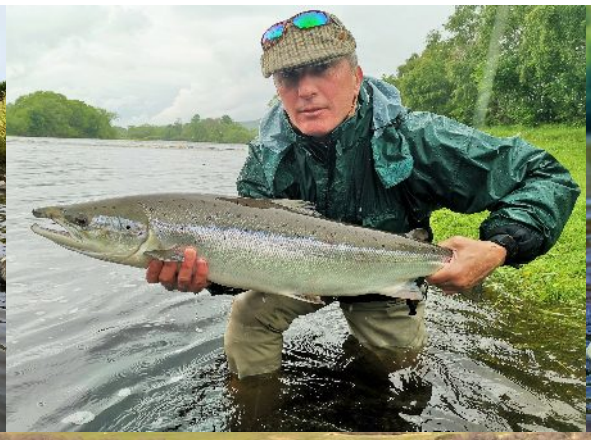
Annual Report 2020

***Top Left Cover Photo**:* *Mark Camacho with a 10lb hen salmon, caught at Ripples of Broom, Delfur, on 21st September 2020* (Photo: Mark Melville, Head Ghillie, Delfur Fishings).

Top Centre Cover Photo: *Charlie Campbell with another fine salmon caught at the Brae Water in June 2020* (Photo: Lewis Webb, Ghillie, Gordon Castle).

Top Right Cover Photo: *Charlie Gordon Lennox and Alexandre Gair with a Grilse in August 2020.* (Photo: Lewis Webb, Ghillie, Gordon Castle)

***Bottom Cover Photo**:* *The River Spey at the Pouches, Knockando, captured by drone photography in May 2020.* (Photo: Brian Shaw, Spey Fishery Board Senior Biologist).

www.speyfisheryboard.com

Annual Report 2020

by

Roger Knight
Director

and

Brian Shaw
Biologist

January 2021

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Spey Fishery Board

Chairman: ***Dr Alexander Scott***, Mandatory for Craigellachie Fishings

Proprietors:
William Mountain, Delfur Fishings
Oliver Russell, Mandatory for Ballindalloch Trustees (Until September 2020)
Guy Macpherson-Grant, Mandatory for Ballindalloch Trustees (Since September 2020)
Angus Gordon Lennox, Gordon Castle Fishings & Mandatory for the Brae Water Trust
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
Callum Robertson, Easter Elchies, Upper Arndilly and Mandatory for Macallan and Kincardine

Co-optees:
Grant Mortimer, Strathspey Angling Improvement Association
John Trodden, River Spey Anglers Association

Invitees:
Jennifer Heatley, NatureScot (formerly Scottish Natural Heritage)
Richard Fyfe, Scottish Environment Protection Agency

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

Spey Fishery Board Members Attendance at Board Meetings

Date	Dr Alexander Scott	Angus Gordon Lennox	Peter Graham	Dr Catherine Wills	Oliver Russell	Guy Macpherson-Grant	Toby Metcalfe	Callum Robertson	David Greer	William Mountain	John Trodden	Grant Mortimer
07/02/20	X	X		X	X		X		X	X	X	X
22/05/20	X	X	X	X	X		X	X	X	X	X	
04/09/20	X	X	X	X	X			X	X	X		
20/11/20	X	X	X	X		X	X	X	X	X	X	

Spey Scientific Committee

Chairman: ***Peter Graham FRICS***, Mandatory for Rothes & Aikenway, Laggan and Wildland 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
Mike Murdoch, Head Ghillie, Laggan Fishings (Since September 2020)
Blair Banks, Ghillie, Arndilly (Since September 2020)
Simon Crozier, Ghillie,Castle Grant Fishings
Jon Gibb, Lochaber District Salmon Fishery Board
Roger Knight, SFB Director
Brian Shaw, SFB Biologist

Administrator: ***Miranda Edwards,*** SFB Administrator

Spey Fishery Board Staff

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

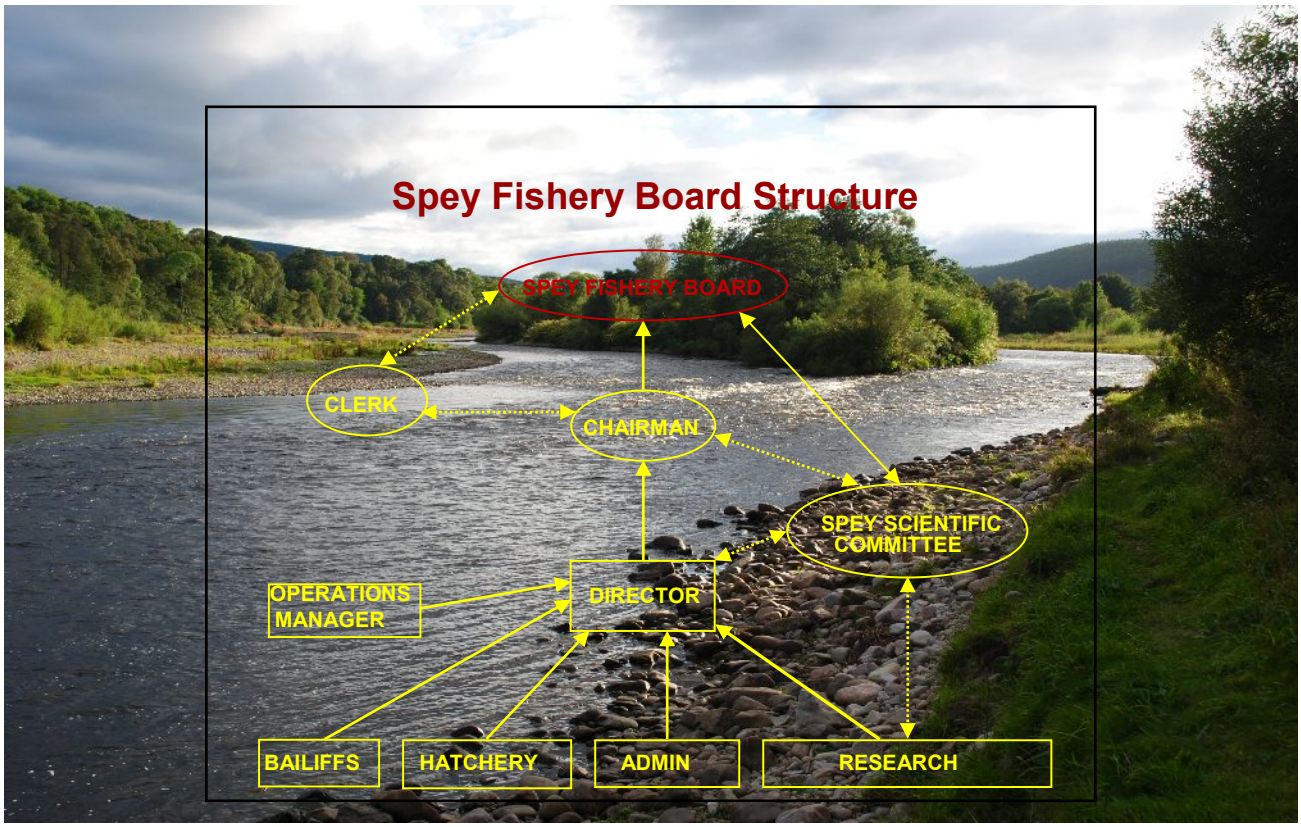


***Figure 1**: The Spey Fishery Board Structure*

A Word from the Chair

The Covid pandemic dominated the news in 2020 and sadly prevented visiting anglers making the trip to Speyside till mid-July. It was not till then that local hotels, holiday homes and hospitality generally were permitted to re-open.

As a result, no fishing took place on the Spey during the first lockdown. Local residents were permitted to fish in June on beats that had re-opened. At least nine beats below Grantown remained closed. Despite this, those lucky locals enjoyed some spectacular fishing. Catches for June were 50% better than 2019, dominated by chrome bright multi sea winter fish. Catches for July were double that of the previous year even though several beats again, chose to stay closed. As June turned to July, the grilse run built, providing good sport to many. Our final tally of 5,622 salmon and grilse was very respectable indeed, considering the shortness of our season, the unfortunate lack of visitors till mid-July, the reduced angling effort in June and the closure of many beats. Full details are in the first section of this annual report.

The river began to close naturally by September; the pools were full of fish, but they proved difficult to tempt. By the close of the Spey season on the 30th September, the fishing was definitely over. The Spey Board debated whether to extend the season this year because of the late start for many rods. We could find no sound reason to do so and that was proved the correct decision as we entered late September.

During the close season, salmon redds were seen in some numbers, including places where there has been a paucity in recent years - the count in the River Fiddich, for example, was especially good. I witnessed redds being cut behind the new woody structures we had just inserted in the River Calder and also as far up the River Truim as the Drumochter Summit on the A9.

What of the prospects for 2021?

First, I do hope the vaccination program means our ability to travel, stay, enjoy Speyside hospitality and, most importantly, to fish, will not be impacted again by Covid.

Second, the probability of an excellent season is high, barring anything we cannot control at sea. The 2017 and 2018 juvenile studies on the Spey showed strong results. The 2020 grilse run was good, so the probability of another good multi sea winter (MSW) run in 2021 must be high. The situation is similar to that in 2015, the last year we had a good grilse run. It was followed by an excellent run of MSW fish in 2016, peaking in a great June and the best June catch since 1952!

I must make mention of our small staff employed by the Board, many of whom spent long periods furloughed as we did all we could to curtail our expenses. In this report you will read what the team did achieve: it is quite staggering. Please take time to read what has been done. Thank you to them all, they make me very optimistic for the future of our iconic river.

Following more than 30 years as a Board Member, Mr Oliver Russell of Ballindalloch retired in September. He has served not only the Board but also the wider interests of the entire Speyside community with dedication and distinction. The Board appointed Mr Guy Macpherson-Grant to succeed him until the next triennial election.

I should like to thank all members of the Spey Board, as well as our partners in the Spey Catchment Initiative, for the dedication, knowledge, support and expertise they have brought to helping us deliver so much in such a difficult year.

Sandy Scott

Chairman

Part 1

Fisheries and Conservation

1.1 Salmon and Grilse Catches

Despite the impact of COVID-19, 2020 still proved to be a good season for anglers on the River Spey and better than the previous year. The imposition of the national lock-down on 23rd March and furloughing of many of the ghillies saw little angling take place for the next two - and in many cases three - months. In spite of this, the declared rod catch amounted to **5,622** Salmon and Grilse caught, which is a 1**0% increase** on the 5,090 caught the previous year (Figure 2). .

A relatively slow start to the season, together with the impact of the national lock-down, produced an early spring catch (between 11th February and 30th April) of just 67 fish, compared to 464 for the same period last year. With the lock-down in place for most of May, a further 151 fish were caught that month (compared to 620 fish in May 2019).

The easing of COVID-19 restrictions, albeit for local anglers only, saw 1,568 fish caught in June (a 50% increase on the 1,046 in June 2019). When the COVID-19 restrictions were relaxed further, with the opening of the hospitality industry from 15th July enabling visiting anglers to return, catches in that month rose to 2,054. This was over double the 949 salmon & grilse caught in July 2019. Catches dropped back in August to 871, lower than the 1,173 caught in August 2019 and the season concluded with September producing 911 fish, slightly above the 838 caught during the same month last year, (Figure 3).

Further details regarding the 2020 catches can be found in the weekly reports on the Board's website and can be found at the following link: https://www.speyfisheryboard.com/category/fishing-reports-2020/

Above: A*ngler James Nolan with a fine example of one of the 5,622 salmon & grilse caught on the River Spey during the 2020 season.* (Photo: Lewis Webb, Ghillie, Gordon Castle).

