmon returning to our rivers has declined dramatically in recent years, now less than 5 out of every 100 smolts leaving our rivers return. Following significant planning and fund-raised over the last two years, 2019 saw the implementation of the Atlantic Salmon Trust's (AST) Moray Firth Tracking Project. The aim of the project was to identify where our salmon smolts are being lost as they migrate down-river and out to sea through the Moray Firth. Once the areas of loss have been identified, the project aims to examine those areas in more detail, to try to establish the cause of the losses and populate the Likely Suspects Framework, so as to inform decisions on potential solutions.

For more information on the above, see: https://atlanticsalmontrust.org/morayfirthtrackingproject/.

The Moray Firth Tracking Project saw the deployment of some 340 acoustic receivers and, working with 7 District Salmon Fishery Boards (DSFBs), including the SFB, a total of 850 salmon smolts were tagged.

The smolts were trapped in Rotary Screw Traps operated by SFB staff and then had an acoustic "tag" surgically-implanted into them by a team from the AST, before being released back into the river to continue their migration. These tags emit a unique code that was detected as the smolts swam past, a network of 12 receivers along the River Spey and many more deployed in arrays out in the Moray Firth.

The SFB's Research Team, led by Senior Biologist Brian Shaw, operated Rotary Screw Traps at Ballindalloch Castle to facilitate this and the Board is particularly grateful to the estate for their support and help in facilitating this. In total, 149 salmon smolts and 21 sea trout smolts were tagged in the Spey.

The SFB's Research Team recovered the receivers from the River Spey in July, whilst those sited in the Moray Firth were recovered by the AST. This resulted in circa 14.7 million data detections being downloaded from all of the riverine and Moray Firth receivers, all of which have then had to be analysed by a team of scientists at Glasgow University.

A draft report was issued at the end of December 2019 and our Senior Biologist is working closely with the scientists from the AST to finalise it. The interim results show that 59.1% of the tagged Spey salmon smolts reached the sea with 46.1% detected at the outer Moray Firth marine array. For those that went missing in the river, the loss rate was steady over the 50 Km to the sea, with no obvious bottlenecks. On average, the time taken for a tagged smolt to travel from Ballindalloch to the sea was 8.1 days. Once in the sea the rate of movement increased with those detected passing the partial array at Fraserburgh in only 1.8 days. The full results will be made public in early 2020 and the project will be repeated in 2020 and, we hope, in 2021. We will report more on this in due course.

Above: *One of the Receiver set-ups used in the Moray Firth Tracking Project.*
(Photo: Brian Shaw)

Above: *The Rotary Screw Traps deployed on the River Avon in 2019.* (Photo: Roger Knight).

4.7 Education

Three primary schools participated in the "Salmon in the Classroom" programme in 2019: Carrbridge; Rothes; and St Peter's in Buckie. We are particularly grateful to John Trodden, now Chairman of the River Spey Anglers Association, for his assistance in delivering this programme. John is a retired Head Teacher and his vast educational experience was greatly appreciated by all.

Right: *John Trodden and a Carrbridge Primary School pupil releasing the salmon fry into the River Dulnain.*
(Photo: Brian Shaw)

Left: *A slightly apprehensive looking salmon fry venturing out into the big, wide, River Dulnain after being nurtured by Carrbridge Primary pupils.*
(Photo: Brian Shaw).

The Spey Fishery Board and the Spey Foundation are most grateful to Walkers Shortbread for their continued and generous support of the Board's and Foundation's educational projects.

Part 5

Publicity

5.1 Media Coverage

The Board's involvement in the Atlantic Salmon Trust's Moray Firth Tracking Project received prominent media coverage in April and May 2019, with the project appearing on BBC's Springwatch programme. The most prominent newspaper article of the year featured Richard Whyte, the Board's Head Water Bailiff, and his use of an underwater metal detector to recover a precious gold ring, lost by an angler whilst casting at Orton.

5.2 Opening Ceremony

The SFB coordinated another successful annual Opening Ceremony at Aberlour on 11th February 2019. Local businessman James (Jim) Walker, of Walkers Shortbread, was our Guest of Honour, who opened the river for the start of the 2019 fishing season. He later presented prizes for the first fish of the new season caught on the fly, which was awarded to Stuart Martin, and to Keith MacLaren as the Ghillie in attendance. The Board would like to sincerely thank the sponsors for this event, particularly Aberlour Distillery, Walkers Shortbread and Aberlour Bespoke Catering. The Board was also grateful for the assistance provided by the River Spey Anglers Association, who also participated in the event.

