Spey Fishery Board

Annual Report 2021

***Top Left Cover Photo**:* *Willie Mair with a fine 16lb salmon, caught at Beaufort, Delfur, in May 2021* (Photo: Mark Melville, Head Ghillie, Delfur Fishings).

Top Centre Cover Photo: *Teresa Jolly with another fine salmon caught at Broom, Delfur in April 2019* (Photo: Mark Melville, Head Ghillie, Delfur Fishings).

Top Right Cover Photo: *David Wood with a 9lb salmon caught in a big water at Beaufort, Delfur, in June 2021.* (Photo: Mark Melville, Head Ghillie, Delfur Fishings)

***Bottom Cover Photo**:* *The River Spey, looking down on the Brae Water Beat 3, near Fochabers, July 2021.* (Photo: Roger Knight, Director, Spey Fishery Board).

www.speyfisheryboard.com

Annual Report 2021

by

Roger Knight
Director

and

Brian Shaw
Senior Biologist

January 2022

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Contents

Spey Fishery Board

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

Proprietors:
William Mountain, Delfur Fishings
Guy Macpherson-Grant, Mandatory for Ballindalloch Trustees
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 (until May 2021)
Lisa Forsyth, Scottish Environment Protection Agency (since September 2021)

Clerk:
William Cowie, R. & R. Urquhart (until February 2021)
Neil Torrance, Mackinnons Solicitors (since February 2021)

Spey Fishery Board Members Attendance at Board Meetings

Date	*Dr Alexander Scott*	*Angus Gordon Lennox*	*Peter Graham*	*Dr Catherine Wills*	*Guy Macpherson-Grant*	*Toby Metcalfe*	*Callum Robertson*	*David Greer*	*William Mountain*	*John Trodden*	*Grant Mortimer*
05/02/21	X	X	X	X	X	X	X	X	X	X	
21/05/21	X	X	X	X	X	X	X	X	X	X	
03/09/21	X	X	X	X	X	X	X	X	X	X	
19/11/21	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:
Prof. Eric Verspoor, University of the Highlands & Islands
Dr Ronald Campbell, Tweed Foundation
Dr Alexander Scott, Mandatory for Craigellachie Fishings & SFB Chairman
Callum Robertson, Easter Elchies, Upper Arndilly and Mandatory for Macallan and Kincardine
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 (until August 2021)
Pru Jowett, SFB Administrator (since September 2021)

Spey Fishery Board Staff

Director:	**Roger Knight**
Office Administrator:	**Miranda Edwards** (Part-Time, until August 2021) **Pru Jowett** (Part-Time, since September 2021)
Hatchery Manager:	**Jimmy Woods**
Operations Manager:	**Duncan Ferguson**
Head Water Bailiff: **Water Bailiffs:**	**Richard Whyte** **Jason Hysert** **Alistair Grant** (until April 2021) **Douglas Darling** (since May 2021)
Research:	**Brian Shaw** (Senior Biologist) **Steve Burns** (Assistant Biologist) **Kevin Greensill** (Assistant Biologist - Seasonal)
Spey Catchment Initiative: **Scottish Invasive Species Initiative:**	**Penny Lawson** (Project Officer) **James Symonds** (Project Officer)
Spey Foundation: **Digital Marketing & Communications Manager**	**Rose Agus** (Assistant Biologist - Seasonal) **Paul Hughes** (since September 2021)

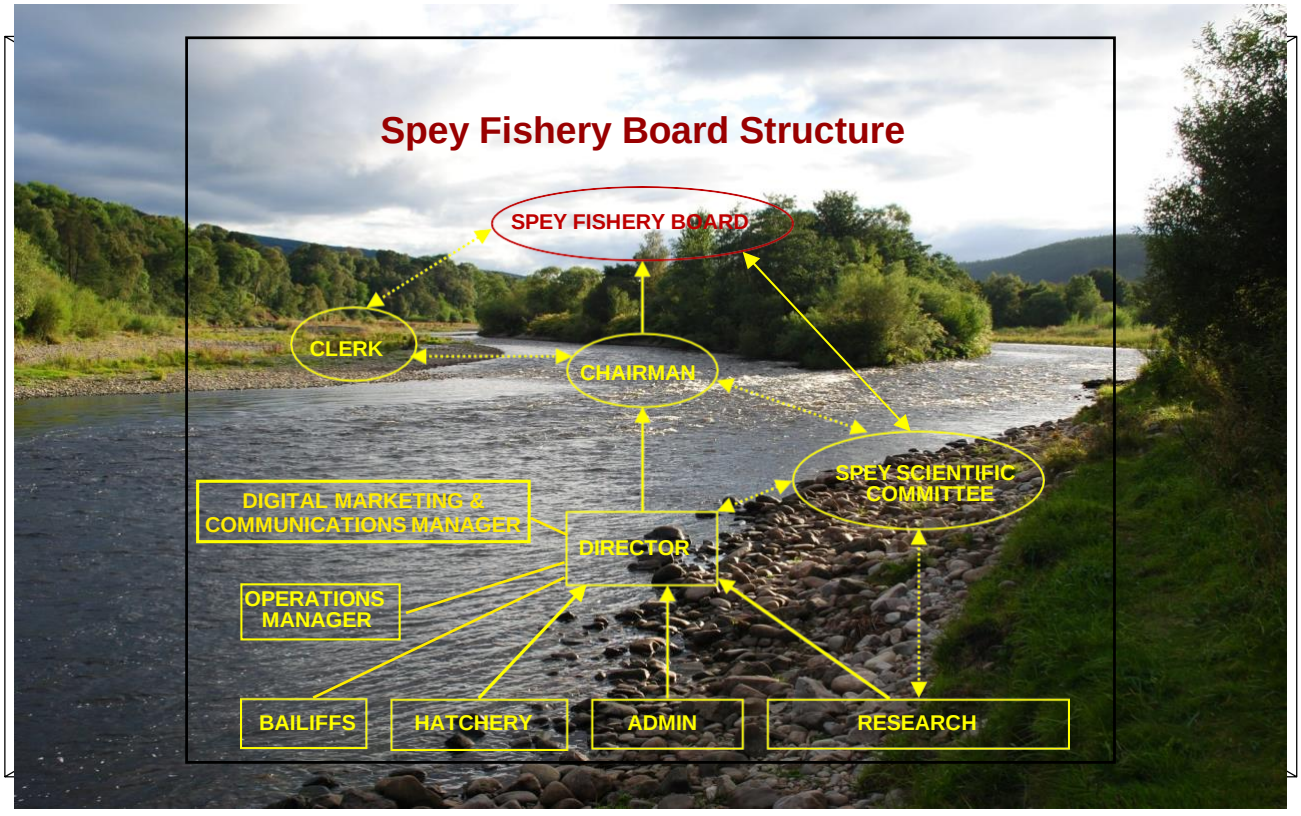

***Figure 1**: The Spey Fishery Board Structure*

A Word from the Chair

In 2021, 5318 salmon and grilse were caught on the Spey, including 1,110 spring salmon. This was the best result in Scotland despite our short season and several productive beats remaining closed well into June because of the pandemic. 98% of fish caught were returned by anglers. It is pleasing to note that by Christmas, many Spey beats were near fully let for the 2022 season.

Against a backdrop of challenging salmon catches in Scotland, The Spey Board focuses its efforts on what it can measure and manage across our catchment, to maximise the numbers of smolts going to sea. This report details the enormous breadth of work undertaken by our small team in this regard. Please take time to read it.

As 2021 was the year of the International COP 26 Climate Change summit in Glasgow, I should like to highlight two aspects of this work: tree planting as part of riparian restoration and water abstraction.

More than half the length of the Spey, and most of its tributaries, are upland rivers above Grantown on Spey. Over 6 million native Scottish tree species have been planted or naturally regenerated on the Spey, Feshie, Tromie, Truim, Calder and Dulnain in recent years. This is an astonishing achievement and thanks must be given to Wildlands, Seafield, Glenbanchor, Cluny, Phoines, Crubenmore and Rothes Estates, as well as the Woodland Trust and the Spey Catchment Initiative.

Before it reaches Grantown, nearly 20% of our water is abstracted for electricity generation in the Tay catchment or at the Gupta Aluminium Smelter in Fort William. Meanwhile, as our summers warm, the underground aquifers at Dipple near Fochabers, run dry each year. These aquifers are an important source of domestic water supply for Moray, including towns such as Elgin and Buckie.

Our hotter, drier summers also impact water temperature and water quality and threaten both adult and juvenile salmon. Hence, our social media campaign “#Release the Spey”. I am also particularly grateful to Cabinet Secretary Kate Forbes MSP, for keeping the GFG management focused on what needs to be done at Spey Dam.

Climate change, and its effects, will be at the heart of the future strategy of the new Board which will be elected in early February 2022.

To my mind, our Spey ghillies are the best in Scotland. After 41 years, Ian Tennant, Head Ghillie on the Gordon Castle beats, handed over the reins to a younger team, all of whom had developed under him. On a much sadder note, I must also make mention of the deaths of two legendary ghillies, Lionel Main (Castle Grant) and Tony Green (Arndilly). Both will be missed by so many.

I should like to thank Brian Shaw, our Head Biologist, for all his work over the last decade. We wish him well in his new role as River Director on the Ness. I must also thank all members of the Spey Board for their expert assistance in meeting our statutory objectives.

Sandy Scott

Chairman

Part 1

Fisheries and Conservation

1.1 Salmon and Grilse Catches

Despite the impact of COVID-19, 2021 proved to be another good season for anglers on the River Spey. The imposition of travel restrictions from late December 2020 reduced angling opportunities initially to just local anglers. Visitors were not permitted until after 26th April 2021, whilst some beats remained closed until the beginning of June. Despite this, the declared rod catch amounted to **5,318** Salmon and Grilse caught, slightly lower than the 5,622 caught the previous year, but still the best in Scotland for the year (Figure 2).

A lack of anglers resulted in another slow start to the season, which produced an early spring catch (between 11th February and 30th April) of just 364 fish. This compared to 67 for the same period last year, although the latter had resulted from last year's national lock-down being imposed. With the easing of travel restrictions in late April, May produced catches of a further 746 fish(significantly up on the 151 fish in May 2020).

With all beats open to anglers in June, 873 salmon & grilse were caught, which was significantly lower than the 1,568 fish caught in June 2020. Catches rose to 1,461 in July, although this was still lower than the 2,054 salmon & grilse caught in July 2020. June and July catches were impacted by the particularly low water conditions in these months. Catches in August amounted to 1,318, which was a significant improvement on the 871 caught in August 2020 and the season concluded with September producing 556 fish, below the 911 caught during the same month last year, (Figure 3).

Further details regarding the 2021 catches can be found in the weekly reports on the Board's website and can be located at the following link: https://www.speyfisheryboard.com/category/fishing-reports-2021/

Above: Gordon *Castle Head Ghillie Ian Tennant, with a fine example of one of the 5,318 salmon & grilse caught on the River Spey during the 2021 season. Ian retired after the 2021 season, after 41*

years service at Gordon Castle.