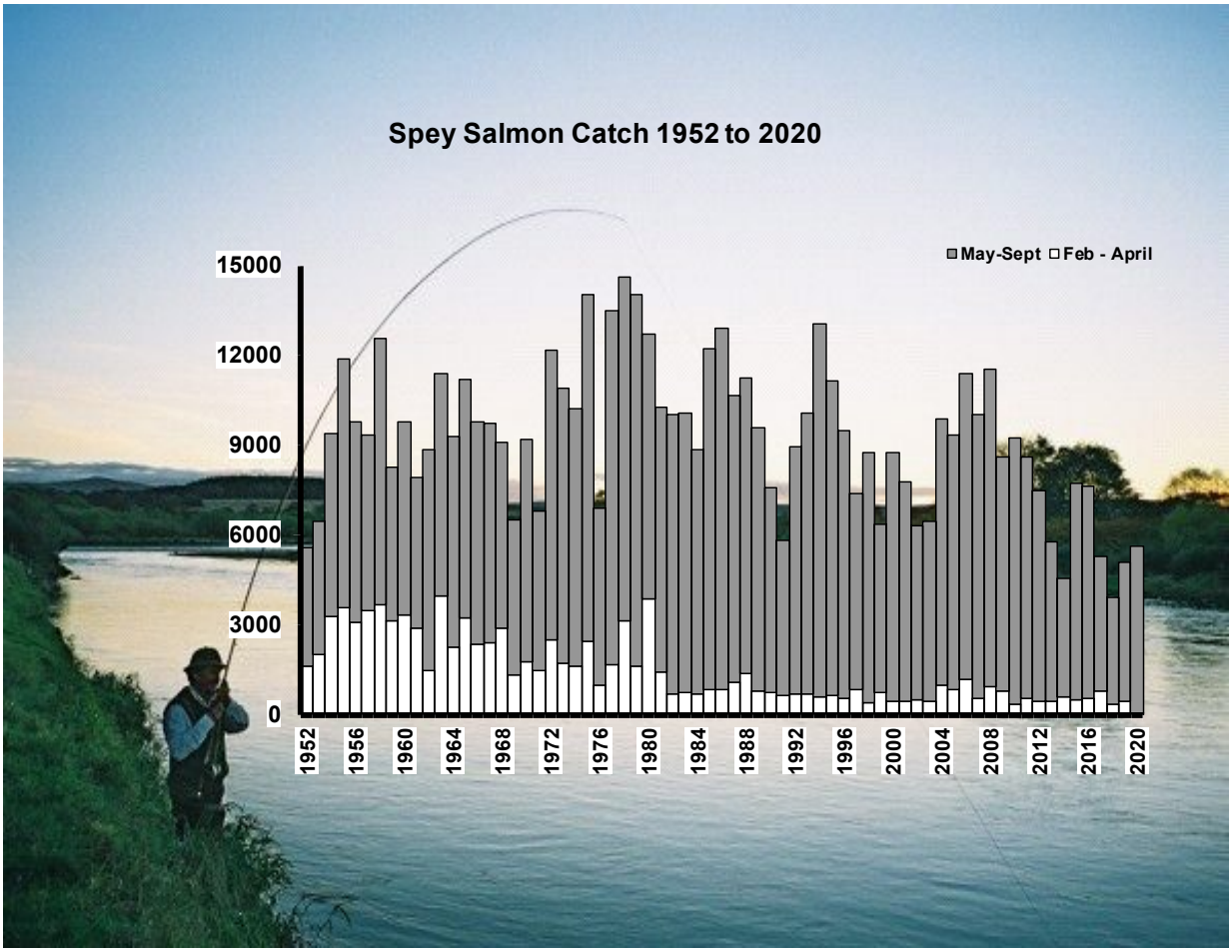


Figure 2: *Annual declared rod catch of wild Salmon and Grilse from the River Spey, 1952-2020. The 2002-2020 catches are from returns made to the SFB by proprietors.*

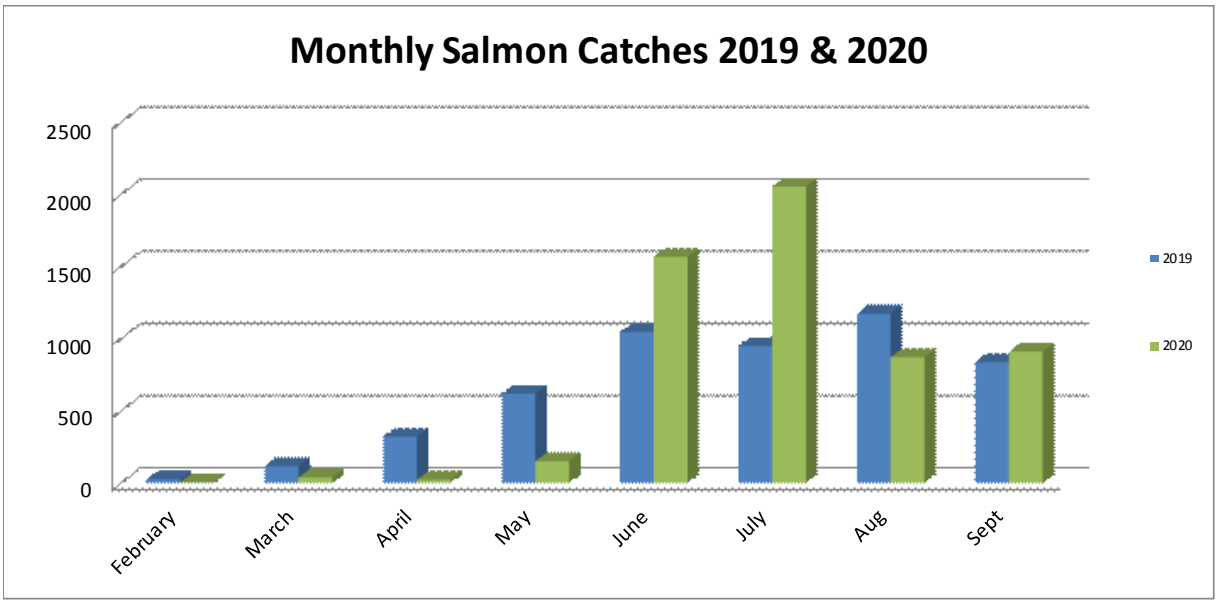


Figure 3: *Declared monthly rod catch of wild Salmon and Grilse from the River Spey in 2019 and 2020, calculated from returns made to the SFB.*

1.2 Sea Trout Catches

The 2020 declared rod catch for Sea Trout was 987**,** (Figure 4), which was significantly lower than the 1,623 caught in 2019. For the majority of recent years, June has been the most prolific month for Sea Trout catches on the River Spey, followed by July. In 2020, the national lock-down imposed on 23rd March in response to COVID-19 was eased in late May, but only for local anglers. Visiting anglers had to wait until the 15th July, when restrictions were eased sufficiently to allow the hospitality industry to re-open. So there was a reduction in the number of anglers fishing for Sea Trout during the most prolific months for Sea Trout catches. This is considered to be a likely cause of the reduced total catch.

Despite the above, 374 Sea Trout were caught in July 2020, which accounted for 38% of the annual catch. June was the second highest month for Sea Trout catches on the Spey, with 302 caught (31%). Overall therefore, 69% of Sea Trout caught were recorded in these two months.

Above: *Angler Ben Grundie with a fine Sea Trout caught at Easter Elchies in late July and one the 987 Sea Trout caught on the River Spey during 2020.* (Photo: Callum Robertson, Easter Elchies)

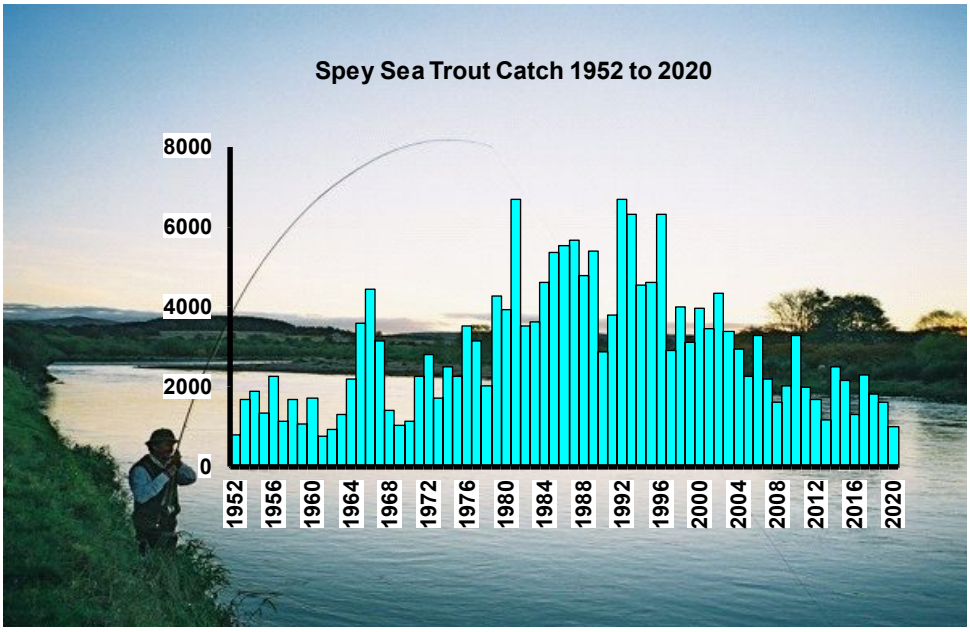


Figure 4. *Annual declared rod catch of Sea Trout from the River Spey, 1952-2020. The 2002-2020 catches are from returns made to the SFB.*

1.3 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 2020 season on the River Spey, **98%** of salmon and grilse caught were once again released (Figure 5). For a voluntary policy to achieve such a significant release rate is highly commendable and we are grateful to all of our proprietors, ghillies and anglers for their support for the policy. In total, **5,504** Salmon and Grilse were released to spawn in 2020. 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.

1.4 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 inter-breed. 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.

2020 saw the rate of catch and release for Sea Trout increase to **91%,** up 5% from the 86% released in 2019 (see Figure 5).

When it reviewed the Conservation Policy during 2020, the Board decided that in line with its precautionary approach, the voluntary policy overall was working well and should remain unchanged for 2021. The Conservation Policy for 2021 is illustrated in Figure 6 and the SFB will continue to monitor the situation throughout the forthcoming year.

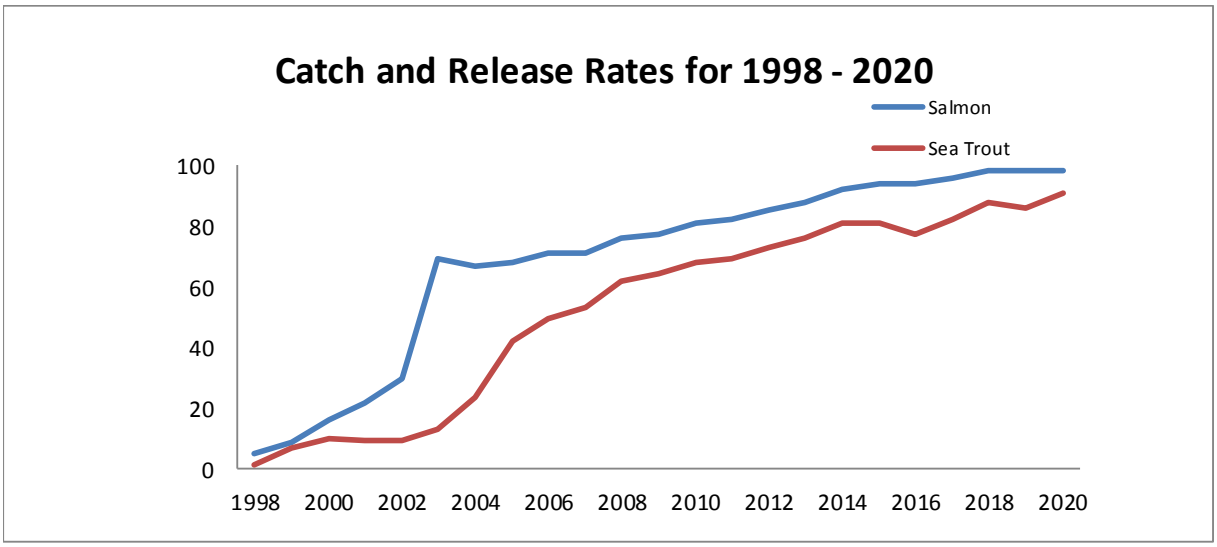


Figure 5: *Catch and Release Rates for the River Spey 1998-2020.*

Spey Conservation Policy 2021

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 6: *The Spey Fishery Board's Conservation Policy for 2021.* ***N.B. Since January 2015, it has been illegal to kill wild Atlantic salmon caught before 1st April .***

Spey Fishery Board Strategy & Action Plan

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

Conservation

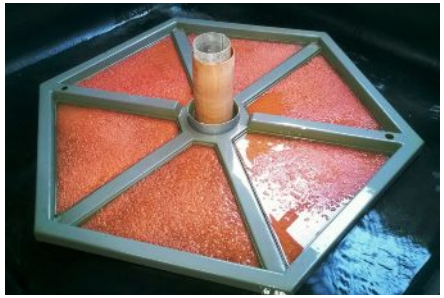
Water Quantity & Quality

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

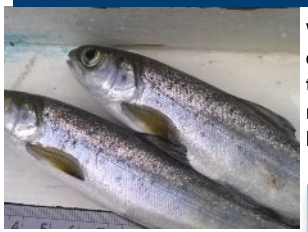
Education

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

Part 2

Management Report

2.1 COVID-19

The SFB responded swiftly and seriously to the emergence of COVID-19 in early 2020. The Board's first priority was the safety of its staff and this remains the case. A Coronavirus Policy was developed in March, which was regularly revised and updated in response to the situation as it developed. A comprehensive programme of cost-saving measures was also identified and implemented, which included many of the Board's staff being furloughed, some for significant periods of time during the first lock-down.

The juvenile fish in the Board's Hatchery were stocked in late March 2020, following the Scottish Government's announcement of a national lockdown from 23rd March. This is covered in more detail in section 2.6.

The Board's scientific team returned on 1st July to fulfil a comprehensive programme of contract work, as well as the Board's own electro-fishing and monitoring of juvenile fish populations. The remainder of the Board's staff had all returned to work by 1st August 2020.

The imposition of the national lockdown and associated restrictions led to the postponement of the second year of the Atlantic Salmon Trust's Moray Firth Tracking Project, as well as riparian tree planting along the River Truim that had been scheduled to take place in the spring. Both of these are due to take place in the spring of 2021 and are covered in more detail in sections 3.4 and 2.2.2 respectively of this report. COVID-19 also saw the cancellation of the third year of the Scottish Government's National Electrofishing Programme Scotland, which is reported in section 3.3.

The Board will continue to respond swiftly and effectively to COVID-19 as the situation requires.