5.3 Briefings

Staff changes during the year led to just two comprehensive Briefings being published during 2019, 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 the Spey Foundation, together with a wealth of research reports, can be found at **http://www.speyfisheryboard.com/**

News items are also regularly published and the "Blog" on the Board's website has also been utilised to enable swift publication of any issues of concern, such as reports of salmon skin damage and disease. This, in turn, is linked to social media, including Facebook and Twitter. 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 Meeting

The Board held their annual local Public Meeting at the Craigellachie Hotel, Craigellachie, near Aberlour on 19th December 2019. This was attended by approximately 25 proprietors, ghillies and local anglers. The Board's Director, Roger Knight, presented an update on the work of the Board over the last year and outlined the progress being made to tackle the major issues currently affecting the river. The Board's Biologist, Brian Shaw, also presented the results of our scientific monitoring throughout the catchment during the year and the state of the river regarding juvenile fish populations. Those attending were then provided with the opportunity to ask questions.

SPEY DISTRICT FISHERY BOARD
INCOME AND EXPENDITURE ACCOUNT
FOR THE YEAR ENDED 30 SEPTEMBER 2019

	£	2019 £	£	2018 £
Income				
Fishery accessments		414,480		414,480
Other income and Interest receivable				
Recharges to the Spey Foundation	0		0	
Spey Catchment Initiative	72,982		111,062	
Scottish Invasive Species Initiative	85,882		32,170	
Other operating income	79,419		69,218	
Interest received	0		0	
Electro Fishing	0		0	
Inver House allocation	10,000		0	
		248,283		212,450
		662,763		626,930
OVERHEADS				
Personnel Costs - (Note 2)		357,665		347,517
Direct Expenses - (Note3)		83,601		75,749
General expenses - (Note 4)		41,992		51,803
Financial Costs- (Note 5)		1,827		646
Spey Projects		11,785		0
Spey Catchment Initiative - (Note 6)		72,982		111,062
Scottish Invasive Species Initiative (Note 6)		85,882		32,170
		655,734		618,947
PROFIT FOR YEAR		**7,029**		**7,983**

SPEY DISTRICT FISHERY BOARD
BALANCE SHEET
AS AT 30 SEPTEMBER 2019

	2019 £	2018 £
FIXED ASSETS		
Tangible assets	66,079	29,350
CURRENT ASSETS		
Debtors	72,225	69,504
Bank - Current Account	290,015	355,029
	362,240	424,533
CURRENT LIABILITIES	(71,798)	(94,391)
NET CURRENT ASSETS	290,442	330,142
NET ASSETS	356,521	359,492
REPRESENTED BY:		
Capital accounts	38,569	38,569
Current accounts	297,952	290,923
Inver House Designated fund balance	20,000	30,000
Surplus as at 30 September 2019	356,521	359,492

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.

***Top Left Cover Photo**:* *Visiting lady angler Theresa Jolly at Delfur in 2019.* (Photo: Mark Melville, Head Ghillie, Delfur Fishings).

Top Centre Cover Photo: *Keeping a captured fish in water whilst photographing it, prior to its release.* (Photo: Mark Melville, Head Ghillie, Delfur Fishings).

***Top Right Cover Photo**:* *Visiting angler Nicky Mountain celebrating his 65th season at Delfur with yet another catch.* (Photo: Mark Melville, Head Ghillie, Delfur Fishings).

***Bottom Cover Photo**:* *The impoundment on the Allt Bhran, from which the whole flow of this tributary of the River Tromie is diverted in to Loch An-t Seilich, thereby denying access to it by migratory fish. The restoration of a flow down the lower section of the Allt Bhran provides a significant river restoration opportunity which the SFB is keen to continue to pursue in 2020.* (Photo: Roger Knight).


Lossiemouth
Buckie
Cullen
Portsoy
Banff
Elgin
Forres
Nairn
RIVER SPEY
Keith
Rothes
Craigellachie
RIVER FIDDICH
Aberlour
Dufftown
Inverness
RIVER SPEY
Grantown-on-Spey
RIVER LIVET
Carrbridge
RIVER NETHY
Tomintoul
RIVER AVON
RIVER DULNAIN
Aviemore
THE CAIRNGORM MOUNTAINS
Loch Ness
Fort Augustus
Kingussie
RIVER DRUIE
RIVER CALDER
RIVER FESHIE
Newtonmore
RIVER SPEY
RIVER TROMIE
RIVER TRUIM
SPEY FISHERY BOARD COASTAL ZONE
SPEY FISHERY DISTRICT
THE RIVER SPEY CATCHMENT