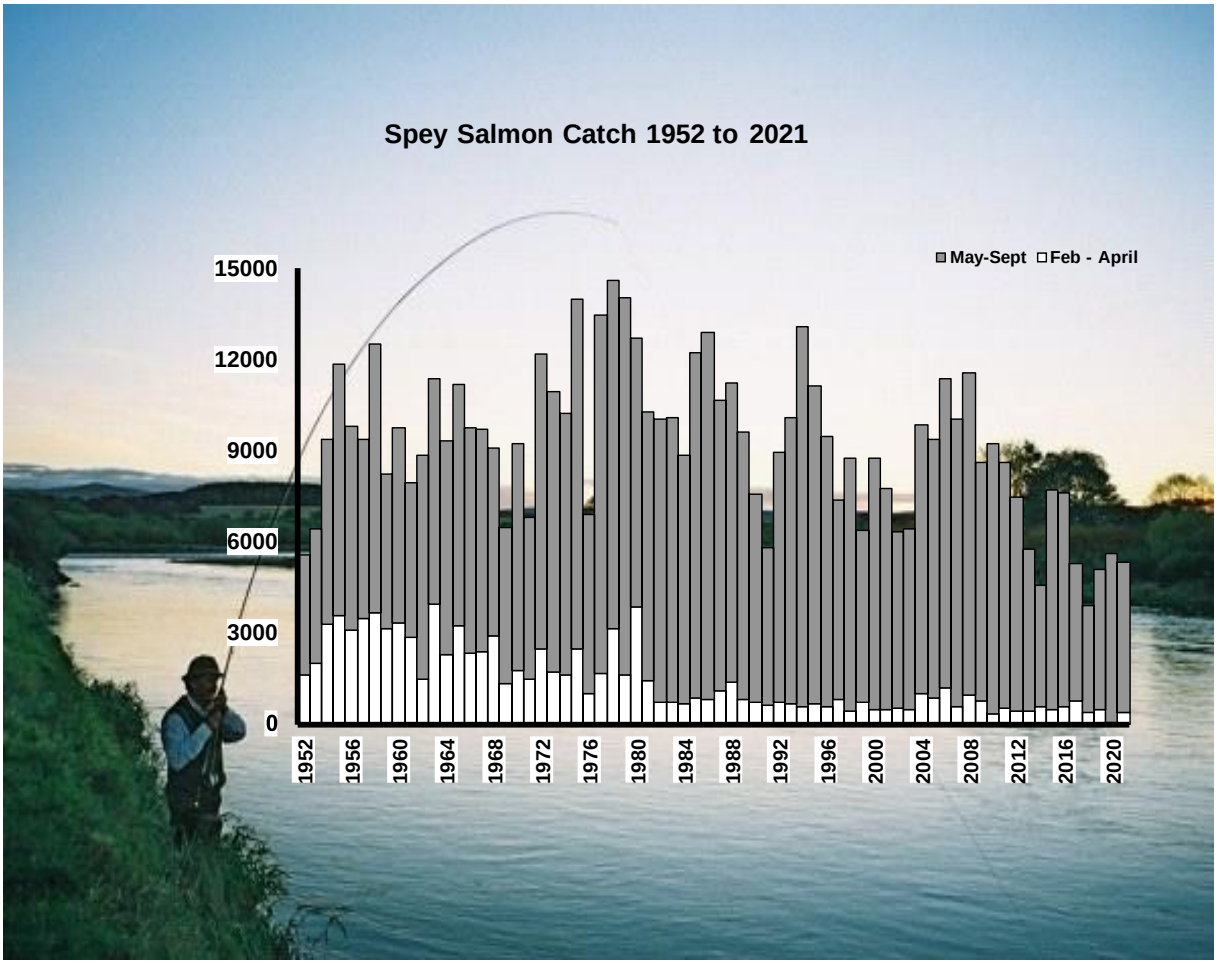

Figure 2: *Annual declared rod catch of wild Salmon and Grilse from the River Spey, 1952-2021. The 2002-2021 catches are from returns made to the SFB by proprietors.*

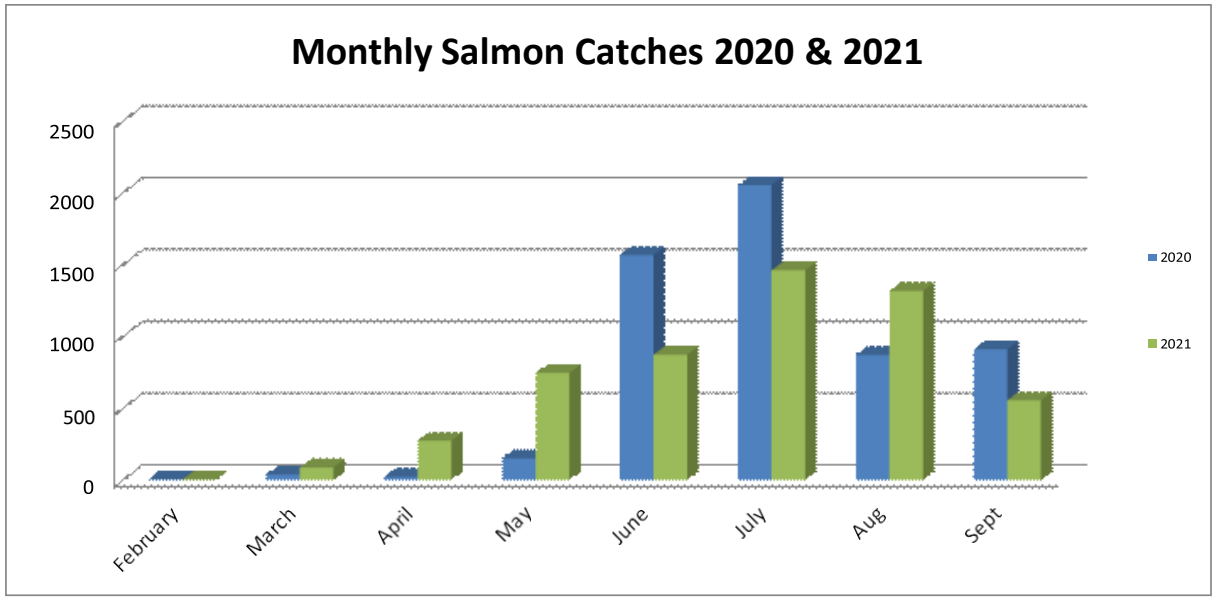

Figure 3: *Declared monthly rod catch of wild Salmon and Grilse from the River Spey in 2020 and 2021, calculated from returns made to the SFB.*

1.2 Sea Trout Catches

The 2021 declared rod catch for Sea Trout was 1,219**,** (Figure 4), which was an improvement on the 987 caught in 2020, but still below the five-year average of 1,590.

For the majority of recent years, June has been the most prolific month for Sea Trout catches on the River Spey, followed by July. This was true once again in 2021, with 439 caught in June and 313 caught in July. So June accounted for 36% of the annual catch, whilst July accounted for almost 26%. Overall therefore, 62% of Sea Trout caught were recorded in these two months.

Above: *Angler Des Dunlop with a fine, double-figure Sea Trout, caught at Knockando in late June and one of the 1,219 Sea Trout caught on the River Spey during 2021.*

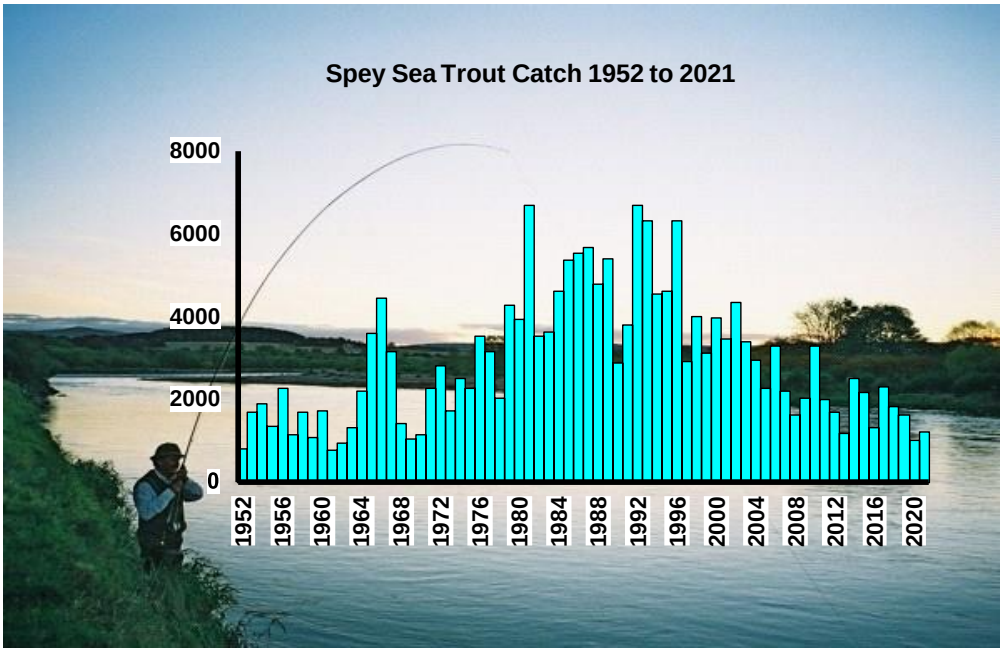

Figure 4. *Annual declared rod catch of Sea Trout from the River Spey, 1952-2021. The 2002-2021 catches are from returns made to the SFB.*

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 2021 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, **5,198** Salmon and Grilse were released to spawn in 2021. 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.

2021 saw the rate of catch and release for Sea Trout achieve **90%,** just 1% lower than the 91% released in 2020 (see Figure 5).

When it reviewed the Conservation Policy in November 2021, the Board decided that in line with its precautionary approach, the voluntary policy overall was working well and should remain unchanged for 2022. The Conservation Policy for 2022 is illustrated in Figure 6 and the SFB will continue to monitor the situation throughout the forthcoming year.

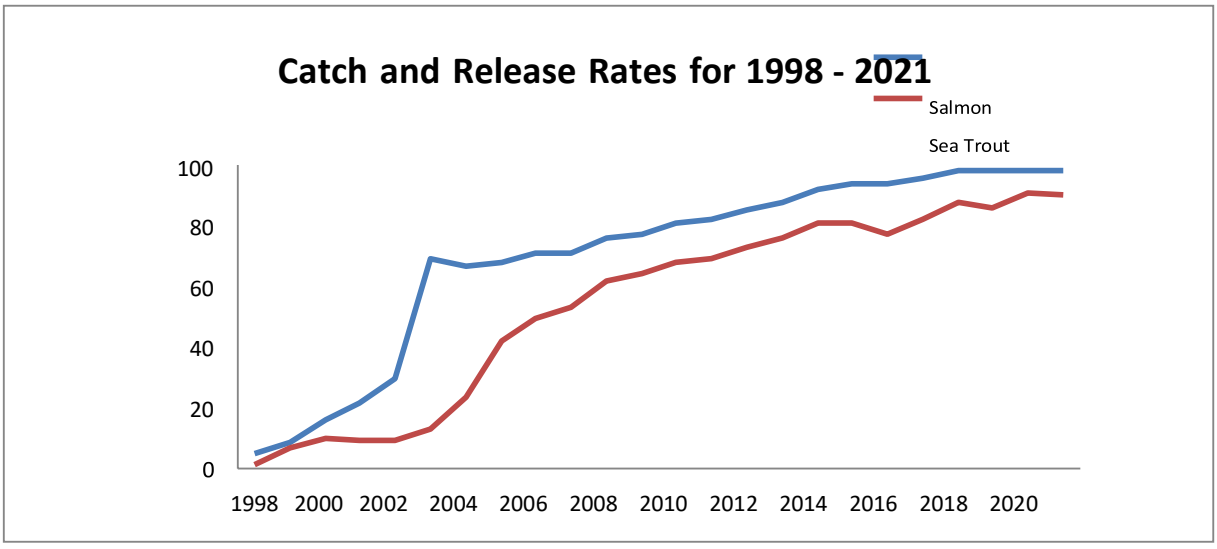

Figure 5: *Catch and Release Rates for the River Spey 1998-2021.*

Spey Conservation Policy 2022

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

SEA TROUT

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

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

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

Release all stale or coloured fish

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

SALMON

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

All hen salmon and hen grilse must be released

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

Escaped farmed salmon must be retained

Figure 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 to reducing the significant water diversions made from it for the generation of hydro-electricity. This will make flows in the River Spey more sustainable and resilient to the impacts of climate change.

Left: Hydro dams, such as Spey Dam pictured here, divert huge volumes of water out of the catchment to generate hydro-electricity.

Stocking

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

Below: the SFB Hatchery at Sandbank, Glenlivet.

Protection

Predation Control

We are working with the Scottish Government and their advisers to improve the management 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

Our 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, they are an essential facet for protecting our iconic fish.

Below: SFB Water Bailiffs work closely with Police Scotland.

Enhancement

Barrier Removal & Habitat Restoration

We are committed to opening-up new spawning opportunities by removing or overcoming barriers to fish passage, including dams, restoring natural river processes and improving in-river and bankside habitat.

Left: the new fish pass on the Knockando Burn weir.

Invasive Non-Native Species Control

We are working to establish a sustainable means of identifying and removing invasive non-native species, which de-stabilise river banks and reduce fly life if left in place. These invasive species include American Mink, plants such as Giant Hogweed, Japanese Knotweed, Himalayan Balsam, White Butterbur and Ranunculus and, more recently, Pacific Salmon.

Left: Stem-injecting Japanese Knot-

Promotion of Understanding

Education

We are working to promote greater understanding of the issues affecting salmon and its value to the local economy, including via digital channels. 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. (*pictured left).*

We continue to develop our knowledge and understanding of invertebrates. We also check the health of the river by monitoring the young fish populations (*pictured right*). This 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 Revised 2021 Strategy and Action Plan.*

Part 2

Management Report

2.1 COVID-19

We reported last year that the SFB had responded swiftly and seriously to the emergence of COVID-19 in early 2020. This was reviewed regularly and continued throughout 2021. The Board's first priority continued to be the safety of its staff and this remains the case as the situation has developed.