2.2 Spey Catchment Initiative

The Spey Fishery Board has continued to be the driving force behind the Spey Catchment Initiative (SCI) throughout 2020, 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 overleaf and will be enhanced in 2021 by the addition of GFG Alliance.

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. Further information about the Initiative, together with copies of the Catchment Management and Business Plans, can be found on the SCI's website at:
https://www.speycatchment.org/

2.2.1 Tomintoul & Glenlivet Landscape Partnership (TGLP)

We have reported extensively on the Tomintoul & Glenlivet Landscape Partnership project in recent years. This resulted from the approval of £3.6 million of grants from the Heritage Lottery Fund back in 2017, 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. These had been 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.

During 2020, the timeframe for the TGLP was extended to take account of delays from the restrictions imposed by COVID-19. During the year, the SCI was consulted on options for additional water margins improvements, which resulted in fencing and tree planting along a small tributary of the River Avon at Fodderletter. The intervention will prevent poaching by livestock, restore an area of previously-browsed shrub woodland along the watercourse and allow further woodland regeneration.

The TGLP subsequently concluded at the end of December 2020. The SFB has been contracted, though, to maintain a programme of annual inspections of the water environment projects and oversee any maintenance work that may become necessary, subject to the availability of appropriate funding, over the next five years.

2.2.2 Riparian Enhancement at Glen Truim

Last year we reported on the SCI's development of a project to replace degraded and porous fencing along the River Truim between Crubenmore and Cuaich, alongside the A9. This would then 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.

Projects such as this are becoming increasingly important; 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 had secured funding for riparian woodland creation from the Cairngorms National Park Authority (CNPA) and this had been enhanced by additional financial assistance and support from Phoines Estate and Crubenmore Estate.

The SCI, supported by the SFB and estate workers, had removed the degraded fencing in late 2019. Stock fencing of approximately 2.2 km of the River Truim along Cuaich flats was then completed in January 2020 and the low density tree-planting had been scheduled to follow in the spring. The national lockdown and the associated COVID restrictions led this to be postponed, however. We now look forward to this taking place in the spring of 2021, with trees provided by the Woodland Trust, subject to the easing of restrictions as a result of the ongoing pandemic.

In late 2020, SCI Project Officer, Penny Lawson, also secured a further grant of £12,400 from the CNPA, this time from their Green Recovery Fund. This will enable the extension of the fencing along both banks of the River Truim by approximately 1.8 Km to complete the section downstream of the first phase, between An Stac and Crubenmore Bridge. The aim is to complete fencing on this lower section by March 2021 and to plant it, as for the first phase, with trees donated by the Woodland Trust.

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

Above: *Fencing along 2.2 km of the River Truim along Cuaich flats was completed in January 2020 This riparian enhancement project 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).

2.2.3 River Calder: Glenbanchor and Cluny

The River Calder is a major tributary of the Spey draining Glen Banchor, a glen to the west of the village of Newtonmore, characterised by a mountain and moorland landscape. It forms part of the River Spey Special Area of Conservation (SAC), designated for its internationally important populations of Atlantic salmon.

Spey Fishery Board data indicates that compared to other similar tributaries, the Calder has been under- performing in terms of its productivity for salmon and trout, with numbers of fry and parr consistently low since the early 1990's. It was suspected that this is partially due to the relative uniformity of channel geomorphology, linked to the sparsity of riparian woodland and, consequently, woody material in the channel. By introducing Large Wood Structures (LWS) - whole or large parts of felled trees with root balls attached - to the river, there was an opportunity to restore and enhance habitats in and around the river to help bolster salmonid breeding success.

The LWS are also likely to mitigate flood risk by helping to slow the rate of flow to some degree and, over time, they may also cause the raising of the river bed due to gravel deposition around them. This, in turn, will encourage the river to spread out over a larger area at higher flows, providing increased temporary water storage to reduce flood risk in Newtonmore down below.

The sustainability of the project is ensured through delivery of a complementary initiative to create over 22ha of new riparian native woodland on both banks of the Calder, together with deer fencing, and due for completion in spring 2021.

Overall, this project has the potential for landscape-scale improvements and real climate change adaptation in this relatively un-wooded upland glen. The project area is pictured below and on the back cover of this report.

Above: *Introducing Large Wood Structures (LWS) - whole or large parts of felled trees with root plates attached - to the River Calder, to restore and enhance habitats in and around the river so as to help bolster salmonid breeding success.* (Photo: by courtesy of Scotland: the Big Picture).

We reported last year that the SFB, on behalf of the SCI, had secured funding from SEPA towards the LWS part of this project. Following the easing of COVID-19 restrictions and the return to work of SFB Operations Manager, Duncan Ferguson, and SCI Project Officer, Penny Lawson, on 1st August 2020, practical implementation of this first phase began later that month.

A total of 29 LWS were installed in the Calder in August. Local contractors G. S. Campbell Ltd. were appointed to harvest whole trees with root plates from an adjacent windblown plantation and install them as medial and lateral structures in the river channel. Consultants Cbec Eco-engineering ensured they were sited at strategic locations where they will have maximum impact, enhancing fluvial processes to create improved habitat quality and diversity.

Baseline surveys were undertaken prior to works commencing, including aerial photography and topographic surveys by Edinburgh University and Scottish Rural College, who utilised drone-mounted technology to record detailed imagery. These will be repeated at annual intervals. The project has and will continue to provide opportunities for post-graduate student research.

Left: *Harvesting whole trees, complete with root plates, from an adjacent windblown plantation for installation in the river channel.* (Photo: Roger Knight, SFB Director).)

Right: *Installing the trees as medial and lateral structures in the river channel to improve river morphology and enhance salmonid spawning and subsequent juvenile fish habitat.* (Photo: Roger Knight, SFB Director).

Electro-fishing and macro-invertebrate surveys and redd counts were also undertaken by the SFB and, significantly, in November 2020 salmonid redds were seen in gravel depositions around the LWS, where redds had not been seen before. Scotland: the Big Picture were also commissioned by SCI and Glenbanchor Estate to record the works and interview participants, and a short film of the project can be seen at:
https://youtu.be/B-xTnLhnxOc

During 2020, SCI Project Officer, Penny Lawson, also bid to the SNH Biodiversity Challenge Fund for £192,000 to establish native riparian woodland along sections of the Calder. This bid was successful and detailed woodland plans have been developed by agents Cawdor Forestry, in consultation with Glenbanchor and Cluny Estates, SCI and other partners.

Three exclosures amounting to approximately 20ha will be located along a length of around 3.4 km of the river on both banks, with gaps between them allowing deer movement to continue. Contractors Taiga Upland began work to deer fence the exclosures in September 2020 and completed the fencing and construction of six water gates by December. Ground preparation and planting with native trees supplied by the Woodland Trust is scheduled to be completed in spring 2021. Around 14.5ha will be planted, with natural regeneration anticipated in much of the rest of the fenced area.

The SFB and SCI are grateful to SEPA, to the NatureScot (formerly SNH) Biodiversity Challenge Fund and to the CNPA for its Green Recovery Fund, for the funding they have provided towards enabling this project. The SFB and SCI are also grateful to Glanbanchor and Cluny Estates for their support throughout this project.

Above: *Gravel depositions around the embedded trees following a spate that happened soon after the tree installation. Significantly, in November 2020, salmonid redds were seen near these gravel depositions and LWS, where redds had not previously been seen before.* (Photo: Roger Knight, SFB Director).

2.2.4 UK Rivers 2020 Prize Winner: The Allt Lorgy

Long-term followers of the SFB's and SCI's work will recall that in 2012 we undertook a river restoration project on the Allt Lorgy, which is a tributary of the River Dulnain which had been straightened for agricultural purposes in the nineteenth century.

In 2020, the SCI and Cbec Eco-engineering made a joint submission to the Rivers Restoration Centre for consideration of an award for the Allt Lorgy Project This was successful and resulted in the award of the 2020 UK River Prize in the new category for 'reach scale' projects. It was the first time this prize had been awarded to a Scottish project, for what was the first project of its type in Scotland. The SFB congratulates all those involved with the project.

Scotland: the Big Picture were contracted to produce a short film of the project to support the joint submission. This can be seen at the link below:

https://www.youtube.com/watch?v=Yn1bZTKU7bg&fbclid=IwAR1w-rT6fWgpgfOE9vDVWgdXY37WoIOstco9ndBe9VLsRWFWRqzcwS-sT9w

2.3 Dufftown Distillery Upper Weir

As we reported last year, Diageo replaced the existing steel baffle fish pass on the upper Dullan Water weir with a traditional step/pool fish pass, as part of a weir upgrade programme. In 2020 the lower half of the weir was completed, including the installation of smolt screens, an eel pass and a smolt by-wash channel. The works were finished in late 2020 and the whole package now represents the "gold-standard" for fish passage in the catchment. We are grateful to Diageo and all involved for the fulfillment of this significant upgrade.

With its high pH and alkalinity, the Dullan Water is potentially one the most productive burns in the catchment. It is anticipated that its full potential as a spawning and nursery stream for salmon and trout will now be realised.

Above: *The completed fish pass at the Dullan Water weir, Dufftown. The works were finished in late 2020 and the whole package now represents the "gold-standard" for fish passage in the catchment.* (Photo: Brian Shaw, SFB Senior Biologist).

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

2.4 Water Abstraction Update

2.4.1 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 ALVANCE Aluminium 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.

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 11 sites visited (see section 3.2), indicating that only a few fish presently ascend the Dam's fish pass and limited spawning takes place. This was subsequently and independently verified by the Scottish Environment Protection Agency (SEPA) and in 2015 led to the designation of Spey Dam by SEPA as a barrier to fish passage.

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 continues to seek to better understand the movement of smolts from the upper Spey through the reservoir and would like to see the restoration of the River Mashie, much of the flow from which is also diverted to Fort William, .

The SFB has continued to press 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 4.7). Significant remedial action will need to be taken in order for this area to achieve the requirements of the WFD by 2027.

To facilitate this, senior representatives of the SFB, together with SEPA, have continued to hold regular meetings with representatives of GFG as part of a Spey Dam Technical Working Group. These meetings have seen a much more positive relationship develop with the new owners than previously existed and the Technical Working Group met remotely in August 2020 and again in November.

Last year, we had reported that GFG had commissioned a technical assessment of the fish pass at Spey Dam by international consultants, Multiconsult. Their report 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 have subsequently been discussed and prioritised by the Technical Working Group. In particular, these involve making changes to the notches between the fish pass compartments, so as to create an adherent nappe which will reduce turbulence in the water flow and the introduction of artificial lighting, which is expected to encourage adult fish migration. A fish tagging project has also been proposed by the scientists within the Technical Group, to investigate smolt passage through the reservoir and fish pass. We are hopeful that this will take place in the spring of 2021, with the fish pass modifications being implemented in the summer of 2021, so that these issues regarding Spey Dam may be satisfactorily resolved.

The SFB's Chairman and Director also met with senior representatives of Jahama Highland Estates (the land management component of GFG Alliance) in December 2020 to discuss a more strategic approach to the upper River Spey area. It was agreed that we would work towards a catchment-wide sustainability initiative that involves restoring the salmon population there, alongside the plethora of other work that is going on in the Estate. We look forward to working closely with GFG on this positive development during 2021.

2.4.2 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 on 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 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 3 power-generating stations, rather than 7). These proposals were withdrawn in October 2014 after 8 years of staunch objection from the SFB. In January 2017, SSE re-watered the upper 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 (which we illustrated in last year's Annual Report) and re-watering the River Cuaich. The restoration of flows down both these rivers provide significant river restoration opportunities and during 2020, the SFB began to consider proposals for the Cuaich. A site visit in late October 2020, kindly hosted by Phoines Head Gamekeeper, Jim McKeracher, highlighted the significant level of water abstraction from this area, as shown by the pictures below.

Transport Scotland has indicated that dualing of the A9 at Dalwhinnie is likely to begin in 2023. This will require re-locating the artificial channel used to divert water from the Tromie and Cuaich, part of which runs alongside the existing A9, and so presents an opportunity to restore the Cuaich by way of mitigation. The SFB will continue to work closely with landowners Phoines Estate and Wildland during 2021 to progress proposals to SSE for the restoration of flows down both the Cuaich and the Allt Bhran.

Above: *The impoundments on the Allt Chaim and (***Below***) on the Allt Chais, which are tributaries of the River Cuaich. The flows from these, as well as that from the Cuaich, are diverted into the Tay catchment to generate hydro-electricity. The restoration of a flow down the River Cuaich provides a significant river restoration opportunity which the SFB is keen to pursue in 2021.*
(Photos: Roger Knight, SFB Director).

2.4.3 Scottish Water: Revised Water Abstraction Proposals

We reported last year that the SFB had been contacted by Scottish Water regarding proposals to increase abstraction from the Kinakyle Boreholes near Aviemore, and 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. With regard to Dipple, 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 subsequently reiterated to Scottish Water the need for it to invest in the maintenance of the existing boreholes, which had been neglected for many years. SEPA also emphasised that Scottish Water should only utilise the river abstractions once they (SEPA) had been convinced that every other possible option had been considered.

During 2020, Scottish Water have worked with Gordon Castle Estate, as managers of the Brae Water Fishings, to relocate the point of abstraction and to minimise its visual impact on the fishery. The SFB will continue to monitor developments at this abstraction point throughout 2021.