At the Board's first meeting of 2021, in early February, it considered further cost-savings, in addition to the comprehensive programme of cost-saving measures identified and implemented during 2020. This resulted in some of the Board's staff being placed on flexi-furlough and working part-time. This remained in place until late May, after which more normal work conditions resumed.

Despite the COVID restrictions, the second year of the Atlantic Salmon Trust's Moray Firth Tracking Project was able to take place during 2021, together with the third year of the Scottish Government's National Electrofishing Programme Scotland (NEPS), both of which had had to be postponed in 2020 due to the national lock-down (see sections 3.3 and 3.2 respectively for details). The second half of the year enabled the staff to implement the Board's work more-or-less as normal, although the Board's quarterly meetings were held virtually online until November, when a blended meeting enabled most of the Board to meet in person for the first time since February 2020.

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 2021, 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 on page 15 and grew in 2021 with the addition of GFG Alliance, which owns the top 12 miles of the River Spey and its accompanying riparian land.

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 Speyfor local communities.

The current 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 over a period of 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 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. It will be reviewed and revised as necessary during 2022.

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 Riparian Enhancement at Glen Truim

For the last two years, we have 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 help 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, however, had led this to be postponed.

In late 2020, SCI Project Officer, Penny Lawson, had also secured a further grant of £12,400 from the CNPA, this time from their Green Recovery Fund. This was secured to 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 fencing on this lower section was completed in March 2021. Our efforts to plant the area, as well as the area of the project's first phase, with trees donated by the Woodland Trust, were further hampered during 2021 by a shortage, UK-wide, of trees to plant, and in particular trees of the right provenance. These problems were eventually overcome by late summer and the planting of trees, in both phase 1 and 2 areas, was completed in September 2021.

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: *The second phase of fencing along the River Truim, which runs alongside the A9 between Kingussie and Dalwhinnie, was completed in March 2021,with tree planting finished in September 2021. This riparian enhancement project has involved the replacement of porous and degraded fencing along the River Truim 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 had indicated 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, conse- quently, woody material in the channel. By intro- ducing 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 aroundthem. 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.

The deer fencing was further enhanced by the installation of water gates, which prevent deer from gaining access to the newly-planted trees when crossing the river (see picture below and on the back cover of this report). Ground preparation and planting with native trees supplied by the Woodland Trust followed in the spring of 2021, with around 14.5ha planted and natural regeneration anticipated for much of the rest of the fenced area.

With the installation of the Large Wood Structures undertaken during the summer of 2020, this complimentary initiative was completed in April 2021.

Overall, this project has the potential for landscape-scale improvements and real climate change adaptation in this relatively un-wooded upland glen.

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: *Water gates were installed on the River Calder to enable deer to cross the River without gaining access to the enclosures containing the newly-planted trees. This project is also illustrated on the back cover of this Report.* (Photo: Roger Knight).

2.2.4 Delliefure Burn: Flood Plain Re-connection and Habitat Enhancement

The Delliefure Burn is a relatively small tributary on the north side of the Spey about four miles downstream of Grantown-on-Spey. In common with many burns draining agricultural land in the catchment, a reach of approximately 330m was historically straightened and embankments constructed along it, resulting in degraded physical and ecological diversity in the channel and a disconnect between the burn and its flood plain.

SFB monitoring indicated that there are reasonable numbers of Salmonid fish both upstream and downstream of this reach, and morphological restoration should improve longitudinal connectivity and expand the area of breeding and juvenile fish habitat available. In addition, the new wetlands will provide new high quality habitat for wildlife, including invertebrates, amphibians, birds and wetland plants.

The objectives of this project were as follows:

- Increased water-logging of peaty soils to preserve and enhance carbon storage.
- Increased deposition of particulates and nutrients on the flood plain to retain and store soil organic carbon.
- Expansion of wetland and wet grassland habitat.
- Storage of flood water on the flood plain during medium to high flows, reducing the intensity of peak flows and flood risk downstream.
- Increased retention of water in wetland areas and ground water, acting as a reservoir to recharge the burn and mitigate very low flows during drought conditions.
- Restoration of natural river processes in the burn, creating more morphological features and improving in-channel structural and habitat diversity, e.g. more pools, riffles, shingle banks.

This project was developed during spring 2021 and, with funding from The Macallan and the CNPA, was completed in September 2021. It restored the hydrological connection with the flood plain by lowering sections of the embankment, and created new and improved habitat, both in the water course and on the flood plain itself.

As groundworks were coming to a close in late September, a period of heavy rain led to water flowing through the breaches and into the excavated wetland areas as planned. Wetland bird species have also already been seen utilising the area.

Aside from creating additional salmonid spawning and other wildlife habitat, the overall effect of holding water in the sub-catchment for longer periods will contribute to reducing flood peaks downstream and act as a reservoir to supplement base flows under drought conditions.

The SFB and SCI are grateful to The Macallan and the Cairngorms National Park Authority (CNPA) for generously funding the Delliefure Burn Restoration Project.

Above: *The straightened and embanked section of the Delliefure Burn, four miles downstream of Grantown-on-Spey, which was the subject of an extensive floodplain reconnection and habitat enhancement project during 2021.* (Photo: Penny Lawson, SCI Project Officer).

Above: *The Delliefure Burn, following a period of heavy rain, which led to water flowing through the breaches and into the excavated wetland areas as planned.* (Photo: Penny Lawson, SCI Project Officer).

2.2.5 Glenmore Burns and Culverts

During the latter part of 2021, SCI Project Officer, Penny Lawson, and the Board's Operations Manager, Duncan Ferguson, have been working with Forestry & Land Scotland and Cairngorms Connect ((a partnership of landowners, involving Wildland, the RSPB, Forestry & Land Scotland and NatureScot) to remove two culverts from the lower section of the Caochan Dubh, together with one culvert and one log/earth blockage from the Caochan nan Criche. These are both small tributaries draining into Loch Morlich at Glenmore, Aviemore. Contractors are currently quoting for these, which will be funded by Cairngorms Connect through the Nature Restoration Fund. This project is expected to be completed in early 2022.

Left: *the culvert on the Caochan nan Criche, which is scheduled to be removed during the early part of 2022.* (Photo: Penny Lawson, SCI Project Officer).

2.2.6 CNPA Heritage Horizons Bid

During 2020, the Cairngorms National Park Authority (CNPA) bid for funding from the Heritage Horizons Award of the National Lottery. During the summer of 2021, it was announced that the CNPA's bid had been successful. £12.5 million is to be made available between now and 2030 with projects that include woodland expansion, peatland restoration, river catchment management, nature-friendly farming and sustainable transport. The CNPA are recruiting 10 new staff for the development phase of this project, which will last 18 months, with implementation then taking place between 2023 and 2030.

The Spey Catchment Initiative will be a beneficiary of this bid and has prioritised four projects to take forward under this award. The SCI, in close collaboration with the SFB, will be working with the

CNPA to progress the preparations for these duringthe development phase.

These four projects include: the Slugain Burn, a tributary of the River Dulnain, which is a multi-benefit project to re-route the Burn out of its current canalised section and which regular readers of thisreport may recall we have aspired to undertake forsome time; mitigation of the man-made modifications near the River Calder/Spey confluence; restoration and re-naturalisation of the lower River Nethy/Spey confluence below Nethy Bridge; and tree planting on the upper River Gynack to reduce water run-off speed. We look forward to working with the SCI on the development of these projects and to their subsequent implementation in the years ahead.

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

2.3 Water Abstraction Update

2.3.1 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 3.1), 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 RiverMarkie, 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 FortWilliam.

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 4.6). 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 meet 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 on 10th May 2021, shortly before its chairman, Richard Fyfe, retired from SEPA.

We have previously reported on the technical assessment of the fish pass at Spey Dam by international consultants, Multiconsult and their recommendations for improvements to be made to the fish pass. These involve making changes tothe 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 expectedto 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. Implementation of these, though, has been disappointingly slow, with Simec citing delays due to COVID.

In late August 2021, we wrote to the Finance Cabinet Secretary, Kate Forbes MSP (in her constituency capacity as Member of the Scottish Parliament for Lochaber) and our local constituency Member, Richard Lochhead MSP, to publicise the new Envirocentre Report (see section 2.4.3) and raise our concerns about Spey Dam. We subsequently met virtually with Ms Forbes, who agreed to chair a tripartite meeting between ourselves, SEPA and GFG Alliance to progress improvements to the Dam's fish pass. This took place in December 2021, with Ms Forbes' team subsequently producing a list of actions and requesting another meeting in March 2022 to review progress.

SEPA is reconvening the Technical Working Group in late January 2022, with bimonthly meetings scheduled thereafter, and we look forward to wprking with SEPA, GFG and Kate Forbes MSP during 2022 to make substantive progress with this long-running issue.

2.3.2 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.

2.3.3 Envirocentre Report 2021

We reported last year that the SFB had commissioned Envirocentre to update their 2008 report on River Spey water abstractions, but publication had been delayed due to the impact of COVID-19. Since 2008, the amount of available data (particularly from SEPA, but also from the latest regional climate change projections) has increased significantly and enabled Envirocentre to quantify the water abstractions and diversions in a way that was not previously possible. They also had the experience of a very wet year – in 2015 – to compare with that of an exceptionally dry year in 2018.

Their Report - **River Spey Abstractions 2021: Water Resource Management Now and Implications for the Future** - was completed in 2021 and we launched it at the end of August,with copies sent to Scottish Government Ministers and officials and a press release issued by Zambuni, courtesy of the Missing Salmon Alliance and through the membership of Fisheries Management Scotland. This press release resulted in prominent coverage, including the BBC, national and local newspapers. The full Report can be accessed via the SFB's website at the following link:

URL: https://www.speyfisheryboard.com/wp-content/uploads/2021/08/Envirocentre-Spey-Abstractions-2021-Report.pdf

The Report shows that of all the water permitted to be abstracted or diverted out of the catchment, over 90% of it is taken from the top 13% of the Spey catchment, then diverted either to Fort William, or to the Tay to generate hydro-electricity. In place since the 1940's, these schemes can reduce the natural flow in the Spey by up to 24% at Boat o'Brig, near Fochabers, and by up to a massive 61% at Kingussie.

Above: *The River Cuaich,a Spey catchment tributary near Dalwhinnie,the flow from which is diverted into the Tay system to generate hydro-electricity. Restoring this flow would benefit the whole River and help make the Spey more resilient to the impacts of climate change.* (Photo:Roger Knight).

Crucially, the Report highlights that the Spey valley has extensive sand and gravel deposits that have been denuded of their water re-supply and led to lower river levels as a result of these diversions (see Figure 8 on page 25). This loss of water storage is exacerbated by historic land use practices and reduced snow melt in the spring. The net result of this reduction in natural flow is that it has reduced the resilience of the river to cope with the low flow conditions and higher water temperatures we are experiencing more and more as a result of climate change.

The SFB is therefore calling for the licensed abstraction from our upper tributaries to be re-appraised and appropriately regulated. Asa result, when the Board reassessed its Strategy & Action Plan (see Figure 7 on page 13), it committed itself to reducing the significant water diversions from the Spey for the production of hydro-electricity, in order to make the River more resilient to the impacts of the climate emergency. The Board has also determined that its ultimate objective is to see the removal of dams throughout the Spey catchment.

The SFB is therefore promoting a programme of ecosystem restoration. For example, if the flow was reinstated to the Allt Sluie near the top of the Spey catchment at Dalwhinnie, this would off-set the amount of water abstracted at the Dipple Wellfield on the lower Spey near Fochabers. Crucially, though, it would provide benefits downstream throughout the entire river. Other opportunities include: the restoration of the River Mashie near Laggan, most of the flow from which is diverted to Fort William; and the re-instatement of flows down the Allt Bhran and down the River Cuaich, both of which are currently diverted into the Tay system. SEPA is now actively reviewing the flows down the Allt Bhran and the Cuaich, with a view to restoring them under the Water Framework Directive.

In early October 2021, the SFB's Chairman, Dr Sandy Scott, and Director, Roger Knight,

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

opportunity which the SFB is keen to continue to pursue in 2022. (Photo: Roger Knight).

met with Moray's constituency Member of the Scottish Parliament (MSP), Richard Lochhead MSP, to brief him on the Envirocentre Report and our long-standing concerns regarding Spey Dam. Richard agreed to convene and chair a mini Summit, involving Terry A'Hearn (Chief Executive Officer, SEPA), Dr John Armstrong (Director, Marine Scotland Science and head of the Freshwater Fisheries Laboratory at Pitlochry), Joyce Carr (Head, Water Environment, Scottish Government) and the SFB to discuss the issues raised by the Report. This Summit meeting is likely to take place early in 2022.

The Board's new Digital Marketing & Communications Manager, Paul Hughes, also created a category at the head of the Board's website highlighting our work on water abstraction, and particularly our aim of re-watering tributaries that are impounded. Entitled "#Release the Spey", it has also been linked to the Board's social media outlets and had considerable success in raising awareness of the Board's concerns. The SFB will be working closely with SEPA, and the relevant landowners, throughout 2022 to progress these significant river restoration opportunities.

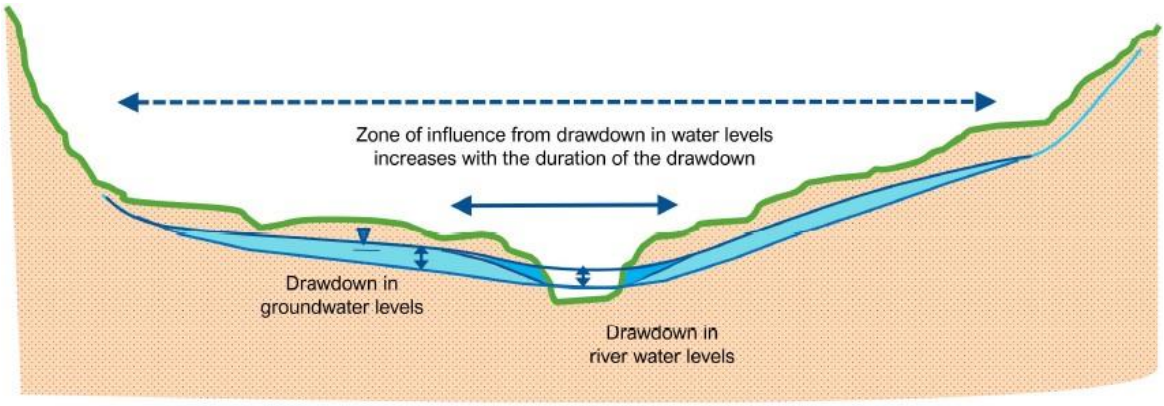


Figure 8: *A schematic diagram showing the groundwater held either side of a river. The 2021 Envirocentre Report explains how decades of water diversion for hydro-electricity generation have denuded the Rover Spey of its groundwater resupply, making the River less resilient to low flows and the impacts of climate change.* (Image courtesy of Envirocentre Ltd.)

2.4 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,

having previously met 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 2021,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 andKnockando 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 whoappear to be unsighted on the Guidance that has been developed.

2.5 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. Since 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 e.g. above dams.
- **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.

2.5.1 Stocking Policy

We have previously reported 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 now 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 continued 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 2021 (Table 1) stocking earlier in the year than in the past, with eyed ova being stocked in February and unfed fry in late March and early April, rather than in September.

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, which was not usually available until at least July.

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 the requirements for each year. Other work pressures on SFB staff, and in particular the undertaking of valuable contract work, did not provide sufficient time for the Scientific Committee to meet 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 2020. That application saw the removal of requests to stock the Knockando and Tommore Burns, which had been completed in 2019, but maintained 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 2021, 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 and support received.

In continuation of its stocking policy, another comprehensive programme of electro-fishing was again undertaken by the Board during 2021 (see section 3.4), initially to monitor the stocking it had undertaken earlier in the year (see Table 1) , as well as the results from that undertaken in 2020 (see Table 9 in section 3.4).

The Board's 2021 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.

The SFB Stocking Policy remains progressive and will continue to be subject to review in light of new legislation, our ongoing monitoring and advances in scientific research, as well as any changes that may arise from consultations re-garding the Marine Scotland Wild Atlantic Salmon Stocking policy.

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

Burn	Site details		Stocking 2021		
	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
Green Burn (Carron)	14,250	Good	42,600	Middle Spey	3.0
Glenbeg Burn	11,300	Good	45,200	Upper Spey	4.0
Milton Burn (Aviemore)	4,700	Good	9,400	Upper Spey	2.0
Lour Burn	8,600	Good	20,000	Middle Spey	2.0
Total			**235,600**		

Above: Table 1: Spey Fishery Board Stocking Numbers, Locations and Densities for 2021. All fish stocked either as eyed ova in February 2021 or as unfed fry in March/April 2021.

Source	Number Females	Eggs laid down in hatchery
Avon	10	56,440
Fiddich	8	51,690
Lower Spey	15	94,600
Middle Spey	8	51,640
Upper Spey	12	70,040
Total	**53**	**324,410**

Above: Table 2: Eggs laid down in Sandbank Hatchery for stocking in 2022

2.6 Pollution Incidents

There was one pollution incident during 2021, which emanated from Spey Dam, following maintenance work in late August 2021. This led to considerable volumes of sediment, which had collated behind the dam, passing through it and into the river below. This was reported to the Scottish Environment Protection Agency (SEPA) local representative. SFB staff visited the site on the day it was reported and took photographs and video footage of the sediment that had deposited downstream of the Dam. SFB staff returned on subsequent occasions to monitor the event and to report updates to SEPA.

The SFB's Research Team also electro-fished the Blargie Corner site, about 1Km below the Dam, which had been visited 18 days before as part of our regular monitoring. Fish populations were similar to those of before, although parr numbers were slightly higher, possibly due to fish moving downstream to escape the pollution. The SFB will continue to monitor this situation during 2022.

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

In 2021, the Scottish Invasive Species Initiative saw something of a return to normality. After the prohibitive restrictions put in place in 2020, it was refreshing to be able appoint contractors and run volunteer days when we needed to. Invasive species control is a time-critical task and being able to get out on the river in April, as opposed to June, made a huge difference in terms of the Giant Hogweed control. This then freed-up time to develop other projects such as the river Fiddich Regeneration Project. More on that below.

2.7.1 Giant Hogweed

As in previous years, contractors were appointed to treat the Mulben Burn and the Brae Water, as well as the right bank below Fochabers. SISI and SFB staff worked with volunteers on the right bank, from the Castle Water down to the viaduct at Spey Bay.

We are pleased to report that the density of plants on the whole is massively reduced from where we started 4 years ago. Notable, too, is the reduction in mature plants.

Giant Hogweed will only flower and seed after several years of growth. The reduction in mature plants this year is a good indication that we have 'broken the back' of many of our sites and we are approaching a manageable level of infestation.

A special mention must go to Orton's new Head Ghillie, Andy Gunn, who, together with his team, did an outstanding job on the Hogweed over the year.

2.7.2 Japanese Knotweed

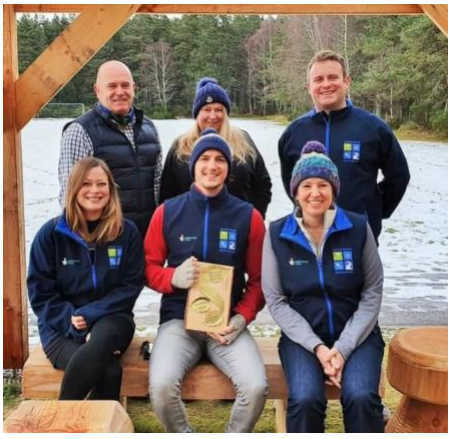
We continue to make steady progress on the Japanese Knotweed. Our main contractor has now begun work on Orton, with the left bank now treated down to the main hut. The right bank at Delfur was followed-up and control has been effective. The SISI officer, along with SFB staff, treated some newly discovered stands at Dailuaine, as well as follow-up treatments at Rothes and Delfur.

2022 will see our contractors and staff turn their attention to the daunting task of Haugh Island and the Brae water, where the Knotweed fields are 'substantial'!

2.7.3 Nature of Scotland Award 2021

The SISI project was fortunate enough to win the Coast and Waters category of the Nature of Scotland Awards 2021. A fantastic achievement and recognition for all the hard work everyone has put in across the entire project area. So here's a big thank you and congratulations to everyone who has helped us out in any way over the past 4 years.

Above: *Japanese Knotweed control on the lower River Spey during 2021.* (Photo: James Symonds, SISI Project Officer).



Above: *The SISI Project won the Coasts & Waters category of the Nature of Scotland Award in 2021*. (Photo: courtesy of NatureScot).

2.7.3 American Mink

Strangely, reports of mink in the lower river were few and far between in 2021, with only two reported from rafts and one sighting. No captures were reported. There remains in place a strong network of rafts in the area, so numbers seem to be down. It remains, however, a priority area for control due to the amount of favourable habitat and the fact it is the point of entry for animals moving-in to the system.

More concerning is an apparent spike in population on the upper river, above Aviemore. This area has been very quiet for the duration of the SISI project, with no captures and only a handful of reported sightings. However, in 2021 the RSPB at Loch Insh reported three captures, with another caught above Newtonmore. This has led to a rapid expansion of rafts in the upper river, although we hope this is a temporary spike which will be quickly controlled. If you have seen any mink on the Spey, please report them to the office and we will respond accordingly.

2.7.4 The River Fiddich Regeneration Project

As mentioned in last year's report, we had hoped to start a project working with the whisky industry in Dufftown restoring the River Fiddich - a river plagued by INNS - to its former glory. We are pleased to report that the distillers were very supportive of our proposal and we have entered in to a partnership with Diageo, William Grant & Sons, Bacardi and ACEO, who have all offered generous financial support and agreed to provide staff for the volunteering effort.

Phase 1 of the project will see the White Butterbur controlled by a contractor and the Himalayan Balsam by volunteers over a 2-year period. Phase 2 will then involve planting native riparian trees and re-seeding areas previously dominated by White Butterbur, with a native wild flower mix.

During 2021 our contractor treated White Butterbur along 7km of the river, taking 30 days to do so. This will need to be repeated in 2022, but progress is expected to be quicker following completion of the initial treatment.

We ran 4 volunteer days with 8 volunteers, cutting and pulling Himalayan balsam and cleared 1.5 km of the river from the source in Dufftown to Kininvie House. We hope to expand these days in 2022.

2.8.5 Looking Ahead

2022 sees the final year of the SISI project in its current guise. With our focus on planning for what comes next, we will be looking at continuation funding and discussing with land managers and volunteers how best to proceed. We shall also be looking at including a good year of control, but also hope to put in place site-specific management plans and agreements to ensure that the outstanding progress made on the river so far is not lost.

Above Left: *American Mink control near Laggan*. **Above Right:** *Himalayan Balsam control as part of the River Fiddich Regeneration.* (Photos: James Symonds, SISI Project Officer).

2.8 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 on page 50), which it has identified as part of its Fishery Management Planning template. The SFB will continue to do this during 2022 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. The SFB will continue to monitor this in the River Spey through the 12 Pressures of the Fishery Management Planning template to provide further evidence*

to the Scottish Government of the impact of this invasive plant. (Photo: Roger Knight).

2.9 Sawbill Ducks and Cormorants

Last year we reported that the SFB had been 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 for 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.

We also reported that the analysis of the stomach contents had been 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 grant-ed occasional access. This has continued to delay progress with the analysis, which could not be conducted by home working and although an interim report has been received, it has yet to be finalised and made public. So we shall report on this as soon as we are permitted to do so.

The SFB has also continued to coordinate a combined Moray Firth-wide 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 and limited 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 and in 2021, it also included 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.

To provide supporting evidence for the Spey's licence application, the SFB continued to conduct four counts per year of Goosanders, Mergansers and Cormorants. 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 2021 we were, this year, able to undertake the December count, which had had to be cancelled in 2020 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 some 90 Km of the River to be covered, from Loch Insh to Spey Bay, over a period of 3-4 hours andusually commencing at first light.

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.*

The data collated, together with that collated during the count in early October 2020, contributed to our 2021 application for the 2021/2022 licence period and was submitted to NatureScot (formerly SNH) in early July 2021. 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 2020 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 and a repeat of the similar situation in October 2019.

The SFB's 2021 licence application was again successful and the Board has been granted a licence to shoot 18 Goosanders, 1 Merganser and 1 Cormorant between 1st October 2021 and 31st May 2022, although only male Goosanders may be shot during May, when the females are usually nesting.

The SFB will continue to conduct its bird counts throughout 2022, which will provide the supporting data for the submission of our next licence application in July 2022.

2.10 Moray Firth Seal Management Plan

2021 saw the suspension of the Moray Firth Seal Management Plan, which the SFB has coordinated since October 2013. This Plan has licensed 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 Grey seals, and previously Common/Harbour 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 five 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. Overall, it has provided for seal management for 16 rivers and 5 netting stations throughout the Moray Firth region.