We also reported last year that the SFB had commissioned 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. Progress with this revised report has been delayed by the impact of COVID-19, with Envirocentre staff forced to work from home as a result. It is, however, expected to be published in early 2021.

2.5 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, usually 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. The Group did not meet in 2020, deciding instead that any issues could be addressed by correspondence. 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.

2.6 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 current Board asked the Spey Scientific Committee to assume responsibility for recommendations regarding 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.

2.6.1 Stocking Policy

We reported last year that in late December 2018, the Board had become 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.

Marine Scotland published its Stocking Policy at the end of May 2019. This policy sets out a series of principles which the Scottish Government will use to govern its assessment of stocking applications. The SFB had suggested that the draft policy should go out to public consultation prior to submission to Ministers, but the policy was subsequently approved without this. During 2019 a petition was subsequently organised by the Ghillie element of the Scottish Gamekeepers Association to request that the policy be consulted upon. Following receipt of this petition by the Scottish Parliament, Marine Scotland agreed to undertake a consultation on its Stocking Policy and this began with virtual meetings on 14th December 2020. Representatives of the SFB attended this and we will continue to contribute to this process in 2021. The Marine Scotland Stocking Policy 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 current policy only permits the stocking of ova and/or unfed fry, rather than the fed fry that had previously been stocked by the SFB. This meant that the Board conducted its 2020 (Table 1) stocking earlier in the year than in the past and in late March, rather than in September. Furthermore, the national lockdown imposed by the Scottish Government on the 23rd March also meant that some stock, particularly the unfed fry, had to be planted-out slightly earlier than we would have liked and would otherwise have been the case.

With regard to the regulation of stocking, the Board understands that the Scottish Government aspire to take full control of the regulatory process for stocking activities, rather than the system of split responsibility that presently exists. Currently the Scottish Government licence the broodstock capture, with the subsequent stocking authorised by the District Salmon Fishery Board.

Last year, the Board secured agreement from the Scottish Government that if the Board's stocking plans follow those of previous years, the Scottish Government would permit the Board to submit its Broodstock Capture Licence application earlier in the year than before and using the previous year's

electro-fishing data. Up until then, the Board had had to wait for the latest electro-fishing data to be compiled.

Taking into account the Scottish Government Stocking Policy, the Spey Fishery Board, with advice from the Spey Scientific Committee, has to consider its stocking policy and requirement for each year. The impact of COVID-19 in early 2020, and the subsequent furloughing of SFB staff, prevented the Scientific Committee from meeting to do so this year. As a result, the Board decided to broadly repeat the stocking it had undertaken this year and for which it had prepared in 2019. This year's application, though, would see the removal of requests to stock the Knockando and Tommore Burns, which had been completed in 2019, and the inclusion of a request to undertake some restoration stocking in the Lour Burn, following a pollution event there in 2019. With the exception of the Lour Burn, the Board would otherwise maintain a policy of mitigation stocking above man-made barriers, as previously practised by the Board.

In early July 2020, the Board submitted a comprehensive application to the Scottish Government's Marine Scotland Science (MSS) for a licence to catch 108 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 NatureScot (formerly 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 NatureScot over the completion of this HRA and Appropriate Assessment and are grateful for the advice received.

In continuation of its stocking policy, another comprehensive programme of electro-fishing was again undertaken by the Board during 2020 (see section 3), initially to monitor the stocking it had undertaken earlier in the year (see Table 1) , as well as the results from that undertaken in 2019 (see Tables 7 & 8 in section 3.2).

The Board's 2020 Broodstock Capture Licence application was successful and it was granted a licence from the Scottish Government for the collection of 108 broodstock fish, which began in early October. The numbers of eggs subsequently laid down in Sandbank Hatchery are detailed in Table 2.

Above: *The SFB's Sandbank Hatchery in Glenlivet.* (Photo: Roger Knight).

Burn	Site details		Stocking 2020		
	Area (M^2)	Quality	No. 0+ parr required	Hatchery Source	Stocking Density
Allt Blairnamarrow	5,600	Good	11,200	Avon	2.0
Allt Garbh-bheinne	1,050	Good	2,100	Avon	2.0
Allt na Fanich	4,950	Moderate	9,900	Avon	2.0
Maggieknockater Burn	3,150	Moderate	6,400	Fiddich	2.0
Corrie Burn	5,350	Good	16,000	Fiddich	3.0
Fochabers Burn	10,250	Moderate	20,500	Lower Spey	2.0
Rothes Burn	5,600	Good	28,000	Lower Spey	5.0
Back Burn	900	Moderate	2,700	Lower Spey	3.0
Macallan Burn	7,200	Good	21,600	Lower Spey	3.0
Burn of Carron	14,250	Good	42,600	Middle Spey	3.0
Knockando Burn	28,800	Good	144,000	Middle Spey	5.0
Glenbeg Burn	11,300	Good	45,200	Upper Spey	4.0
Milton Burn (Aviemore)	4,700	Good	9,400	Upper Spey	2.0
Allt Bog nan Gabhar	2,200	Good	6,600	Dulnain	3.0
Total			**366,200**		

Table 1: Spey Fishery Board Stocking Numbers, Locations and Densities for 2020. All fish stocked as eyed ova or unfed fry in March 2020.

Source	Number Females	Eggs laid down in hatchery
Avon	8	52,030
Fiddich	6	53,420
Lower Spey	18	124,320
Middle Spey	11	63,180
Upper Spey	11	78,085
Total	**54**	**371,035**

Table 2: Eggs laid down in Sandbank Hatchery for stocking in 2021

2.7 Pollution Incidents

There was one pollution incident during 2020, with a plume of discolouration in the River Spey below Fochabers Bridge. This was reported to the Scottish Environment Protection Agency national control, who in turn alerted one of their local representatives. Video footage of the pollution supplied by Gordon Castle Ghillie, David Buley, enabled SEPA to take swift action, with the source quickly identified and the situation soon resolved. The Board is grateful to David Buley for his assistance with this incident.

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

2020 provided a number of unique challenges in terms of the management of Invasive Non-Native Species (INNS) on the river. The SISI project officer, James Symonds, had spent the best part of two years building a team of dedicated volunteers who collectively contributed hundreds of hours of INNS control in the 2019 season. Regrettably, due to the COVID-19 restrictions, it was not possible to run volunteer groups over the past 12 months and their absence was felt. All was not lost though; somehow, in 2020, more Giant Hogweed and Japanese Knotweed was treated than ever before.

2.8.1 Giant Hogweed

The first lockdown appeared just as the SISI Project Officer was starting to dust-off the project'sr knapsacks and see the plants start growing in earnest. Fishing was cancelled, SFB staff placed on furlough and the SISI project desk-bound with a 'no spray' order in place. Not an ideal start to a control season, especially when the project so far had put so much time, effort and money in to Giant Hogweed control over the past two years. SISI were not even able to appoint contractors until restrictions relaxed sufficiently to allow it.

However, with the fishing on pause, the Ghillies on the Brae Water and Orton were able to step-in and they did an amazing job keeping on top of it until the contractors arrived. The SFB and SISI are most grateful for their efforts, and those of anyone else who did their bit; without them we may have set ourselves back several years.

By May 2020, the contractors were on the river, working down the Mulben burn and through Orton and the Brae Water beats, continuing onwards down the right bank to the Association waters. Meanwhile, the SISI Project Officer had employed a Seasonal Assistant, Mirella Toth, who treated the Castle Water and all the way down the left bank to the viaduct at Garmouth. Some of these areas had never been treated. There are significant amounts of Giant Hogweed in the back-waters and side channels and it will require many more years of treatment to get on top of controlling them. The team's follow-up treatment of cutting flower heads took them right to the end of July, but most of the plants above Fochabers were treated.

2.8.2 Japanese Knotweed

Here again, a lack of volunteers due to COVID-19 restrictions hindered progress in controlling Japanese Knotweed this year. Using a combination of contractors and staff time, however, most of the major known stands down to Boat o' Brig were treated, including the fields of Knotweed on the right bank of Delfur. Areas that have been previously treated are showing excellent die-back, with minimal follow-up required. **If you are aware of any stands of Japanese Knotweed above Rothes, please get in touch with SISI Project Offier, James Symonds, via the SFB Office.**

Left: *SISI Seasonal Assistant, Mirella Toth, controlling Giant Hogweed on the lower River Spey.* (Photo: James Symonds, SISI Project Officer).

2.8.3 American Mink

With such an emphasis on plant control this year, less time was available for expanding the mink network, although captures continued on the lower river, with 5 mink caught from the Spey Bay reserve.

No sightings were reported on the main stem above Fochabers, but worryingly a mink was caught on the Livet with another animal suspected to also be present. This is highly concerning as it indicates a population near a major tributary of the Spey. These animals could very easily move back in to the main stem and spread from there. We will be looking at extending our monitoring on the Avon and Livet during 2021. If anyone is able to assist by monitoring a mink raft in the area, please contact James Symonds directly, or via the SFB Office.

2.8.4 Biosecurity

The Spey Fishery Board's Biosecurity Plan was also updated in 2020. It considers the various threats posed by known INNS on the river and highlights potential threats in the future. There is a significant amount of useful information contained in the document and it will be available from the SFB's website. It is highly recommended reading for anyone with an interest in the management of the Spey, or with a general interest in INNS.

2.8.5 Looking Ahead

Unfortunately, with delayed Hogweed treatment during the year, the SISI team were unable to undertake any Himalayan Balsam removal in 2020. The team aspire to rectify that in 2021 and hope to partner with some of the distilleries in the Dufftown area in order to clear the Fiddich of Himalayan Balsam over the final two years of the SISI project, although it is recognised that this is an ambitious goal.

Looking further in to the future, the team will start to think about the legacy that SISI will leave behind. It will consider the best ways to ensure INNS treatment on the river continues to be effective and that these species are kept in check. This might involve forming local control groups, establishing agreements with land owners and applying for additional funding to ensure that control work will continue.

Above: *SISI Project Officer James Symonds, stem injecting Japanese Knotweed. Not as tedious as it might sound and very, very effective.* (Photo: Vicky Hilton, SISI Volunteer).

2.9 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 (and now UK) 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 4.3), which it has identified as part of its Fishery Management Planning template. The SFB will continue to do this during 2021 and to utilise this to provide further evidence to the Scottish Government of the impact of this invasive plant.

Above: . *Ranunculus fluitans below Grantown Bridge during the summer of 2020. The SFB will continue to monitor this 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).

2.10 Sawbill Ducks and Cormorants

Last year we reported that the SFB had accepted an invitation from the Scottish Natural Heritage (SNH - now NatureScot) Licensing Team, as the licensing authority for pisciverous bird control, to take part in a scientific study of the stomach contents of Goosanders and Cormorants. This was a repeat of 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 was subsequently issued with a licence to shoot 36 Goosanders and 36 Cormorants for scientific research which concluded on the 29th February 2020. The licence also required all carcasses to be retrieved and submitted to the Centre of Ecology and Hydrology (CEH) 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. Despite the best efforts of all those who took part, it was not always possible to retrieve carcasses of shot birds, as the River Spey is Scotland's fastest-flowing river. Nonetheless, a total of 15 Goosanders and 1 Cormorant were subsequently submitted to CEH for analysis in 2020.

The analysis of the stomach contents proved to be another casualty of the COVID-19 lockdown and restrictions. CEH had to close their laboratories to the majority of its staff, with the scientist involved in our study only being granted occasional access. This significantly delayed progress with the analysis, which could not be conducted by home working. A report on the findings is expected to issue in early 2021, however, and we will report on these in due course.

The SFB has also continued to coordinate a combined application to NatureScot (formerly 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. From 2021, it will also include the River Helmsdale. 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.

Above: *The numbers of piscivorous birds such as Goosanders* (pictured left, photo courtesy of www.arkive.org), *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 the Spey's licence application, the SFB continued counting Goosanders, Mergansers and Cormorants during the year, although our May count was another casualty of the COVID-19 lockdown and restrictions. The counts are carried out from Boat o'Garten to Spey Bay and usually take place in late March and early May, early October and mid-December. In 2020, we were only able to conduct these counts in March and October, with the December count cancelled due to high water in the River Spey, which tends to send the birds up into the tributaries and renders a count unrepresentative. 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 2019, contributed to our 2020 application for the 2020/2021 licence period and was submitted to NatureScot (formerly SNH) in early July 2020. In common with previous applications, the Board once again requested that its licence should run to the end of May, so as to provide additional protection to salmon stocks during the annual smolt run, which extends throughout April and May.

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 2019 had produced one of the lowest counts for that time of year. This was a pattern replicated on other rivers around the north east of Scotland, with a similar situation recurring during the count in October 2020.

The SFB's 2020 licence application was again successful and the Board has been granted a licence to shoot 18 Goosanders, 1 Merganser and 3 Cormorants between 1st October 2020 and 31st May 2021, although only male Goosanders may be shot during May, when the females are usually nesting. This was a reduction in the licensed quota from previous years as a consequence of the reduced numbers of birds counted along the Mainstem of the River Spey in October and December 2019, as we had predicted in our last Annual Report.

The SFB will continue to conduct its bird counts throughout 2021, which will provide the supporting data for the submission of our next licence application in July 2021.

2.11 Fisheries Management Scotland Predation Committee

We reported last year that 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, chairs this committee.

The FMS Predation Committee brings together representatives of Marine Scotland Science, Marine Scotland (Policy), NatureScot (formerly 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 Committee met again in late-February 2020 and its discussions assisted NatureScot with a review of the licensing process for controlling piscivorous birds. A number of changes have since been made to this, particularly in simplifying and

reducing the number of questions asked during the application process. Further meetings of this committee were unable to take place during 2020 due to COVID-19, which saw a number of the civil servants involved in the committee temporarily re-deployed to other duties. The SFB looks forward to continuing to work closely with these organisations during 2021 and we shall report next year on progress and developments.

2.12 Moray Firth Seal Management Plan

2020 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 four 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 previously 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 2019, the SFB had submitted a Licence Application for the period 1st February 2020 until 31st January 2021. This application was 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 five. 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. The SFB subsequently 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

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 G. Bradley and uksafari.com. Common/Harbour seal photo below courtesy of Charles James Sharp - Own work, from Sharp Photography,sharpphotography,CCBY-SA4.0, at https://commons.wikimedia.org/w/index.php?curid=42803334).

Deterrent Devices (ADDs), for an effective and sustainable seal management strategy to be devised. Just over a year ago, 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, although the impact of COVID-19 has led to little news on progress since.

In late May 2020, the SFB was informed by Marine Scotland that it intended to lay amendments before the Scottish Parliament with regard to seal licensing in the Animals and Wildlife Bill. These would amend the Marine (Scotland) Act 2010 by removing the specific grounds for which Scottish Ministers were able to grant licences for the killing or taking of seals and increased the penalties for doing so.

We were also informed that the amendments would align with conservation measures taken by other countries, such as the United States, and would ensure compliance with new provisions in the US Marine Mammal Protection Act (MMPA). This Act requires that nations exporting commercial fish and fish products to the United States are

held to the same standards as US commercial fisheries, where the taking of marine mammals is prohibited. On that basis, Marine Scotland understood that if they did not implement the proposed amendments to our seal licensing system by 1 March 2021, when nations have to demonstrate equivalency with the MMPA, Scotland would not be able to export a range of seafood products to the United States with effect from January 2022.

Marine Scotland also explained that it was therefore likely that the current seal licensing regime would cease at the end of the current round at the end of January 2021. They were, however, continuing to explore the potential for some limited lethal removal of individual seals for the purposes of conserving wild Atlantic salmon. Fisheries Management Scotland are working closely with Marine Scotland on this, on the basis that the United States authorise the shooting of Sea Lions in order to protect wild salmon, which it considers to be an endangered species. FMS have pointed out to Marine Scotland that there are existing conditions within the Marine (Scotland) Act 2010 to enable the lethal removal of seals for the purpose of protecting other animals (salmon) and Marine Scotland are continuing to liaise with the United States authorities to confirm their acceptance of these.

The Animals & Wildlife (Penalties, Protections and Powers) (Scotland) Bill 2020 was passed by the Scottish Parliament and became an Act on 21st July 2020. Scottish Ministers have since confirmed that the commencement date for the introduction of the amendments will be 1st February 2021, immediately after the current period of seal licensing comes to an end.

Marine Scotland have, however, acknowledged that other than the grounds of these amendments, the existing provisions within the Marine (Scotland) Act 2010 still remain and the Scottish Government will be issuing guidance on how future licensing under these remaining provisions may take place in the coming months.

The SFB will continue to work closely with Fisheries Management Scotland, the Scottish Government and its advisors and maintain our efforts to reduce seal predation of River Spey salmon and sea trout.

2.13 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 2020, 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 Wildlife Crime and the Rural Crime and Safety Partnership, both of which are chaired by senior officers from Police Scotland.

With many people spending more time at home due to the first COVID-19 national lockdown, and the anticipation of an increase in illegal fishing as a result, the SFB developed even closer links with Police Scotland. Moray Area Commander, Chief Inspector Norman Stevenson, allocated PC Mitch Dickson to undertake regular patrols with SFB Head Water Bailiff, Richard Whyte. These provided a substantial deterrent against illegal fishing and other wildlife crimes and led to one arrest on 25th April 2020, in a case which has been submitted to the Procurator Fiscal.

It also illustrated the significant benefits for both organisations of these joint patrols.

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 May-September 2020. This RIB was a significant investment for the Board, but it enables us to conduct patrols along the 20 miles of coastline over which we have jurisdiction. Furthermore, our jurisdiction extends 3 nautical miles out to sea. Numerous patrols were completed during 2020 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 2020 to undertake a patrol for the Deveron DSFB, which it conducted in August 2020 from Rosehearty Harbour. These contracted patrols have also continued to illustrate the value of pooling resources to tackle shared problems.

Above: *The SFB's Head Water Bailiff, Richard Whyte, was joined by Police Scotland's PC Mitch Dickson for regular joint patrols during 2020. This achieved an arrest in April 2020 and proved to be a highly effective deterrent to illegal fishing and other wildlife crime.* (Photo: courtesy of Police Scotland).

2.14 Administration and Staffing

In September 2020 the Board said farewell to Oliver Russell, who decided to retire after several decades of dedicated service as a Board Member. The Board is particularly grateful to Oliver for his sage advice and dedicated assistance throughout his long and loyal service.

The Board appointed Guy Macpherson-Grant to replace Oliver Russell and the Board was delighted to welcome Guy to his first Spey Board meeting in November 2020.

The Board has also said farewell to Dr Malcolm Newbould, who has decided to retire from writing the Weekly Fishing Reports on the Board's website. The Board is most grateful to Malcolm for all he has contributed over the last 11 years.

There were no changes to the Board's staffing during 2020.

Part 3

Spey Scientific Report

2020 was another very busy year for the Spey research team. COVID resulted in the loss of all the smolt related sampling and tracking in the spring, but on return from furlough at the beginning of July, the team had an exceptionally busy summer. We were fortunate that Michael MacDonald, our 2019 seasonal summer student, was able to rejoin us again in 2020.

3.1 Juvenile surveys 2020

COVID-19 also led to the cancellation of the 2020 National Electrofishing Programme Scotland survey, so we focussed instead on our routine triennial survey programme. In 2020 the tributaries scheduled for surveying were the Fiddich, Feshie, Tromie and Calder. Those sites we stocked from the Hatchery were also surveyed, along with a selection of burns. In addition, over 100 timed, salmon fry index surveys, were completed in the larger watercourses. A significant number of contract surveys were also completed, including those connected with the proposed A96 dualing. Field conditions were generally suitable throughout the summer survey season and most of the planned sites were completed.

3.2 Salmon Fry Index surveys and Stocking Monitoring

The Spey remains one of the few large salmon rivers where routine monitoring of the mainstem is undertaken. All 62 of the regular mainstem survey sites were completed. The results for salmon fry, and parr, are summarised below and presented in Table 4.

- The mean salmon fry count in the mainstem in 2020 was 28.0/minute, the highest recorded in the series.
- Downstream of Spey Dam there was only one site below the moderate to very good categories for fry.
- 21 of the sites below Spey dam recorded the highest fry count in the series.
- Upstream of Spey Dam salmon fry were scarce. The mean count in 2020 was the fourth lowest in the series, with no sites achieving higher than very low status. Salmon fry were absent from the four uppermost sites.
- The mean salmon parr count/min was 3.5, higher than last year and above the series average.
- Sites between Craigellachie and Grantown, and upstream of Kingussie, were the most productive.
- The mean parr count upstream of Spey Dam was the second highest in the series. This follows the widespread fry distribution in the two previous years.

The salmon fry counts in the Spey mainstem were excellent, but this was not repeated in the tributaries. In the Fiddich, Feshie and Calder, the salmon fry counts were the lowest recorded in the series. The average fry count in the five Calder sites was 1.8/min, with fry absent in one site and in the lowest category in the remaining four.

More positively, the mean parr counts in the tributary rivers Feshie, Tromie and Calder were the highest recorded in the series and average in the Fiddich. It must not be forgotten that this type of monitoring only became fully established in the tributaries in 2014, so there is a relatively short sequence. The fry and parr counts from the timed surveys in the tributaries since 2012 are presented in Tables 3 & 4.

Table 3: 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 4: Spey mainstem salmon fry index and salmon parr counts 2012 to 2020