More research and evidence is needed, though, particularly regarding the development of effective Acoustic Deterrent Devices (ADDs), for an effective and sustainable seal management strategy to be devised. Just over two years 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 May 2020, Marine Scotland announced 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.

In so doing, these 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

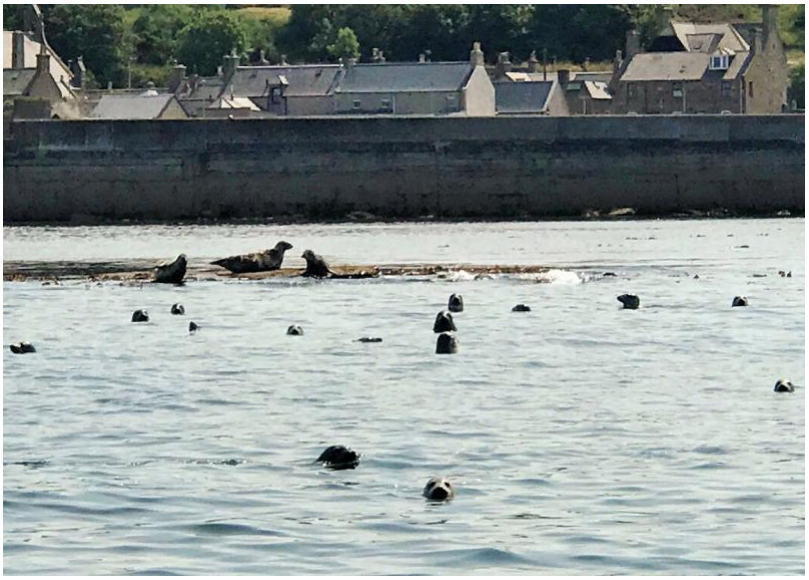
Mammal Protection Act (MMPA). This Act requires that nations exporting commercial fish and fish products to the United States are held to the same standards as US commercial fisheries, where the taking of marine mammals is prohibited. So, if the proposed amendments to our seal licensing system were not implemented by 1 March 2021, Scotland would not be able to export a range of seafood products to the United States with effect from January 2022.

The Animals & Wildlife (Penalties, Protections and Powers) (Scotland) Bill 2020 was passed by the Scottish Parliament and became an Act on 21st July 2020. It became effective from 1st February 2021. FMS had, however, 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 conserving other animals (i.e. salmon).

In January 2021, the SFB Director, Roger Knight, and CEO of Fisheries Management Scotland, Dr Alan Wells, met with Marine Scotland Licensing & Operations Team (MSLOT) to discuss how a revised licence application process could address the future management of seals for conservation purposes, rather than to prevent serious damage to fisheries. A subsequent meeting in February explained the new application process, which requires considerably more information than was previously required. The SFB subsequently completed the revised application for seal licences, which was submitted on the 31st March 2021, on behalf of the Spey, Deveron, Ness and Kyle of Sutherland District Salmon Fishery Boards.

After over 5 months of deliberation, our 2021 seal licence application was rejected by MSLOT. It was rejected on the grounds that as a Category 1 River, the Spey already had a sustainable stock of salmon and because of a lack of reporting of seal incursions and predation events within the river. MSLOT also believe that there are other ways of conserving salmon, without the need to shoot seals. So they concluded that our conservation case was not proven.

We understand that all other 2021 seal licence applications throughout Scotland were also rejected. Subsequent meetings with MSLOT in November and December 2021 considered a revised application process for 2022, which is likely to be published in February 2022. The SFB will continue to monitor this process and determine how we might maintain our efforts to reduce seal predation of River Spey salmon and sea trout.



Above: *Grey seals, shown here at Portgordon in July 2021, have been licensed to be managed by fishery managers when they enter salmon rivers under the Moray Firth Seal Management Plan, but*

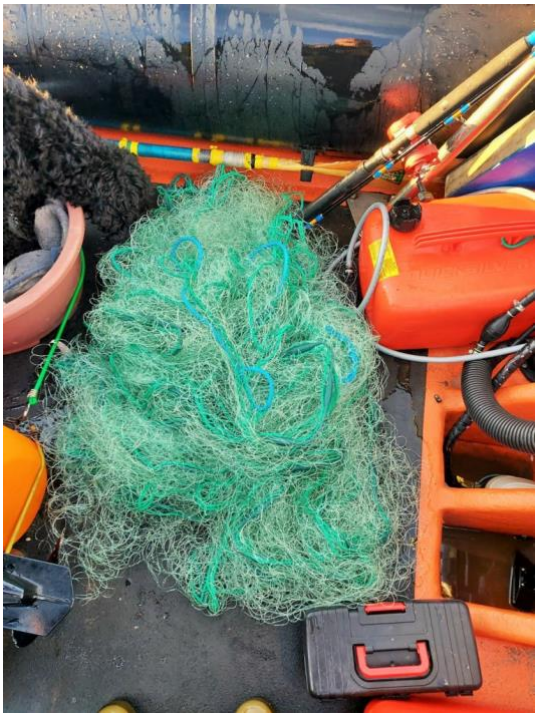
this was suspended in 2021. (Photo: Roger Knight).

2.11 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 2021, 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. This partnership facilitated the interception and arrest by Police Scotland officers of four poachers who had absconded from detention by the SFB's Water Bailiffs in April 2021. This case has been referred to the Procurator Fiscal.

The SFB's Director has also continued to be 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 COVID-19 restrictions, 2021 saw a continuation of a higher level of illegal fishing than in recent years, but not quite as high as that encountered in 2020, when the national lock-down had been in place.

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 2021. 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 2021 to deter illegal netting, with one gill net being recovered for the first time from the Boar's Head between Lossiemouth and Spey Bay. Were it not for these patrols being undertaken, though, the level of illegal netting along our coastline would likely become prolific. The SFB was also contracted in 2021 to undertake a patrol for the Deveron DSFB, which it conducted in July 2021 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, coxswain's the Board's Rigid-hulled Inflatable Patrol Boat and lifted this illegal monofilament gill net form the Boar's Head stretch of coastline just west of Spey Bay. Were it not for these coastal patrols, illegal nets such as this would be much more common.* (Photo: Richard Whyte).

2.12 Administration and Staffing

2021 saw a number of changes to the Board's staffing.

In April, we said farewell to Ali Grant, who retired. We are most grateful to Ali for his fourteen years of stalwart and devoted service to the Board and we wish him a long and happy retirement. In his place, we recruited Douglas Darling as a Fisheries Officer. Doug joined us from Police Scotland, where he had been our local Wildlife Crime Officer for the last five years and we wish him every success with his new appointment.

The Board also said farewell to its part-time Administrator, Miranda Edwards, who moved to England for family reasons. We are grateful to Miranda for all the administrative support she has provided over the last two years and wish her every success for the future. In her place, we recruited Ms Pru Jowett, who has joined us from William Grant & Sons Distillers and we wish her every success in her new role.

The Board also contracted the services of Paul Hughes as its Digital Marketing & Communications Manager. Paul joined us in September 2021 and we wish him every success in this new role, which is being funded from outside the Assessment.

In December 2021, we also said farewell to Brian Shaw. Brian has been the Board's Senior Biologist for the last ten years and has made a most significant contribution to science on the River Spey. The Board is most grateful for all that he has done and we wish him every success in his new appointment as Director of the Ness District Salmon Fishery Board.

Above: *Ali Grant, who retired in April 2021 after 14 years of dedicated service as a Water Bailiff. The Board wishes him a long and happy retirement.*

Above: *Brian Shaw departed in December 2021 after 10 years of devoted service as the Spey Fishery Board's Senior Biologist. The Board wishes him every success as Director of the Ness District Salmon Fishery Board.*

Part 3

Spey Scientific Report

2021 was another very busy for the Research team with the return of the Scottish Government's National Electrofishing Programme Scotland (NEPS), and the Missing Salmon smolt tracking project, adding to an already full programme of monitoring, contract work and other projects. To help deliver this busy programme, we were assisted by Kevin Greensill and Rose Agus, both of whom contributed greatly to the smooth running of the team.

3.1 Juvenile surveys 2021

Fulfilment of the diverse array of work contracted and work scheduled for 2021 involved over 200 electrofishing surveys. The NEPS contract involved about 15 days' work, which meant that the routine monitoring for the Board was much reduced. The 2021 routine programme focussed on the Dulnain, Nethy and Druie, stocked sites and a selection of burns. The network of mainstem survey sites was completed, as were timed surveys in the scheduled tributaries. Other, opportunistic surveys were completed when time was available. Contract work ranged from surveys associated with proposed industrial developments and wind farms, to access improvements.

Survey conditions were generally suitable throughout the summer survey season, although a few days were lost, or surveying was curtailed, due to high temperatures.

3.1.1 Mainstem Salmon Fry Index Surveys

The Spey remains one of the few large salmon rivers where routine monitoring of the mainstem is undertaken. 61 of the regular mainstem survey sites were completed in 2021. The salmon fry and parr counts over the last ten-years are summarised below, and presented in Tables 3 and 4 on page 40.

- The mean salmon fry count per minute in 2021 was 22.3/min, above the average for the ten-year survey series.
- The mean salmon parr count per minute in the mainstem was 3.4, above the ten-year series average of 3.2.
- Over the ten-year monitoring period in the mainstem, salmon fry were recorded at every one of the 497 salmon fry index sites completed downstream of Spey Dam. Below Spey Dam, salmon fry are well distributed throughout the Spey mainstem.
- Over the last ten years the overall trend in salmon fry and parr counts on the Spey mainstem has been stable. There is a slight upwards trend in fry counts, and a slight downwards trend in parr counts, but the changes are not significant.

The highest, and lowest, mean salmon fry and parr count sites on the Spey mainstem over the last ten years are shown in Tables 5 & 6. The site producing the highest salmon fry counts over the last ten years is the Broomhill Bridge site, which lies between Grantown and Boat of Garten. The four next highest-ranking sites are all downstream of Grantown. The locations of the lowest-ranking sites are spread throughout the mainstem.

For parr, the highest-ranked site was at Aberlour. This site has an optimal mix of cobbles and small boulders, with ranunculus adding to the amount of cover available for parr. With the exception of the Blargie site, which is 1 mile downstream of Spey Dam, the other top-five-ranking sites were in the Aberlour to Grantown area. Good parr habitat is a pre-requisite for high parr counts. The top-ranking fry site (Broomhill Bridge) is also the lowest-ranking parr site, a good example of the importance of habitat type.

The overall status of juvenile stocks in the Spey mainstem is one of relative stability over the last decade. This is encouraging as there has been a downwards trend in the rod catch over the period.

3.1.2 Other Survey Highlights

Other summary highlights from the 2021 electrofishing report include:

- The salmon fry and parr counts on the Dulnain, Nethy and Druie mainstem were within the range of previous mainstem surveys, with fry and parr found at all sites surveyed.

- Salmon fry counts in the Calder remain low. Poor recruitment continues to limit the productivity of the Calder.

- Quantitative surveying in the Fiddich found low salmon fry densities, although parr densities were average compared to long-term monitoring data. Redd wash-out during an exceptional spate in December 2020 may account for the low salmon fry densities in this important tributary.

- The salmon population in the Dullan Water continues to improve following fish passage improvements.

- Good juvenile salmon densities were recorded in the upper-most Dulnain monitoring site. The site lies at 624m and is one of the highest-altitude sites accessible to salmon in Scotland.

- The Spey burns surveyed in 2021 all supported high densities of juveniles, with no consistent explanation for the relative dominance of salmon or trout at each location.

- The stocking monitoring produced mixed results, with moderate to excellent salmon fry densities generated in the Fochabers and Corrie Burns, and small tributaries of the Avon. Persistent poor results from stocking in the Rothes and Green Burns require further investigation.

- The Delagyle side channel reconnection project of 2018 has been successful, with increasing numbers of spawners observed each year.

Table 5: Highest, and lowest, mean salmon fry count sites on the Spey 2012 to 2021

Highest fry counts	Lowest fry counts
Broomhill Bridge	Phones
Delfur, d/s Big Haddie	Laggan, Laggan House
Ballindalloch, Russawarie Island	Rothes, between Junction/Gean Tree
Tulchan D, top of March Pool	Blargie, below Spey Dam
Easter Elchies, tail of Fiddich Pool	Newtonmore, Golf Course

Table 6: Highest, and lowest, mean salmon fry count sites on the Spey 2012 to 2021

Highest parr counts	Lowest parr counts
Aberlour	Broomhill Bridge
Wester Elchies, u/s Pol Shaun	Aviemore, Dalfaber
Blargie, below Spey Dam	Braehead, LW1
Lower Pitchroy	Kinrara
Grantown Association, old bridge	Dalraddy

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 2021

		Salmon fry/min										Salmon parr/min									
Site code	Location	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
S07R1	LW2	24.7	22.7	16.3	27.3	5.7	46.3	9.7	3.3	16.3	10.0	1.0	4.3	2.3	1.0	3.3	0.0	0.0	2.0	1.3	0.3
S012R1	LW1	11.3	17.0	17.3	20.3	10.7	14.7	44.3	3.0	20.7	10.0	1.0	0.3	0.0	0.7	0.3	0.0	1.0	0.0	0.0	0.0
S017L2	Gordon Castle	31.7	52.7	24.7	20.0	13.0	32.0	31.0	15.3	35.7	27.0	0.7	2.3	0.7	2.3	5.0	0.3	2.0	9.7	3.7	6.3
S019L2	Gordon Castle	13.3	57.7	28.7	34.7	17.3	59.3	33.3	19.0	46.3	22.3	1.3	1.0	4.0	3.0	3.7	0.7	3.0	4.0	1.0	0.3
S025L1	Gordon Castle	7.7	26.0	23.0	26.0	20.7	24.0	22.3	17.7	44.3	15.7	0.0	2.7	1.3	0.3	0.7	0.0	0.0	4.7	3.7	6.3
S029L1	Orton Water	6.3	41.0	15.0	31.7	15.7	29.0	28.3	14.7	43.7	21.7	0.0	4.7	7.7	0.7	4.3	0.0	0.0	4.3	1.0	0.7
S032L1	Orton Water	9.0	44.0	17.7	28.3	14.7	36.3	42.7	19.3	25.7	46.3	0.0	1.7	4.0	0.7	4.3	4.0	4.0	2.7	1.7	3.0
S034R1	Delfur	19.7	12.0	55.0	27.0	5.0	27.7	24.7	11.3	39.7	21.0	1.7	2.0	4.0	0.0	6.3	0.0	4.0	2.3	2.0	2.3
S040L1	Delfur	6.7	14.0	13.3	22.0	4.7	50.3	22.7	15.7	24.7	19.0	0.0	0.0	3.7	1.7	8.3	0.0	3.0	6.7	3.0	2.0
S040L2	Delfur		90.0	66.0	29.0	15.7	52.7	61.3	30.3	49.3	75.3		2.7	1.0	0.0	0.0	0.0	0.0	0.7	0.7	0.3
S042L1	Rothes	7.7	44.0	10.3	14.7	12.0	31.7	6.0	11.3	12.7	14.7	1.3	7.0	1.7	2.0	7.0	0.7	1.0	3.3	3.3	5.3
S047L1	Rothes	6.3	9.3	9.0	18.3	4.7	21.7		6.3	19.3	12.3	0.0	12.0	14.0	1.3	12.7	1.3		9.3	8.0	9.3
S050R1	Amdilly	13.7	29.7	28.3	16.0	13.3	31.0		17.3	21.0	20.0	0.0	3.0	0.0	1.7	3.7	0.3		1.7	0.0	3.3
S052L1	Amdilly	15.7	15.7	19.7	23.7	9.3	21.3		13.3	31.0	15.3	0.3	0.0	3.0	2.0	6.3	0.0		3.7	1.0	1.0
S056L1	East Elchies	17.7	34.7	43.7	39.7	16.0	50.3		38.3	52.0	29.3	0.3	0.0	1.0	0.3	3.7	0.0		2.7	0.7	1.3
S059R1	Craigellachie	36.7	28.3	33.3	23.0	17.3	45.7	24.7	20.3	47.7	17.3	0.7	4.0	2.0	0.3	2.0	0.7	3.3	0.0	1.7	1.0
S060R1	Craigellachie	13.0	12.3	23.0	11.7	17.7	20.3	15.3	13.3	29.0	13.0	0.3	0.0	3.0	0.0	2.7	0.3	0.3	1.3	1.7	0.3
S061R1	Craigellachie	20.3	12.3	22.0	10.0	4.7	16.0					1.0	6.7	9.7	0.7	8.0	3.3				
S062L1	Macallan							32.3	16.7	47.3	24.0							4.3	5.3	8.7	9.0
S066R1	Aberlour	10.0	15.3	27.7	17.0	11.0	31.3	15.7	19.0	30.3	21.0	2.0	35.7	19.7	1.3	18.7	14.3	17.0	12.0	14.7	11.7
SO68L1	Wester Elchies		15.7	12.0	9.3	3.3	38.7	1.3	10.3	25.7	19.7		13.7	15.7	3.7	12.3	5.3	11.3	6.3	8.0	18.0
SO72L2	Wester Elchies		19.3	7.3	28.3	3.0	22.7	18.3	16.7	34.3	14.3		5.7	3.3	2.3	3.3	0.3	4.3	0.0	3.7	5.0
S074L1	Laggan	7.0	5.3	9.0	13.7	2.0	18.0	8.3	9.0	21.3	12.0	1.0	8.3	4.3	0.7	4.7	6.0	2.3	2.0	3.7	5.0
S077L1	Laggan	36.7	10.0	31.3	27.7	7.7	32.0	18.3	21.7	60.3	28.0	0.7	3.3	1.3	0.0	7.7	2.0	3.7	1.7	4.7	0.7
S079R1	Carron	15.7	31.0	16.3	18.3	11.7	27.0	8.3	21.7	45.0	28.3	1.7	2.0	6.3	1.3	3.0	6.0	3.3	0.7	5.3	4.7
S082L1	Knockando	8.3	9.3	17.7	15.0	8.7	18.7	5.7	11.7	32.0	16.7	2.3	12.7	13.0	3.3	7.7	8.3	7.7	4.0	6.0	8.3
S087L1	Phones		3.7	6.0	4.7	0.7	7.0	3.3	3.0	12.3	4.0		5.3	6.3	0.0	3.7	5.3	2.3	7.3	5.0	0.3
S093R1	Lower Pitchroy	21.3	25.7	20.3	41.7	16.7	40.7	25.3	43.7	58.3	27.3	4.7	9.7	9.7	1.7	11.7	10.3	17.0	0.7	9.3	6.7
S096R1	Ballindalloch	11.0	20.0	49.0	37.0	20.3	52.0	30.0	27.7	69.7	31.3	1.7	2.3	11.0	2.3	6.0	8.7	4.3	9.3	5.7	8.7
S104L2	Ballindalloch	20.3	61.3	40.7	43.0	25.0	54.7	45.0	26.0	79.3	51.3	1.3	5.0	4.7	2.3	3.0	8.3	2.7	3.0	3.7	5.0
S105L2	Tulchan D	35.0	65.7	33.7	45.7	33.3	39.0		26.0	49.0	45.3	0.0	2.0	1.0	1.3	1.7	8.0		2.0	1.7	3.7
S112L1	Tulchan C	10.3	35.0	11.3	31.3	14.7	28.7		27.0	43.0	26.0	4.0	8.0	7.7	5.3	10.3	9.0		4.0	5.3	5.0
S119L1	Tulchan B	28.0	30.7	10.0	27.7	12.7	31.0		19.0	30.7	30.0	2.7	10.7	4.0	3.7	8.3	9.3		5.0	4.3	10.0
S124R1	Tulchan A	13.0	38.0	14.7	18.7	11.7	33.7		9.3	29.0	18.3	2.3	1.7	1.3	2.7	5.0	5.7		0.7	1.3	5.3
S131L1	Castle Grant 3	29.0	40.0	21.0	34.3	24.0	35.3	29.3	18.0	48.0	31.3	10.0	7.0	6.7	3.0	5.0	5.3	11.0	5.3	6.0	6.0
S135L1	Castle Grant 2	17.7	44.0	36.3	20.0	10.0	32.3	49.3	16.3	36.3	26.3	0.7	0.7	1.0	1.3	4.7	0.7	2.3	5.3	2.7	1.3
S141L1	Castle Grant 1	3.7	8.0	9.3	17.0	24.3	19.7	18.3	15.3	22.0	20.3	1.0	0.0	2.0	1.3	1.3	2.7	1.3	4.3	2.3	1.7
S147L1	SAIA	11.0	17.3	16.0	45.3	24.7	42.3	4.3	36.7	45.7	39.0	1.0	7.7	13.0	6.0	6.7	8.7	8.7	5.3	13.3	10.0
S149L1	SAIA	12.0	10.3	14.7	21.7	23.7	23.0	6.7	17.3	31.0	20.7	1.3	8.3	11.3	5.0	5.3	2.3	8.7	5.3	7.7	2.7
S163L1	Abernethy AA	33.7	73.3	59.3	28.0	28.3	68.3	106.0	43.3	61.3	41.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.3	0.0
S177L1	Abernethy AA	23.0	53.0	24.0	31.0	24.3	45.3	46.3	31.3	35.0	27.3	0.0	1.7	0.3	0.7	1.0	0.3	2.3	0.7	2.3	0.3
S183L1	Kinchurdy	5.7	45.0	21.0	29.7	17.3	38.0	50.3	10.7	22.7	18.3	0.0	0.0	0.0	1.7	0.0	2.0	2.0	2.3	1.0	0.0
S195L1	Aviemore AA	14.0	36.0	13.7	11.0	14.3	17.7	51.3	11.7	23.3	20.3	0.0	0.0	0.0	0.7	0.7	0.0	0.0	0.3	0.7	0.3
S209L1	Kinrara	19.0	28.3	13.3	19.3	12.3	27.0	41.7	22.7	26.3	44.3	0.0	0.7	0.0	0.7	0.0	0.0	1.7	0.3	0.0	0.3
S215L1	Dalraddy	24.3	63.3	47.7	24.0	21.3	24.3	81.7	20.0	10.3	31.7	1.0	0.0	0.0	0.3	1.0	0.0	0.0	1.7	0.0	0.0
S243R1	Ruthven Bridge	8.7	14.3	17.7		36.7	56.0	25.0	31.7	27.7	25.0	0.0	1.3	0.0		0.0	1.7	1.3	1.7	1.0	0.7
S254R1	Golf course	6.0	8.0	18.3	10.7	12.0	18.7	28.0	11.0	12.3	15.3	1.0	4.0	0.0	1.3	1.7	2.7	6.7	0.3	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	55.3	0.7	1.3	4.7	4.0	5.7	4.3	14.0	1.7	7.0	3.7
S260L1	Badenoch AA				20.7	22.7	23.7	16.3	16.3	16.7	26.7				1.3	4.0	2.3	8.7	11.3	3.3	2.3
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	32.3	1.0	3.3	0.3	0.3	2.7	3.3	7.0	0.0	2.3	1.0
S287L1	Laggan	12.3	21.3	14.7	5.0	29.7	25.3	24.0	18.7	18.7	44.7	2.0	5.0	2.3	3.0	9.3	3.7	8.7	0.7	2.7	2.7
S290L1	Below Spey Dam	18.0	25.0	5.7	8.0	17.0	8.0	18.7	3.0	13.7	19.3	4.7	11.3	7.0	7.0	10.3	2.3	18.0	3.0	10.3	11.3
S298R1	Glenshirra	0.0	0.0	0.0	0.3	0.0	0.0	2.3	2.7	3.3	1.0	0.7	3.7	1.3	0.0	3.3	0.0	0.7	6.3	7.3	4.7
S305R1	Garvamore	3.3	3.7	0.0	2.7	0.0	0.3	11.3	5.3	0.7	16.3	0.3	5.7	1.0	0.0	1.3	0.7	5.6	3.7	2.3	1.0
S305R2	Garva Bridge	1.3	1.3	0.0	1.0	0.0	1.0	2.3	2.3	0.3	2.0	1.3	4.0	0.7	0.0	1.7	0.3	1.7	2.3	4.3	2.0
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	0.3	1.3	4.7	0.7	0.0	1.7	0.0	1.7	2.0	2.3	0.7
S315L1	Upper Spey	5.7	0.0	0.0	8.0	0.0	2.0	6.3	2.3	0.7	1.7	0.0	3.3	0.7	0.0	1.3	0.0	0.3	1.0	3.3	0.7
S317L1	Upper Spey	7.0	0.0	0.0	1.0	0.0	6.7	12.7	8.0	2.3	1.7	0.3	2.0	0.3	0.0	0.3	0.3	2.0	1.7	2.7	0.0
S318L1	Upper Spey	3.0	0.0	0.0	0.3	0.3	1.3	3.0	2.7	0.0	2.7	1.0	1.0	0.0	0.0	0.7	0.0	1.0	3.0	2.3	0.0
S319R1	Upper Spey	0.7	0.0	0.0	0.0	0.7	1.3	3.0	2.3	0.0	2.7	0.3	4.7	1.3	0.0	1.0	0.7	2.7	2.7	1.7	1.0
S324L1	Upper Spey				0.0	2.0	0.7	2.0	1.3	0.0	2.3				0.0	0.0	0.0	0.7	0.3	0.7	0.7
S326L1	Upper Spey	5.7	0.0	0.0	0.0	0.7	0.0	13.0	1.0	0.0	3.7	0.3	0.7	0.0	0.0	0.3	0.3	0.3	1.7	0.7	0.0
Mean		14.1	24.2	18.8	19.2	13.0	27.0	24.5	15.6	28.0	22.3	1.2	4.4	3.8	1.4	4.2	2.6	4.1	3.2	3.5	3.4

3.2 National Electrofishing Programme Scotland (NEPS) 2021

The National Electrofishing Programme Scotland (NEPS) restarted again in 2021. This programme involves the local fishery trusts and boards around Scotland in surveying 30 sites in each area. The sites are selected at random and in previous years, the surveys focussed on the smaller tributaries (order 2 - 4 streams). This year, the option to include larger, order 5 streams, was made available.