		Salmon fry/min									Salmon parr/min								
Site code	Location	2012	2013	2014	2015	2016	2017	2018	2019	2020	2012	2013	2014	2015	2016	2017	2018	2019	2020
S07R1	LW2	24.7	22.7	16.3	27.3	5.7	46.3	9.7	3.3	16.3	1.0	4.3	2.3	1.0	3.3	0.0	0.0	2.0	1.3
S012R1	LW1	11.3	17.0	17.3	20.3	10.7	14.7	44.3	3.0	20.7	1.0	0.3	0.0	0.7	0.3	0.0	1.0	0.0	0.0
S017L2	Gordon Castle	31.7	52.7	24.7	20.0	13.0	32.0	31.0	15.3	35.7	0.7	2.3	0.7	2.3	5.0	0.3	2.0	9.7	3.7
S019L2	Gordon Castle	13.3	57.7	28.7	34.7	17.3	59.3	33.3	19.0	46.3	1.3	1.0	4.0	3.0	3.7	0.7	3.0	4.0	1.0
S025L1	Gordon Castle	7.7	26.0	23.0	26.0	20.7	24.0	22.3	17.7	44.3	0.0	2.7	1.3	0.3	0.7	0.0	0.0	4.7	3.7
S029L1	Orton Water	6.3	41.0	15.0	31.7	15.7	29.0	28.3	14.7	43.7	0.0	4.7	7.7	0.7	4.3	0.0	0.0	4.3	1.0
S032L1	Orton Water	9.0	44.0	17.7	28.3	14.7	36.3	42.7	19.3	25.7	0.0	1.7	4.0	0.7	4.3	4.0	4.0	2.7	1.7
S034R1	Delfur	19.7	12.0	55.0	27.0	5.0	27.7	24.7	11.3	39.7	1.7	2.0	4.0	0.0	6.3	0.0	4.0	2.3	2.0
S040L1	Delfur	6.7	14.0	13.3	22.0	4.7	50.3	22.7	15.7	24.7	0.0	0.0	3.7	1.7	8.3	0.0	3.0	6.7	3.0
S040L2	Delfur		90.0	66.0	29.0	15.7	52.7	61.3	30.3	49.3		2.7	1.0	0.0	0.0	0.0	0.0	0.7	0.7
S042L1	Rothes	7.7	44.0	10.3	14.7	12.0	31.7	6.0	11.3	12.7	1.3	7.0	1.7	2.0	7.0	0.7	1.0	3.3	3.3
S047L1	Rothes	6.3	9.3	9.0	18.3	4.7	21.7		6.3	19.3	0.0	12.0	14.0	1.3	12.7	1.3		9.3	8.0
S050R1	Amdilly	13.7	29.7	28.3	16.0	13.3	31.0		17.3	21.0	0.0	3.0	0.0	1.7	3.7	0.3		1.7	0.0
S052L1	Amdilly	15.7	15.7	19.7	23.7	9.3	21.3		13.3	31.0	0.3	0.0	3.0	2.0	6.3	0.0		3.7	1.0
S056L1	East Elchies	17.7	34.7	43.7	39.7	16.0	50.3		38.3	52.0	0.3	0.0	1.0	0.3	3.7	0.0		2.7	0.7
S059R1	Craigellachie	36.7	28.3	33.3	23.0	17.3	45.7	24.7	20.3	47.7	0.7	4.0	2.0	0.3	2.0	0.7	3.3	0.0	1.7
S060R1	Craigellachie	13.0	12.3	23.0	11.7	17.7	20.3	15.3	13.3	29.0	0.3	0.0	3.0	0.0	2.7	0.3	0.3	1.3	1.7
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	47.3							4.3	5.3	8.7
S066R1	Aberlour	10.0	15.3	27.7	17.0	11.0	31.3	15.7	19.0	30.3	2.0	35.7	19.7	1.3	18.7	14.3	17.0	12.0	14.7
SO68L1	Wester Elchies		15.7	12.0	9.3	3.3	38.7	1.3	10.3	25.7		13.7	15.7	3.7	12.3	5.3	11.3	6.3	8.0
SO72L2	Wester Elchies		19.3	7.3	28.3	3.0	22.7	18.3	16.7	34.3		5.7	3.3	2.3	3.3	0.3	4.3	0.0	3.7
S074L1	Laggan	7.0	5.3	9.0	13.7	2.0	18.0	8.3	9.0	21.3	1.0	8.3	4.3	0.7	4.7	6.0	2.3	2.0	3.7
S077L1	Laggan	36.7	10.0	31.3	27.7	7.7	32.0	18.3	21.7	60.3	0.7	3.3	1.3	0.0	7.7	2.0	3.7	1.7	4.7
S079R1	Carron	15.7	31.0	16.3	18.3	11.7	27.0	8.3	21.7	45.0	1.7	2.0	6.3	1.3	3.0	6.0	3.3	0.7	5.3
S082L1	Knockando	8.3	9.3	17.7	15.0	8.7	18.7	5.7	11.7	32.0	2.3	12.7	13.0	3.3	7.7	8.3	7.7	4.0	6.0
S087L1	Phones		3.7	6.0	4.7	0.7	7.0	3.3	3.0	12.3		5.3	6.3	0.0	3.7	5.3	2.3	7.3	5.0
S093R1	Lower Pitchroy	21.3	25.7	20.3	41.7	16.7	40.7	25.3	43.7	58.3	4.7	9.7	9.7	1.7	11.7	10.3	17.0	0.7	9.3
S096R1	Ballindalloch	11.0	20.0	49.0	37.0	20.3	52.0	30.0	27.7	69.7	1.7	2.3	11.0	2.3	6.0	8.7	4.3	9.7	5.7
S104L2	Ballindalloch	20.3	61.3	40.7	43.0	25.0	54.7	45.0	26.0	79.3	1.3	5.0	4.7	2.3	3.0	8.3	2.7	9.3	3.7
S105L2	Tulchan D	35.0	65.7	33.7	45.7	33.3	39.0		26.0	49.0	0.0	2.0	1.0	1.3	1.7	8.0		3.0	1.7
S112L1	Tulchan C	10.3	35.0	11.3	31.3	14.7	28.7		27.0	43.0	4.0	8.0	7.7	5.3	10.3	9.0		2.0	5.3
S119L1	Tulchan B	28.0	30.7	10.0	27.7	12.7	31.0		19.0	30.7	2.7	10.7	4.0	3.7	8.3	9.3		4.0	4.3
S124R1	Tulchan A	13.0	38.0	14.7	18.7	11.7	33.7		9.3	29.0	2.3	1.7	1.3	2.7	5.0	5.7		5.0	1.3
S131L1	Castle Grant 3	29.0	40.0	21.0	34.3	24.0	35.3	29.3	18.0	48.0	10.0	7.0	6.7	3.0	5.0	5.3	11.0	0.7	6.0
S135L1	Castle Grant 2	17.7	44.0	36.3	20.0	10.0	32.3	49.3	16.3	36.3	0.7	0.7	1.0	1.3	4.7	0.7	2.3	5.3	2.7
S141L1	Castle Grant 1	3.7	8.0	9.3	17.0	24.3	19.7	18.3	15.3	22.0	1.0	0.0	2.0	1.3	1.3	2.7	1.3	4.3	2.3
S147L1	SAIA	11.0	17.3	16.0	45.3	24.7	42.3	4.3	36.7	45.7	1.0	7.7	13.0	6.0	6.7	8.7	8.7	5.3	13.3
S149L1	SAIA	12.0	10.3	14.7	21.7	23.7	23.0	6.7	17.3	31.0	1.3	8.3	11.3	5.0	5.3	2.3	8.7	5.3	7.7
S163L1	Abernethy AA	33.7	73.3	59.3	28.0	28.3	68.3	106.0	43.3	61.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.3
S177L1	Abernethy AA	23.0	53.0	24.0	31.0	24.3	45.3	46.3	31.3	35.0	0.0	1.7	0.3	0.7	1.0	0.3	2.3	0.7	2.3
S183L1	Kinchurdy	5.7	45.0	21.0	29.7	17.3	38.0	50.3	10.7	22.7	0.0	0.0	0.0	1.7	0.0	2.0	2.0	2.3	1.0
S195L1	Aviemore AA	14.0	36.0	13.7	11.0	14.3	17.7	51.3	11.7	23.3	0.0	0.0	0.0	0.7	0.7	0.0	0.0	0.3	0.7
S209L1	Kinrara	19.0	28.3	13.3	19.3	12.3	27.0	41.7	22.7	26.3	0.0	0.7	0.0	0.7	0.0	0.0	1.7	0.3	0.0
S215L1	Dalraddy	24.3	63.3	47.7	24.0	21.3	24.3	81.7	20.0	10.3	1.0	0.0	0.0	0.3	1.0	0.0	0.0	1.7	0.0
S243R1	Ruthven Bridge	8.7	14.3	17.7		36.7	56.0	25.0	31.7	27.7	0.0	1.3	0.0		0.0	1.7	1.3	1.7	1.0
S254R1	Golf course	6.0	8.0	18.3	10.7	12.0	18.7	28.0	11.0	12.3	1.0	4.0	0.0	1.3	1.7	2.7	6.7	0.3	0.3
S258L1	Calder Mouth	12.7	11.0	19.3	5.7	38.3	37.0	42.3	21.0	27.0	0.7	1.3	4.7	4.0	5.7	4.3	14.0	1.7	7.0
S260L1	Badenoch AA				20.7	22.7	23.7	16.3	16.3	16.7				1.3	4.0	2.3	8.7	11.3	3.3
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	23.3	1.0	3.3	0.3	0.3	2.7	3.3	7.0	0.0	2.3
S287L1	Laggan	12.3	21.3	14.7	5.0	29.7	25.3	24.0	18.7	18.7	2.0	5.0	2.3	3.0	9.3	3.7	8.7	0.7	2.7
S290L1	Below Spey Dam	18.0	25.0	5.7	8.0	17.0	8.0	18.7	3.0	13.7	4.7	11.3	7.0	7.0	10.3	2.3	18.0	3.0	10.3
S298R1	Glenshirra	0.0	0.0	0.0	0.3	0.0	0.0	2.3	2.7	3.3	0.7	3.7	1.3	0.0	3.3	0.0	0.7	6.3	7.3
S305R1	Garvamore	3.3	3.7	0.0	2.7	0.0	0.3	11.3	5.3	0.7	0.3	5.7	1.0	0.0	1.3	0.7	5.6	3.7	2.3
S305R2	Garva Bridge	1.3	1.3	0.0	1.0	0.0	1.0	2.3	2.3	0.3	1.3	4.0	0.7	0.0	1.7	0.3	1.7	2.3	4.3
S311L1	Upper Spey	4.0	0.0	0.0	0.0	0.0	1.0	9.7	1.7	1.7	0.0	0.7	0.0	0.0	0.3	0.0	0.0	1.3	0.0
S312L1	Upper Spey	4.7	0.0	0.0	0.3	0.0	2.7	3.3	1.0	0.0	1.3	4.7	0.7	0.0	1.7	0.0	1.7	2.0	2.3
S315L1	Upper Spey	5.7	0.0	0.0	8.0	0.0	2.0	6.3	2.3	0.7	0.0	3.3	0.7	0.0	1.3	0.0	0.3	1.0	3.3
S317L1	Upper Spey	7.0	0.0	0.0	1.0	0.0	6.7	12.7	8.0	2.3	0.3	2.0	0.3	0.0	0.3	0.3	2.0	1.7	2.7
S318L1	Upper Spey	3.0	0.0	0.0	0.3	0.3	1.3	3.0	2.7	0.0	1.0	1.0	0.0	0.0	0.7	0.0	1.0	3.0	2.3
S319R1	Upper Spey	0.7	0.0	0.0	0.0	0.7	1.3	3.0	2.3	0.0	0.3	4.7	1.3	0.0	1.0	0.7	2.7	2.7	1.7
S324L1	Upper Spey				0.0	2.0	0.7	2.0	1.3	0.0				0.0	0.0	0.0	0.7	0.3	0.7
S326L1	Upper Spey	5.7	0.0	0.0	0.0	0.7	0.0	13.0	1.0	0.0	0.3	0.7	0.0	0.0	0.3	0.3	0.3	1.7	0.7
Mean		14.1	24.2	18.8	19.2	13.0	27.0	24.5	15.6	28.0	1.2	4.4	3.8	1.4	4.2	2.6	4.1	3.3	3.5

The timed surveys completed in the larger tributaries since 2017 (Tables 5 & 6), show that salmon fry counts are generally higher in the lower catchment tributaries, than the upper, but that there is considerable variation from year to year. 2016 (following Storm Frank) was a year with low fry counts. Parr counts a year later were also lower, for the same reason. 2017/2018 were stronger years for salmon fry, as were 2018 & 2019 for parr. These strong year classes are now feeding into the returns of adult fish. There is no obvious pattern amongst the parr results, with some of the counts

from the middle and upper tributaries being amongst the highest. Arguably the River Luineag is the best of the larger Spey tributaries; the results from it are certainly amongst the most stable. By the same criteria the River Calder is one of the least productive, hence the habitat enhancement works referred to in Section 3.2 of this report. For a high-altitude tributary, the Truim is productive. The gradient in the middle section is ideal for spawning and the pH is high compared to other upper tributaries.

Declining numbers of spawning fish could affect juvenile densities, but we consider the increasing frequency of extreme high flows to be one of the main factors influencing fry recruitment in these large tributaries, with 2016 being an extreme example. There is ample evidence that the extreme flows are occurring more frequently, in particular in the autumn and winter. For example, data from the Feshie shows that six of the nine highest flow events over the last thirty years, have occurred in the last decade. Increasing volatility within weather patterns have been predicted by almost all climate models. Work to restore and improve catchment resilience should be amongst the highest priorities.

Table 5: Mean salmon fry counts/min from timed surveys in Spey tributaries 2012 to 2020

Fry	2012	2013	2014	2015	2016	2017	2018	2019	2020
Fiddich			70.7			59.4			43.3
Avon		19.2			3.1	17.5		13.8	
Livet					11.3	47.1		37.0	
Dulnain	13.8			18.8			35.2		
Nethy				31.3			19.4		
Luineag				16.9			19.9		18.8
Feshie			5.0			10.7			3.1
Tromie			5.7			12.1			6.3
Calder						7.7	17.2		1.8
Truim					13.1			8.5	9.0

Table 6: Mean salmon parr counts/min from timed surveys in Spey tributaries 2012 to 2020

Parr	2012	2013	2014	2015	2016	2017	2018	2019	2020
Fiddich			7.1			1.0			4.0
Avon		8.6			2.7	2.7		8.2	
Livet					8.5	3.7		10.9	
Dulnain	1.0			2.5			11.6		
Nethy				3.7			5.9		
Luineag				5.3			10.5		10.7
Feshie			2.2			1.2			2.4
Tromie			2.4			3.2			4.0
Calder						0.7	3.1		3.2
Truim					5.9			7.7	3.5

The first two weeks of the electrofishing season were spent monitoring the eyed ova and unfed fry which had been stocked from the SFB Hatchery earlier in the year (See the Stocking section 2.4 for further details). A summary of the stocking monitoring results is shown in Tables 7 & 8. This was the first year of stocking out at an early stage, so it won't be until 2021 that we learn how the parr densities compare with previous stocking using autumn parr.

The results were mixed, except in the Green Burn, where fry were either absent, or in the very low category, despite the habitat appearing to be suitable. There were some good or excellent results in the Fochabers Burn, Corrie Burn, Aberlour Burn, Knockando Burn and the Allt Blairnamarrow. Most of these burns will be stocked in the same way in 2021. The 2021 electrofishing will enable us to assess the survival of the parr from 2020, as well as the current year's fry.

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Table 7: Stocking monitoring 2020. The age class of stocking, and the year(s) in which it occurred are noted for each site.

Date	River	Area m^2	Salmon fry	Salmon parr	Trout fry	Trout parr	Stocking
14/07/2020	Fochabers Burn, Bridge below weir	75	41.3	0.0	8.0	9.3	Ova 20
11/09/2020	Fochabers Burn, d/s tributary	69.4	33.1	0.0	0.0	0.0	Unfed fry
11/09/2020	Fochabers Burn, between tributaries	92.7	17.3	0.0	0.0	0.0	Unfed fry
11/09/2020	Fochabers Burn, u/s Meikle Dramlach	57.4	1.7	0.0	0.0	0.0	Unfed fry
17/07/2020	Rothes Burn, upstream weir	120.3	9.1	0.0	24.1	10.8	Ova 20
17/07/2020	Rothes Burn, d/s old pipe	85.7	17.5	0.0	85.1	5.9	Ova 20
20/07/2020	Burn of Aldernie	64.4	17.1	0.0	29.5	0.0	Ova 20
10/07/2020	Corrie Burn, lower	78.9	7.6	5.1	29.2	2.5	Ova 20/0+ 19
10/07/2020	Corrie Burn, middle	77.7	37.0	3.9	2.6	2.6	Ova 20/0+ 19
10/07/2020	Corrie Burn, upper	64.6	105.3	1.5	6.2	0.0	Ova 20/0+ 19
15/07/2020	Burn of Ringorm	68.2	14.7	1.5	133.5	17.6	Unfed 20/Wild
15/07/2020	Burn of Ringorm	44.4	20.3	0.0	123.9	4.5	Unfed 20
15/07/2020	Burn of Ringorm	62.8	14.3	0.0	27.1	3.2	Unfed 20
15/07/2020	Burn of Ringorm	45.1	2.2	0.0	26.6	8.9	Unfed 20
17/07/2020	Aberlour Burn	88.2	148.5	9.1	31.7	10.2	Ova 20/Wild
07/07/2020	Knockando Burn, u/s weir	96.7	11.4	7.2	102.5	7.2	Wild
08/07/2020	Knockando Burn, Farm gate	110.6	76.8	7.2	15.4	5.4	Ova 20/0+ 19
13/07/2020	Glenbeg Burn, u/s A95	112.6	17.8	0.0	26.6	44.4	Ova 20
13/07/2020	Glenbeg Burn, d/s track bridge	57.4	27.9	0.0	170.7	50.5	Ova 20
13/07/2020	Glenbeg Burn, 3rd Ford	58.5	0.0	0.0	172.6	25.6	Ova 20
29/07/2020	Allt Garbh Bhienne	99.8	2.0	0.0	105.2	30.0	Ova 20
29/07/2020	Allt Blairnamarrow	98.8	70.1	0.0	82.0	87.0	Ova 20
16/09/2020	Burn of Knocknashalg	61.5	0.0	17.9	35.8	22.8	0+ 2019

Table 8: Spey stocked sites timed electrofishing survey results (fry/parr per minute).