Order 5 streams in the Spey catchment include the Fiddich below Dufftown, the Luineag and Druie, the lower reaches of the Feshie, Dulnain, Nethy and the Avon as far downstream as the Livet confluence (order 6 downstream of that point). A summary of the number of sites in each of the stream orders over the three years of the programme are provided in Table 7.

Table 7: NEPS 2018/2019/2021: number of sites by river order

Order	2	3	4	5
2018	4	15	11	
2019	6	9	15	
2021	1	9	8	12

Surveying the order 5 streams was sometimes challenging due to the depth and flow. A number of the order 5 sites were three-run sites and the use of stop nets was not possible due to width, and/or flow, at some sites. Capture probability is likely to be reduced in these sites.

The mean (single or first run) densities (#/100m^2) for each species and age class for the three years of NEPS are given in Table 8 below. Numbers in brackets are the number of sites where fish in that category were absent that year. The inclusion of Order 5 streams has had an impact, with the prevalence of salmon fry increasing, although the abundance, of parr at least, declining. There was also a marked drop in trout parr densities, which would be expected in order 5 streams. The Marine Scotland Science benchmark has greater expectations for fish densities in Order 5 streams than in lesser streams, but that is not what we found. The implications of this on the Marine Scotland juvenile categorisation are at present unclear.

Table 8: NEPS 2018/2019/2021: mean (single or first run) densities(#/100m^2) for each species

	Salmon fry	Salmon parr	Trout fry	Trout parr
2018	45.5 (8)	15.9 (4)	43.8 (0)	18.7 (0)
2019	15.8 (10)	14.5 (3)	30.7 (0)	17.3 (1)
2021	31.0 (5)	9.0 (4)	28.5 (1)	7.3 (6)

One of the nice aspects of NEPS is that it sometimes takes you to new places, or to streams we had never surveyed before. Two examples of that from this year were the Allt Coire Bhealaich, a tributary of the Tromie which we had driven over dozens of times, and a site in the very upper reaches of the River Feshie at 668m/2192ft altitude. This Feshie site was one of the highest sites we had ever surveyed. As expected, there were no salmon, but the trout population was surprisingly good. As is often the case, the gradient in the very upper reaches of these large Spey tributaries can be lower than further downstream, and therefore the habitat is more stable. So at the Allt Coire Bhealaich it was a pleasant surprise to catch seven salmon parr in the site, along with a lot of juvenile trout.

Above: *Rose Agus and Steve Burns measuring the NEPS site in the Allt Coire Bhealaich (Spey_NEPS21_1959).* (Photo: Brian Shaw).

Left: *Kevin Greensill and Steve Burns fishing a torrent in the Allt an t-Sluicdh, a high-altitude tributary of the Avon, surveyed as part of the NEPS programme.* **(Photo: Rose Agus).**

3.3 Atlantic Salmon Trust Missing Salmon project

The delayed second year of the Atlantic Salmon Trust's (AST) "Missing Salmon Project", involving smolt tracking within the Moray Firth, was delivered in 2021. On the Spey, the aim was to repeat the 2019 study, to investigate how much consistency there was from year to year. Three additional receivers were deployed to try and establish, with a higher resolution, where losses were occurring in the river. The main difference this year compared to 2019 was that the smolt tagging was done by Spey Fishery Board staff. Steve Burns and Brian Shaw were trained in smolt tagging by the AST and the University of Glasgow, and both completed the relevant Home Office Licence requirements.

With the kind cooperation of Ballindalloch Estate, the smolt traps were operated in the lower reaches of the River Avon at Ballindalloch, in the same location as in 2019. The first smolt was tagged on the 14th April and the last on the 2nd May, similar timing to 2019, although river conditions were quite different this year. In early May, river levels rose significantly and the migration of the tagged smolts to sea was quick. The last smolt was detected at the lowest receiver on the 7th May. Due to the high water, we know that the detection efficiency of some of the receivers was low. Others were highly efficient, however, and good data on the passage of the tagged smolts was obtained.

The full report on the 2021 study is still awaited, but the preliminary results show that the number of tagged smolts detected arriving at the sea was similar to that recorded in 2019.

In addition to the smolt tracking, the Spey and other Moray Firth rivers collected 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. Initially, this seemingly simple task proved to be difficult, but we were eventually able to collect over 20 goosander scat samples from the gravel banks at Spey Bay, where there was an accumulation of birds during May 2021. The samples were then sent to the University College of Dublin for DNA analysis. Fish DNA was extracted from just over half of the Spey Bay samples and the results were interesting, and surprising. No traces of salmon were detected in any of the Spey Bay samples and in the combined Deveron and Spey samples, three-spined sticklebacks formed 87% of the DNA extracted, with perch and plaice forming the majority of the rest. Traces of minnow and Atlantic salmon were found in a small number of fish.

Above: *A group of eight goosanders (circled in red) resting on the inter-tidal gravel banks at Spey Bay.* (Photo: Brian Shaw).

Above: *Goosander scat sampling at Spey Bay, May 2021.* (Photo: Brian Shaw).

Table 9: Stocking Monitoring 2021. The age class of stocking, and the year(s) in which it occurred are noted for each site.

Code	Date	River	Area m^2	Salmon fry	Salmon parr	Trout fry	Trout parr	Stocking
SLB3c	14/07/2021	Fochabers Burn, below weir	98	87.8	2.0	2.0	9.2	Ova 20/21
SRc	15/07/2021	Rothes Burn, upstream weir	92.8	5.4	0.0	2.2	15.1	Ova 20/21
SRd	15/07/2021	Rothes Burn, d/s old pipe	105.6	0.0	0.0	1.9	18.0	Ova 20/21
FCB1	13/08/2021	Corrie Burn, lower	92.9	0.0	2.2	10.8	9.7	Ova 20/21
FCB3	13/08/2021	Corrie Burn, upper	68.6	45.2	0.0	4.4	1.5	Ova 20/23
SLB8a	15/07/2021	Burn of Ringorm	72.2	23.5	5.5	11.1	29.1	Uf20/ova 21/wild
SLB8d	15/07/2021	Burn of Ringorm	76.9	37.4	0.0	1.3	19.5	Unfed 20/ova 21
SLB8b	13/08/2021	Burn of Ringorm	49.8	56.2	0.0	22.1	4.0	Unfed 20/ova 21
SLB8c	13/08/2021	Burn of Ringorm	80.6	0.0	0.0	4.9	6.2	Unfed 20/ova 21
SLB9a	08/09/2021	Aberlour Burn	86.5	77.5	57.8	12.7	8.1	Ova /Wild
SLB10d	09/07/2021	Green Burn	65.9	1.5	0.0	0.0	0.0	Ova 20/21
SLB10e	09/07/2021	Green Burn	61.2	4.9	0.0	0.0	0.0	Ova 20/21
SLB14f	09/07/2021	Knockando Burn, u/s weir	82.7	1.2	13.3	79.8	9.7	Wild
SLB14b	09/07/2021	Knockando Burn, Farm gate	123.4	0.0	16.2	8.1	6.5	Ova 20
SALCAFa	12/07/2021	Allt na Fannich, u/s fish pass	73.7	1.4	1.4	169.6	21.7	Ova 21
SALCAFb	12/07/2021	Allt na Fannich, Calier Farm	45.6	74.6	0.0	19.7	11.0	Ova21
SACAGa	12/07/2021	Allt Garbh Bhienne	98.3	25.4	0.0	32.6	36.6	Ova 20/21
SACB	12/07/2021	Allt Blairnamarrow	99.3	65.5	4.0	61.4	70.5	Ova 20/21
				29.3	**5.5**	**28.4**	**19.2**	

3.4 Stocking Monitoring

The Research Team spent part of the 2021 electrofishing season monitoring the eyed ova and unfed fry which had been stocked from the SFB Hatchery earlier in the year (see section 2.5 for further details). A summary of the stocking monitoring is shown above in Table 9. This was the second year of stocking-out at an early stage and this year's monitoring also provided an opportunity to learn how the parr densities from the 2020 stocking compared to the previous stocking using autumn parr.

The 2021 results showed moderate to excellent fry densities in many sites, with poor results in the Rothes and Green Burns. Parr densities were generally low, however, except in the Knockando Burn, where the 2018 installation of the fish pass has also been shown to be successful. The eyed ova stocked in 2020 should smolt in 2022.

Overall, the results were mixed; some stocked burns produced excellent fry densities, whilst others were completely unsuccessful.

It was also interesting to note that the burns with better habitat quality produced parr densities that were similar to those generated from other forms of stocking i.e. using autumn parr.

Above: *Monitoring the Allt Blairnamarrow, one of the Burns stocked in both 2020 and 2021 using eyed ova.* (Photo: Brian Shaw, SFB Senior

3.5 Golf Course Fish Rescue

At the end of May, we received a call from a member of the public reporting that a number of adult salmon were stuck in a pool on the Garmouth Golf Course, just below the old railway viaduct. The lower Spey is a mosaic of braided channels, and in high water conditions some fish run up these, rather than the mainstem. If they run this particular channel, they tend to become stranded in the big pool below the viaduct. This was not the first time this had happened, but we were better prepared this time, with a custom-made net ready for deployment. The net worked a treat and with two sweeps, the Bailiffs were able to net and return a number of late spring fish back to the river.

Above: *Spey Water Bailiff Doug Darling (foreground) and Head Water Bailiff Richard Whyte (background) on a salmon rescue at Garmouth Golf Course, May 2021.* (Photo:Brian Shaw)**.**

3.6 Water Quality Monitoring Station

Early in 2021 a measuring and logging station was installed at Easter Elchies to monitor water quality. This equipment was donated to the Spey by Dorenell Wind Farm after seven years of monitoring water quality, every 15 minutes, in the upper River Fiddich. The logging station was sponsored by Easter Elchies beat part-owner and Spey Board Member, Callum Robertson, and after an upgrade it commenced logging and transmitting a range of water quality parameters. The logger records pH, oxygen saturation, temperature, river height, conductivity and turbidity. The data can be accessed, in real-time, from the link below:

https://www.hutton.ac.uk/sites/default/files/images/ECN/Spey.png.

In the near future we hope to have an app that will provide easy, finger-tip access to the latest river data.

Above: *The Water Quality Monitoring Station at Easter Elchies.* (Photo: Brian Shaw).

3.7 National Adult Salmon Sampling Project: ASSESS

Basic population-level data on adult salmon arriving back in Scottish rivers is becoming increasingly difficult to acquire, in particular now that almost all of the netting stations are closed, and almost all rod-caught fish are released. It has always been essential to have an understanding of accurate information such as weight, length, condition factor, sex, age and health status, but none more so than now, with the development of national conservation regulations and electrofishing programmes.

Fisheries Management Scotland and Marine Scotland developed a Scotland-wide project with local Trusts and Boards to test the practicalities of sampling rod-caught fish to provide this data. In early August 2021, we put a system in place and with the help of Arndilly and some of the Brae Water beats, we were able to collect samples from a range of fish, under sedation. Any sedated fish were marked with a Floy tag. The data collected was subsequently submitted to Marine Scotland for analysis.

Above: *Sedating a grilse from Brae Beat 4, prior to biological sampling.* (Photo:Brian Shaw).

3.8 Education

Due to COVID restrictions, we were not able to complete our usual school education programme, “Salmon in the Classroom”, during 2021, which is generously sponsored each year by Walkers Shortbread. We were, however, delighted to be able to help the River Spey Anglers Association with the delivery of a Rural Skills Course involving Speyside High School. Through the kind donation of two days’ fishing at the end of the season at Upper Arndilly, courtesy of Callum Robertson, eight Speyside High School pupils were able to enjoy two mixed days on the river. The course included casting instruction, an introduction to fly-tying, talks from those employed on the river, an electrofishing demonstration, bug-hunting and - most importantly - salmon fishing.

Unfortunately, none of the pupils managed to hook a salmon, but they all seemed to enjoy it. The River Spey Anglers Association hope to be able to repeat this course annually.

The Board is particularly grateful to John Trodden (RSAA Chairman and Co-optee to the Spey Board), for his continued and invaluable assistance with delivering the Salmon in the Classroom programme.

Above: *The RSAA Junior Day at Upper Arndilly, September 2021.* **Below** *SFB Senior Biologist Brian Shaw and Assistant Biologist Rose Agus explain their work. (*Photos: Brian Shaw 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 10). 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, which was revised during 2021, 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

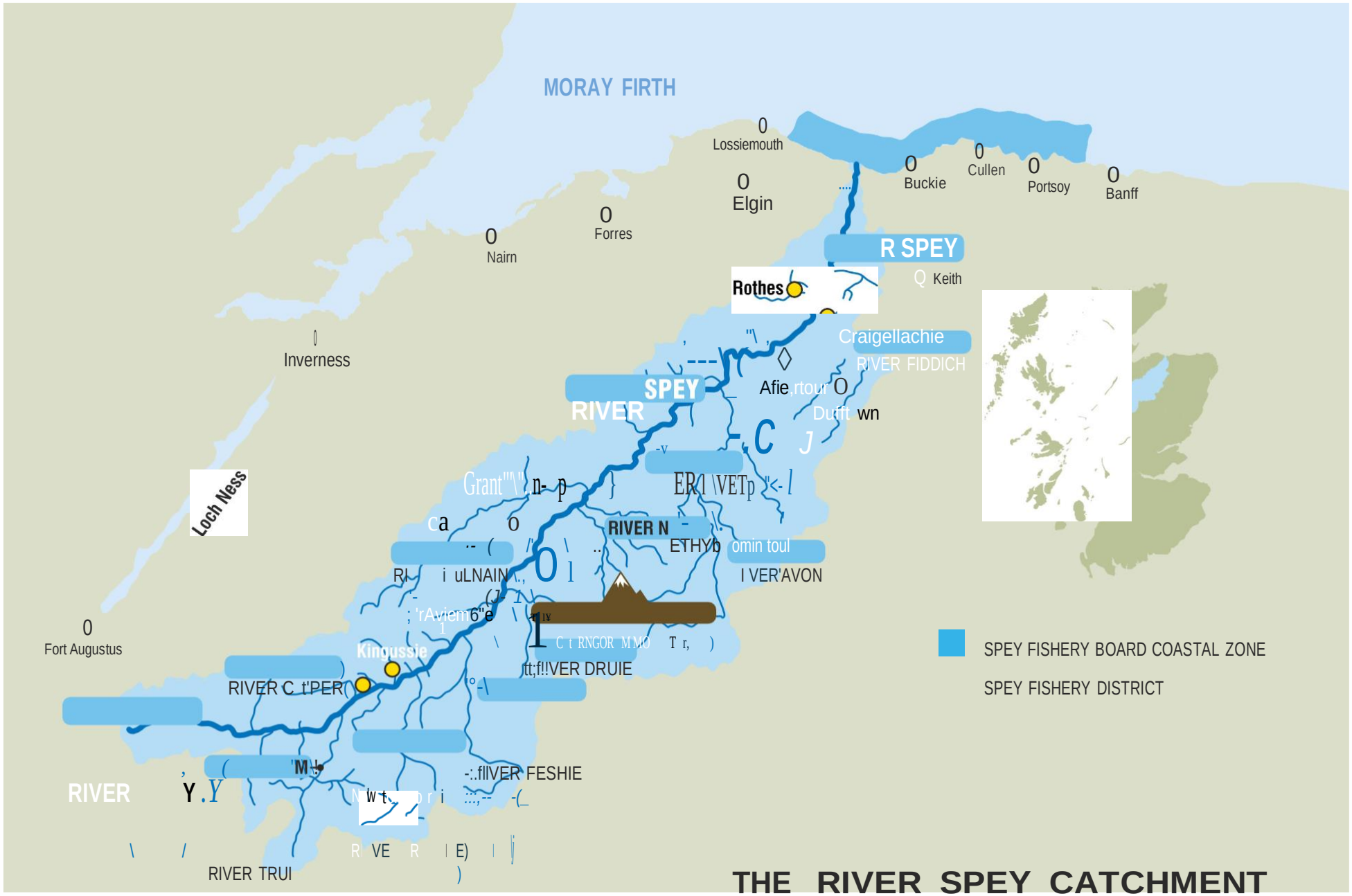
Section 24 of the Aquaculture and Fisheries (Scotland) Act 2013 amended the 2003 Act to place a number of new duties on DSFBs relating to openness and accountability. Under section 46D these new duties require a DSFB to: *'maintain, and keep under review, proper arrangements for dealing with complaints 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 2021.

Table 10. 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.



THE RIVER SPEY CATCHMENT AND SPEY FISHERY DISTRICT

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

4.3 Wild Atlantic Salmon Strategy: Progress During 2021

We have previously reported that the Scottish Government's Marine Scotland (MS), in collaboration with Fisheries Management Scotland, has 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 Atlantic Salmon Strategy and allow Scottish Ministers to identify, quantify and prioritise action to mitigate effects on damage to wild fish and fisheries in Scotland.

Progress with this had been delayed during 2020 due to the impacts of COVID-19, which had also seen the cancellation that year of the National Electro-fishing Programme Scotland (NEPS). This assesses juvenile salmonid populations across 27 regions under contract by MS, and has been developed to facilitate the FMP Template. 2021 saw the reinstatement of the NEPS by the Scottish Government (see section 3.2), which 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 4.4).

2021 also saw the Scottish Government develop its Wild Atlantic Salmon Strategy, for which it convened an Advisory Group and invited the SFB's Director, Roger Knight, to be part of it. This strategy represents the first time that the breadth of pressures and management approaches have been considered in full in order to establish a new path of restoration and recovery for salmon in Scotland.

This strategy is framed around a high-level vision and objectives that will guide collective action over the course of this decade to 2030. This vision is aimed at protecting and enhancing Scotland's wild Atlantic salmon population and developing and boosting the environmental, social and economic benefits arising from it. A high-level Strategy is expected to be published by MS in early 2022, with attention thereafter focusing on the develop- ment of a plan for implementation.

To inform the development of the Wild Atlantic Salmon Strategy, the Scottish Government, in collaboration with Fisheries Management Scotland, had developed an online mapping-based pressures tool. The SFB, along with five other DSFBs/Trusts, had trialled this during 2018, but the national roll-out of it had been delayed due to COVID-19. This online tool focusses on twenty-seven pressures across twelve priority themesthat 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 look forward to further progress with this during 2022. 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.

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

2021 was the sixth 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 third 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 2021 season it was classed at 84.7% compliance. The River Spey was one of 36 rivers in the top category for 2021 and is one of 35 rivers to remain in Category 1 for 2022. 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.

Throughout 2021, the SFB's Chairman, Dr Alexander Scott, has continued to be a member of the FMS Board.

4.6 EU Water Framework Directive

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

SEPA divided Scotland into eight sub-basins, where catchments of similar types are grouped and managed collectively. The Spey is included in the North East sub-basin, which also includes the Rivers Deveron, Ythan, Don and Dee and is part of the North East Area Advisory Group. The first River Basin Management Plan (RBMP) concluded in 2015. The second RBMP ran 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 2.4.1 of this Report. This re-classification of Spey Dam has remained throughout 2021. The SFB will continue to work closely with SEPA throughout 2022 on the implementation of the WFD.

Above: *Sourden, Delfur Fishings, River Spey in July 2021. The "Good Ecological Status" of rivers is the central theme of the Water Framework Directive.* (Photo: Mark Melville, Head Ghillie, Delfur Fishings).

Part 5

Publicity

5.1 Media Coverage

The publication of the revised Envirocentre Report on water abstraction throughout the River Spey was accompanied by a Press Release which issued at the end of August 2021 via communications agents Zambuni, courtesy of the Missing Salmon Alliance and through Fisheries Management Scotland. This received prominent media coverage, including the BBC's website, the Times and the Sunday Times, the Telegraph, the Guardian and various local newspapers.

5.2 Opening Ceremony 2021

The impact of COVID-19 and the restrictions imposed by the Scottish Government after Christmas 2020 led the SFB to cancel the annual Opening Ceremony at Aberlour on 11th February 2021. We hope that this might be reinstated in 2022.

5.3 Website

Weekly updates of catches have continued to be made available on the Board's website throughout the season. The Board is most grateful to Sandy Howie, the new Chairman of the River Spey Anglers Association, for his assistance during the summer of 2021 in maintaining this. In 2022, it is expected that this mantle will pass to the Board's new Digital Marketing & Communications Manager, Paul Hughes.

One of Paul Hughes' principal and initial tasks is to fully revise the Board's website. This is expected to be launched in February 2022, in time for the new salmon angling season.

Full details of the above, as well as comprehensive 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 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, Twitter and Instagram. 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.

5.4 Social Media

The appointment of the Board's new Digital Marketing & Communications Manager, Paul Hughes, saw the rapid integration of the Board's social media accounts on Facebook, Twitter and Instagram.

Paul also devised and launched a new social media campaign to increase awareness of the Board's work to reduce the significant water diversions form the upper River Spey for the production of hydro-electricity, and to put more water down our upper tributaries instead. Entitled #Release the Spey, this achieved rapid success, reaching thousands of new readers, many of whom shared the article within their own networks. The Board looks forward to building on this success during 2022.

5.5 Public Meeting

The restrictions imposed by COVID-19 meant that the Board had to cancel its annual local Public Meeting for 2021. The Board looks forward to resuming these popular meetings in 2022.

SPEY DISTRICT FISHERY BOARD
INCOME AND EXPENDITURE ACCOUNT
FOR THE YEAR ENDED 30 SEPTEMBER 2021

UNRESTRICTED FUNDS	£	2021 £	£	2020 £
Income				
Fishery accessments		396,207		396,207
Other income and Interest receivable				
Scottish Invasive Species Initiative	59,268		77,668	
Other operating income	71,065		34,756	
Government Grants	17,073		62,516	
Inver House allocation	20,000		0	
		167,406		174,940
		563,613		571,147
OVERHEADS				
Personnel Costs		373,433		366,652
Direct Expenses		65,263		66,245
General expenses		49,307		50,771
Financial Costs		1,691		1,747
Spey Projects		10,815		2,538
Scottish Invasive Species Initiative (Note 6)		59,268		77,668
		559,777		565,621
SURPLUS FOR YEAR		**3,836**		**5,526**
RESTRICTED FUNDS				
Spey Catchment Initiative income		0		62,796
Spey Catchment Initiative expenditure		(83,602)		(84,860)
Movement in Spey Catchment Initiative Balance		**(83,602)**		**(22,064)**

SPEY DISTRICT FISHERY BOARD
BALANCE SHEET
AS AT 30 SEPTEMBER 2021

	2021 £	2020 £
FIXED ASSETS		
Tangible assets	76,385	85,388
CURRENT ASSETS		
Debtors	51,570	67,232
Bank - Current Account	168,685	250,395
	220,255	317,627
CURRENT LIABILITIES	(59,871)	(63,032)
NET CURRENT ASSETS	160,384	254,595
NET ASSETS	236,769	339,983
REPRESENTED BY:		
Unrestricted Funds	240,217	236,381
Restricted Funds	0	83,602
Inver House Designated fund balance	0	20,000
	240,217	339,983

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**:* *Fabias Von Baranow, visiting from Germany, fishes Hollenbush, Delfur.* (Photo: Mark Melville, Head Ghillie, Delfur Fishings).

Top Centre Cover Photo: *A fine Delfur fish carefully landed in a rubberised net by Mark Melville and kept in the water to photograph.* (Photo: Mark Melville, Head Ghillie, Delfur Fishings).

***Top Right Cover Photo**:* *Olivier Devictor fishes Sourden, Delfur.* (Photo: Mark Melville, Head Ghillie, Delfur Fishings).

***Bottom Cover Photo**:* *One of the water gates installed as part of the River Calder Restoration Project 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 and 2021. A full description of this work can be found In section 2.2.3 of this Annual Report* (Photo: Roger Knight, SFB Director).

THE RIVER SPEY CATCHMENT