Location	Site code	Fry/min	Parr/min
Fochabers Burn	TSLB3a	9.5	0.0
	TSLB3b	5.5	0.0
	TSLB3c	5.0	0.0
	TSLB3d	3.5	0.0
	TSLB3e	9.5	0.0
	TSLB3f	10.0	0.0
Green Burn	TSLB11a	0.0	0.0
	TSLB11b	2.5	0.0
	TSLB11c	2.5	0.0
	TSLB11d	0.5	0.0
Knockando Burn	TSLB14a	7.0	1.5
	TSLB14b	7.0	3.0
	TSLB14c	2.5	3.0
	TSLB14d	23.5	2.0
	TSLB14e	16.0	0.5
	TSLB14f	21.0	2.0
	TSLB14g	31.0	1.0
	TSLB14h	12.0	0.0
	TSLB14i	7.5	0.0
	TSLB14j	11.0	0.0
	TSLB14k	16.0	0.0
	TSLB14l	21.5	0.0
Milton Burn	TSLB11a	2.0	0.0
Aviemore	TSLB11b	16.5	0.0

Above: *Robert Mitchell, Macallan Head Ghillie, assisting with planting-out unfed fry.* (Photo: Brian Shaw, SFB Senior Biologist).

3.3 National Electrofishing Programme Scotland (NEPS) 2018/2019 Report

Due to COVID-19 the NEPS 2020 programme was cancelled. However, Marine Scotland published a report combining the 2018 and 2019 NEPS surveys. This can be found at the following link: https://data.marine.gov.scot/sites/default/files//SMFS%201109.pdf . The report found that there was a nation-wide decline in salmon fry densities in 2019, compared to 2018, with a lesser decline for parr. This was mirrored on the Spey.

In 2018, the Spey was Category 1 for salmon fry and parr, but in 2019 it dropped down to Category 2 for salmon fry. The Spey was one of only nine catchments/regions assigned Category 1 for fry and parr combined, for 2018/19. The categorisations are illustrated in Figure 8.

A benchmark for juvenile trout abundance is under development, but the national trout densities were published for 2019. The juvenile trout densities in the Spey were amongst the highest in the country for fry and were the highest for parr. The highest trout fry density at any site in Scotland was recorded on the Spey, in a Crombie Water site, and the highest trout parr density was recorded in a site in the Duack Burn, a tributary of the River Nethy. Three of Scotland's top four trout parr densities were recorded in the Spey.

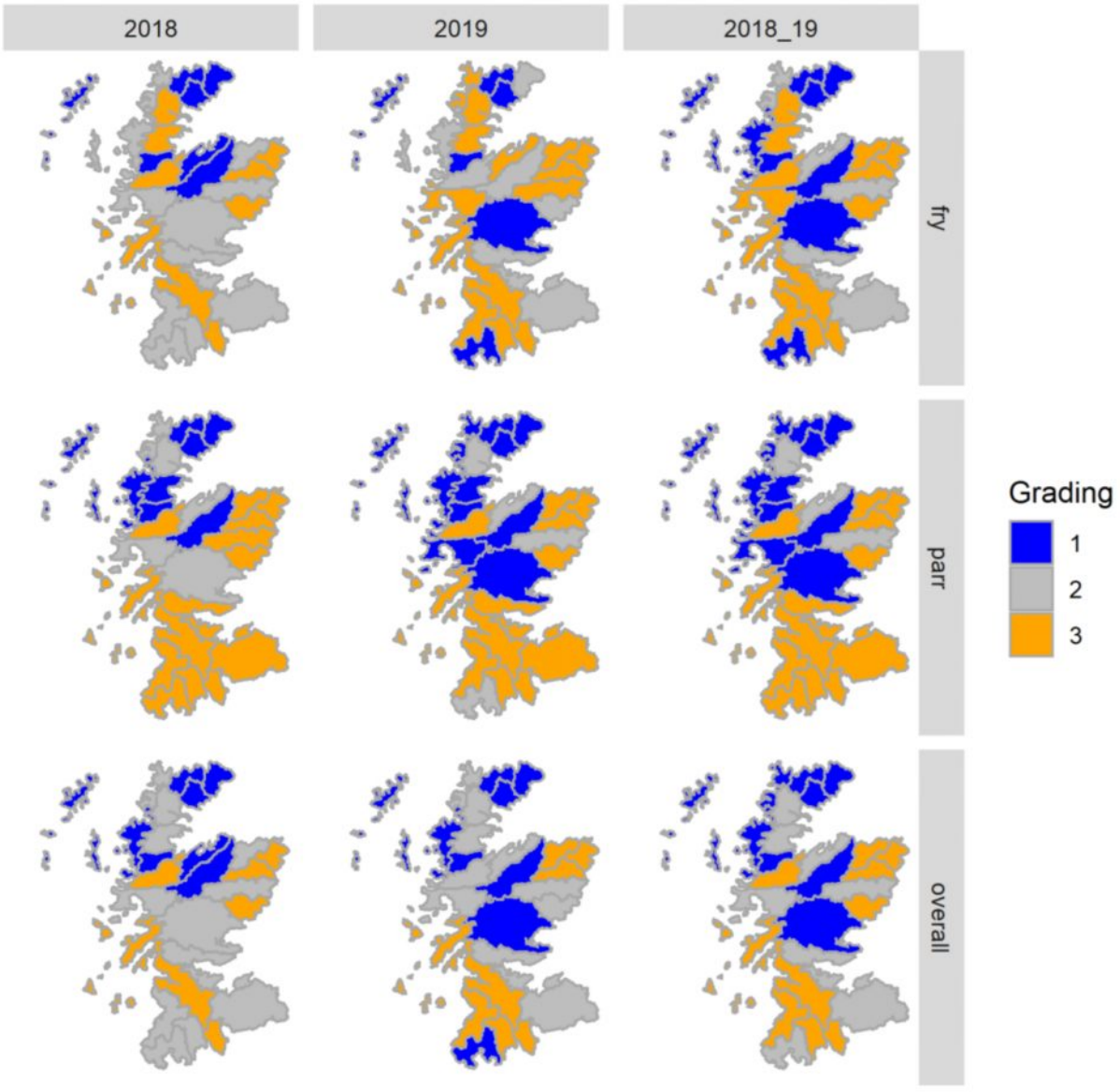

Figure 8: NEPS 2018/2019 salmon fry, parr and combined assessment.

3.4 Atlantic Salmon Trust (AST) Missing Salmon Project

The second year of the Atlantic Salmon Trust (AST) "Missing Salmon Project" smolt tracking within the Moray Firth was another casualty of the COVID restrictions. This was unfortunate, as the aim was to repeat the 2019 work to examine how consistent the findings were. Additional receivers had also been made available, so that greater resolution about where losses were occurring in the river could be obtained. In a new development, the Spey Fishery Board staff were trained in smolt tagging and Steve Burns and Brian Shaw both completed the relevant Home Office License requirements.

The full report on the 2019 study can be found at https://www.speyfisheryboard.com/missing-salmon-project-2019-spey/. As things stand, the plan is to carry out the postponed 2020 study in 2021.

Despite the cancellation of the smolt tracking, we have continued to support the AST with individual elements of the "Likely Suspects Framework" (more details on this can be found from the following link: https://atlanticsalmontrust.org/our-work/suspects-framework/), including the collection of heads from dead salmon e.g. from kelts or predator kills on the riverbank. Salmon heads, along with scale samples, would provide eye lenses and otoliths. The composition of certain isotopes (carbon, nitrogen and oxygen) that are incorporated into fish tissues reflect variations in the base of the local food web and can provide an "internal tag" to reconstruct an individual's dietary, or migration, histories. This technique has been termed ecogeochemistry.

We have also been collecting avian (goosander, merganser, heron, cormorant) and mammalian (otter) predator scat samples. This project aims to increase understanding of predator movements and changes in diet through analysis of the DNA present in scat.

3.5 Spey Invertebrate Study and Water Quality

Following concerns about changes in the aquatic invertebrate populations of the River Spey, the Spey Fishery Board commissioned an analysis of historical data to determine any trends in species of importance to anglers, and whether there are any indications of changes in water quality or flow. Data collected by the Scottish Environment Protection Agency (SEPA) at Spey mainstem sites over a 39-year period, from 1981 to 2019, were obtained and analysed.

The study was undertaken by Craig Macadam, a very experienced and highly qualified entomologist who specialises in freshwater macro-invertebrates, particularly mayflies, stoneflies and caddisflies. His particular interests are the effects of climate change on riverfly populations, the life histories of mayfly species and various aspects of urban biodiversity. Craig was a founder member of the Riverfly Partnership and he chairs the IUCN Species Survival Commission Mayfly, Stonefly and Caddisfly Specialist Group. He is currently Conservation Director with Buglife.

The full report is available from the Board's website and can be downloaded at: https://www.speyfisheryboard.com/the-invertebrate-fauna-of-the-river-spey-by-craig-macadam/

Some of the key points include:

- The study analysed the results of invertebrate sampling at six sites on the main stem of the River Spey. The data was sourced from the SEPA and covers a 39-year period between 1981 and 2019. It is not complete, however, with only one site, at Fochabers, having samples for each of the 39 years.

Overall, the Invertebrate populations of the Spey appear to be in good health. The total number of riverfly species is stable or increasing slightly and most families show increases in abundance in recent years. The total number of families and species richness both also show slight increases over time. The species diversity is also generally stable, however slight declines are evident at Grantown and Fochabers.

There was evidence of a decline in abundance of a number of families during the 1990s. However, in most cases numbers have subsequently recovered. The populations of Isoperla grammatica (stonefly), Brachycentridae and Glossosomatidae (both caddis flies) show variation in their abundance, particularly in the middle river. At Garva Bridge, the caddisfly Sericostomatidae appears to have colonised the site in recent years, suggesting that it could be expanding its range upstream, perhaps in response to climate change.

A number of biotic indices were calculated from the data which reveal that water quality in the Spey remains very good. There is some evidence of lower flows influencing the composition of the invertebrate population, which may also be leading to a slight increase in sedimentation. However, the river is still minimally impacted by sediment.

Following the publication of this report, the Board has agreed to work with SEPA to ensure that invertebrate sampling at these six core sites on the mainstem is maintained. The Board is also committed to ensuring that water quality monitoring is maintained throughout the river. To that end, water chemistry data has been obtained from SEPA from a range of Spey sampling sites. This will be analysed in detail, in conjunction with SEPA. We are also hoping to install constant monitoring equipment on the lower mainstem. This will sample a range of basic parameters, such as oxygen levels, temperature, pH etc. An aspiration is to have these data available live on our website and available to all.

3.6 Snorkelling

Snorkeling is a widely used technique within fisheries, although more so in Norway or Canada. It can be used to assess the spawning fish at the end of the season, or even to investigate the juvenile population. Norwegian rivers are often much clearer than we experience on the Spey and whilst underwater visibility proved to be challenging, the value of this technique was demonstrated during our trials. We will continue to try to develop this technique when the conditions are right.

The first snorkel survey was completed at Spey Dam by Senior Biologist Brian Shaw and Head Water Bailiff Richard Whyte. The aim was to try and establish if there was an accumulation of fish below Spey Dam. Visibility on the day was restricted to less than 1.5m and if any fish had been present they would easily have evaded observation in the deeper holes. Undaunted, a further survey was done at Easter Elchies in mid-September with a larger team. Once again water clarity was limiting, but using GoPro cameras we were able to record large numbers of fish near the river bed. In the right conditions, spectacular footage could be obtained. We are grateful to Callum Robertson at Easter Elchies for his generous support and encouragement with this new venture and we look forward to another dip in nice clear water conditions.

Above: *The SFB Snorkelling Team: Thomas Robertson, Richard Whyte, James Symonds and Brian Shaw.* (Photo: Callum Robertson, Easter Elchies).

Above: *The SFB's Snorkelling Team in action, as taken by drone photography, which is increasingly being used in our work to manage the River Spey catchment.* (Drone photograph by Duncan Michael).

3.7 Delagyle Side Channel Monitoring

As reported in the 2018 Annual Report (available from the SFB's website), the Delagyle side channel project reconnected a previously-blocked side channel with the mainstem of the River Spey. The concept was to provide a high-water refuge for fish, and other aquatic life, such as pearl mussels, but also to provide additional salmon spawning. Regarding that latter point, it has been a great success, with the number of redds counted within the channel, which is only about 230 metres long, increasing from 3 in 2018 to 12 in 2020. Electrofishing was not possible in the side channel in 2020, due to high water at the end of the season, but the 2019 survey had shown that it was already supporting a lot of juvenile fish. More importantly, it will be seeding the nearby mainstem with fry where they could grow on into smolts.

Above: *Salmon redd in the Delagyle side channel December 2020.* (Photo: Brian Shaw, SFB Senior Biologist).

3.8 Education

The 2020 education programme set out to deliver the Salmon in the Classroom programme to three primary schools. This year the participating schools were Aberlour, Mortlach and Milnes Primary schools. Unfortunately, COVID-19 restrictions meant the programme had to be cut short, after the first classroom-based day.

The decision was made to remove the eggs from the classrooms and plant the alevins out into the local burns. This was a great shame as the pupils were really looking forward to the outings. Once again, we are particularly grateful to John Trodden, Chairman of the River Spey Anglers Association and Spey Fishery Board Co-optee, for his continued assistance. The vast educational experience John gained during his teaching, and educational management, career has been invaluable in developing and enhancing this established programme.

Above: *John Trodden explaining the salmon lifecycle to pupils at Milnes Primary, March 2020, whilst* **Below** *SFB Assistant Biologist Steve Burns lends a hand.* (Photos: Steve Burns and John Trodden)

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 4

Statutory Remit of the Spey Fishery Board

4.1 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 9). The SFB is responsible for the Spey Fishery District (Figure 9), 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 and Action Plan is outlined in Figure 7 on page 13.

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.

4.2 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 2020.

Table 9. 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.

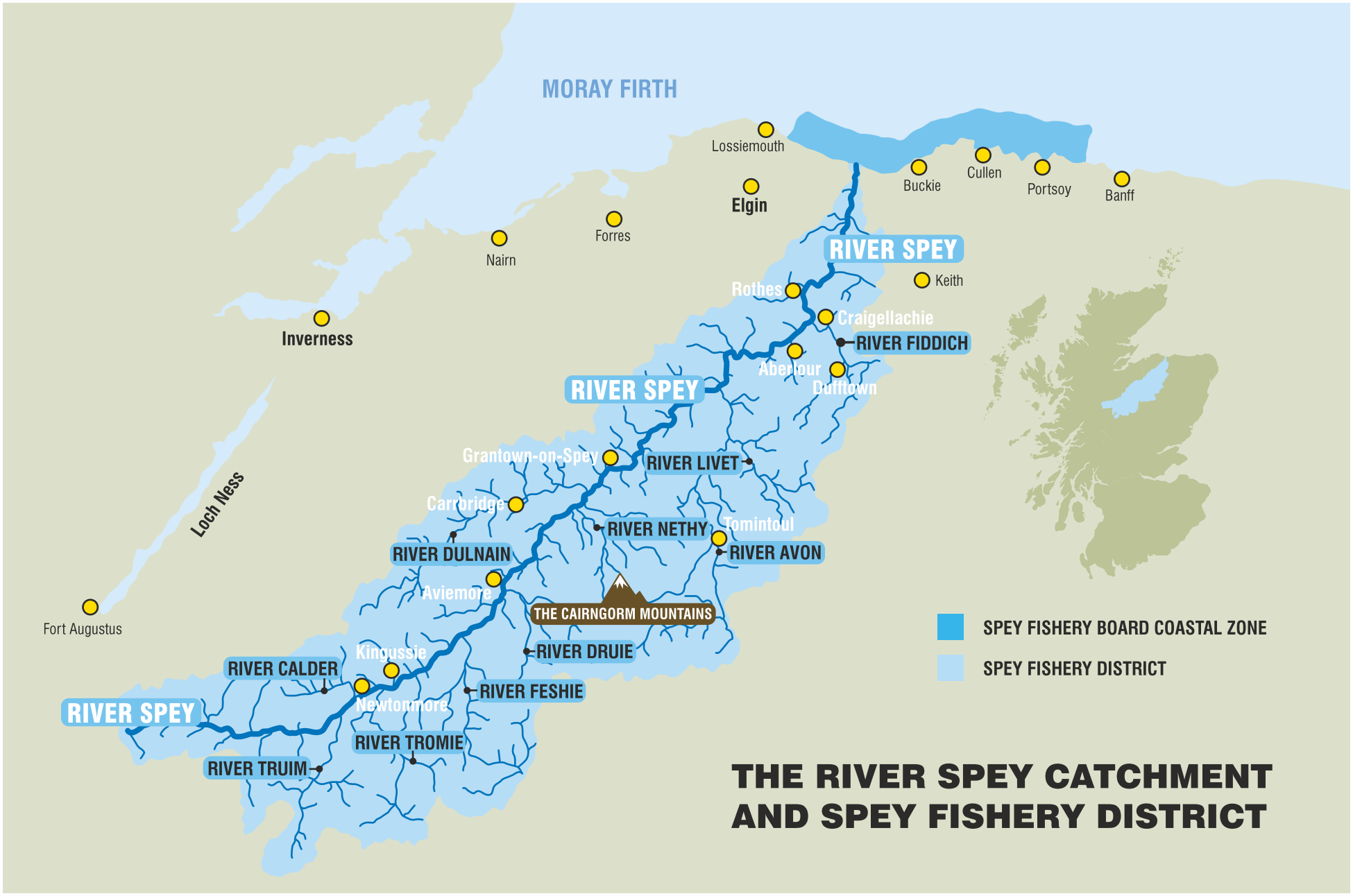

Figure 9: *The River Spey Catchment and Spey Fishery District*

4.3 Wild Fisheries Reform (WFR): Progress During 2020

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.

Last year we reported that the Scottish Government's Marine Scotland (MS), in collaboration with Fisheries Management Scotland, had continued to develop a Fishery Management Plan template which would facilitate a consistent approach to be taken by local DSFBs and Trusts across Scotland. It would 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. Unfortunately, due to the situation invoked by COVID-19, the National Electro-fishing Programme Scotland, which assesses juvenile salmonid populations across 27 regions under contract by MS, and which had been developed to facilitate the FMP Template, was cancelled in 2020 by the Scottish Government (see section 4.3). This has previously 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) and we hope to see it resume in 2021.

Furthermore, the population of an online mapping-based pressures tool which, along with five other DSFBs/Trusts, the SFB had trialled during 2018 for national roll-out in 2020 was unable to take place due to COVID-19. 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 and we hope this will be progressed in 2021. 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

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

2020 was the fifth season in which the Scottish Government Conservation Regulations applied. The regulations are based on compliance with modelled egg deposition targets (conservation limits). Estimates of spawning stock and egg deposition are generated 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 exceed 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.

There were no changes made to the assessment methodology for the second year running, following a commitment Ministers made to the Scottish Parliament, and to stakeholders, that no further significant changes would be made to methodology until the 2022 assessment at the earliest. It is important to note that whilst killing of salmon is not permitted in Category 3 rivers, the regulations also mean that the killing of salmon in coastal waters, by the nets for example, was also prohibited, as was the taking of salmon anywhere until the 1st April.

The Spey has been classed as a Category 1 river since the inception of the process and for the 2020 season it was classed at 85.2% compliance, this figure being an average of the years 2014 to 2018. The River Spey was one of 35 rivers in the top category for 2020 and is one of 36 rivers to remain in Category 1 for 2021. Further details on this can be found at the following link:

https://www.gov.scot/publications/salmon-fishing-proposed-river-gradings-for-2021-season/ .

The 2022 assessment will include the 2020 catch figures. It remains to be seen how the catch data from what was effectively an incomplete season, due to the COVID restrictions, are incorporated by Marine Scotland.

4.5 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.

During 2020, the SFB's Chairman, Dr Alexander Scott, succeeded his predecessor, Brian Doran, as a member of the FMS Board. The Board is most grateful to Brian Doran for his representation on the FMS Board over several years.

4.6 Salmon "Summit" at the Scottish Parliament

Fisheries Management Scotland (FMS) hosted a round table event and evening reception in the Scottish Parliament on 7th January 2020. This "Salmon Summit" aimed to raise awareness of the plight of the Atlantic salmon and it was chaired by Michelle Ballantyne MSP, as the Scottish Parliament's Species Champion for Atlantic salmon. Entitled "Making Salmon Conservation a National Priority", the event was opened by Cabinet Secretary Roseanna Cunningham MSP and attended by 90 people, including about a dozen members of the Scottish Parliament at any one time.

The main round table discussion was split into two sessions, with the first outlining the plight of the Atlantic Salmon. Presentations were given by FMS, the North Atlantic Salmon Conservation

Organisation (NASCO) and the Atlantic Salmon Trust. The second session focused on some of the pressures facing salmon, including aquaculture, water quality and quantity and a presentation from SFB Director, Roger Knight, on predation control. A summary of the issues and possible solutions was then provided by Dr John Armstrong of the Marine Scotland Science Laboratory at Pitlochry.

The Spey Board was represented by the Chairman, Director and Angus Gordon Lennox, with Brian Doran also attending, as our representative on the FMS board. At the Cabinet Secretary's request, we also took two ghillies with us (Simon Crozier from Seafield Estates and David Buley from Gordon Castle), both of whom spoke passionately and eloquently about the state of salmon and the concerns they had for their own futures.

During the event, Cabinet Secretary Roseanna Cunningham's announced £750,000 of funding for a project to investigate the migration of wild salmon on the West Coast of Scotland, which would build on the Moray Firth Tracking Project, in which the SFB is participating (see section 4.4) She also re-confirmed the Government's commitment to the development of a Wild Salmon Strategy.

The evening reception was also well attended and enabled a broader list of guests to be invited than could be accommodated within the committee room for the round table discussion. Overall, this was a highly successful event, which helped raise awareness of the plight of Atlantic salmon amongst members of the Scottish Parliament.

4.7 EU Water Framework Directive

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

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

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 2020. The SFB will continue to work closely with SEPA throughout 2021 on the implementation of the WFD.

Part 5

Publicity

5.1 Media Coverage

The impact of COVID-19 and its associated restrictions has led to limited media coverage during 2020. Positive articles appeared in local newspapers, though, reporting the Opening Ceremony at the start of the season (see below) and the catches of salmon & grilse at the end of the season.

5.2 Opening Ceremony

The SFB coordinated another successful annual Opening Ceremony at Aberlour on 11th February 2020. Andrew Flitcroft, the Editor of popular angling magazine Trout & Salmon was our Guest of Honour, who opened the river for the start of the 2020 fishing season. He later presented prizes for the first fish of the new season caught on the fly, which was awarded to Mike Murdoch (Head Ghillie for Laggan Fishings), and to Mike's partner , Nicola Kennell, who acted 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

The first Briefing of the year was being compiled when COVID-19 impacted and the national lockdown was implemented. Previous Briefings are available at the following web address and we shall hope to resume production during 2021:

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 throughout the year. Malcolm has decided to retire from writing the Weekly Fishing Reports and the Board is advertising for a Digital Marketing & Communications Executive who, amongst other duties, will succeed Malcolm in producing these reports for the Board's website. In the meantime, the Board is most grateful to Malcolm for all he has contributed over the last 11 years.

Full details of the above, 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, has been 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 restrictions imposed by COVID-19 meant that the Board had to cancel its annual local Public Meeting at the Craigellachie Hotel in 2020. The Board looks forward to resuming these popular meetings in 2021.

SPEY DISTRICT FISHERY BOARD
INCOME AND EXPENDITURE ACCOUNT
FOR THE YEAR ENDED 30 SEPTEMBER 2020

UNRESTRICTED FUNDS	£	2020 £	£	2019 £
Income				
Fishery accessments		396,207		414,480
Other income and Interest receivable				
Scottish Invasive Species Initiative	77,668		85,882	
Other operating income	34,756		79,419	
Government Grants	62,516		0	
Inver House allocation	0		10,000	
		174,940		248,283
		571,147		662,763
OVERHEADS				
Personnel Costs - (Note 2)		366,652		357,665
Direct Expenses - (Note3)		66,245		83,601
General expenses - (Note 4)		50,771		41,992
Financial Costs- (Note 5)		1,747		1,827
Spey Projects		2,538		11,785
Scottish Invasive Species Initiative (Note 6)		77,668		85,882
		565,621		655,734
SURPLUS FOR YEAR		**5,526**		**7,029**
RESTRICTED FUNDS				
Spey Catchment Initiative income		62,796		72,982
Spey Catchment Initiative expenditure		(84,860)		(81,507)
Movement in Spey Catchment Initiative Balance		**(22,064)**		**(8,525)**

SPEY DISTRICT FISHERY BOARD
BALANCE SHEET
AS AT 30 SEPTEMBER 2020

	2020 £	2019 £
FIXED ASSETS		
Tangible assets	85,388	66,079
CURRENT ASSETS		
Debtors	67,232	72,225
Bank - Current Account	250,395	290,015
	317,627	362,240
CURRENT LIABILITIES	(63,032)	(71,798)
NET CURRENT ASSETS	254,595	290,442
NET ASSETS	339,983	356,521
REPRESENTED BY:		
Unrestricted Funds	236,381	230,855
Restricted Funds	83,602	105,666
Inver House Designated fund balance	20,000	20,000
	339,983	356,521

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**:* *Rory Mountain with another salmon from Hollenbush, Delfur, on the 5th August 2020.* (Photo: Mark Melville, Head Ghillie, Delfur Fishings).

Top Centre Cover Photo: *Another fine and very fresh fish, with sea lice on the gill plate, caught at Delfur in June 2020.* (Photo: Mark Melville, Head Ghillie, Delfur Fishings).

***Top Right Cover Photo**:* *Stuart and Elaine Foxall, with a fine 12lb salmon at Otterhole pool, Delfur, 24th September 2020* (Photo: Mark Melville, Head Ghillie, Delfur Fishings).

***Bottom Cover Photo**:* *An aerial shot of the River Calder above Newtonmore. This section of the river was identified as under-performing for juvenile salmon and has been the subject of significant river restoration work undertaken by the Spey Catchment Initiative and Spey Fishery Board during 2020. A full description of this work can be found In section 3.2 of this Annual Report* (Photo: Brian Shaw, SFB Senior Biologist).


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