Visiting angler was rewarded with a fine 14lb springer from the Forres Association. (Photo Forres AA)

FINDHORN ANNUAL REPORT 2023

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River Findhorn Fishery Board

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FOREWORD

Once again, Bob and his team have produced an extremely informative Annual Report which demonstrates how much excellent work is being carried out for the good of our river.

2023 was another disappointing year from the point of view of the catch statistics. At a total of 818 salmon and grilse, this continues the downward trend which is of great concern to us all.

At the AGM in August, we had a presentation about Saprolegnia from Professor Pieter van West. Over the past two years, we have had two major outbreaks of this disease in the Findhorn which has killed several hundred adult fish. Professor van West confirmed that there is a new variant of the disease which is far more deadly than before. I believe this poses a very serious threat to our future salmon stocks. The Board has agreed to help fund research into this disease. A total of £10,000 over four years towards the cost of this research will be contributed from our reserves.

I encourage you to follow the work of the Findhorn, Nairn and Lossie River Trust which has started a massive project to promote biodiversity and community involvement across the entire catchment area. To sign up to their mailing list, click on the following link www.fnlrt.org.uk/contact . In particular you might like to read about the Watershed Initiative Findhorn Watershed Initiative - Findhorn, Nairn and Lossie Rivers Trust (fnlrt.org.uk)

My thanks go to Sean and Alister for all the excellent work they do and in particular for their willingness to learn new skills. Also, to Elise Cox for her continued dedication to the removal of non-native species and to Bob and Clare who manage everything from day to day so effectively and efficiently.

Anthony Laing

FDSFB Chair

FINDHORN FISHERY BOARD

Chair	**Anthony Laing** *(Coulmony)*
Board Members	**Alasdair Laing** *(Findhorn Salmon Fishings Ltd)* **Alex Leven** *(Glenferness Estate)* **Andrew Howard** *(Moray Estates)* **Colin Cawdor** *(Cawdor Estate)* **Colin Glynn-Percy** *(Tomatin Estate)* **David Paton** *(Dalmigavie Estate)* **Katherine Brodie** *(Lethen Estate)* **Michael Barron** *(Forres Angling Association)* **Murray Wilson (***Glenmazeran Estate)*
Co-optees	**Campbell Ross** (*Findhorn Angling Association*) **Mark Laing** *(FNLRT)*
Staff	**Robert Laughton** *(FNLRT Director)* **Sean Mclean** *(Head Bailiff)* **Alister Taylor** *(Assistant Bailiff)* **Clare Walker** *(Administrator)*
Clerk	**Anthony Laing**

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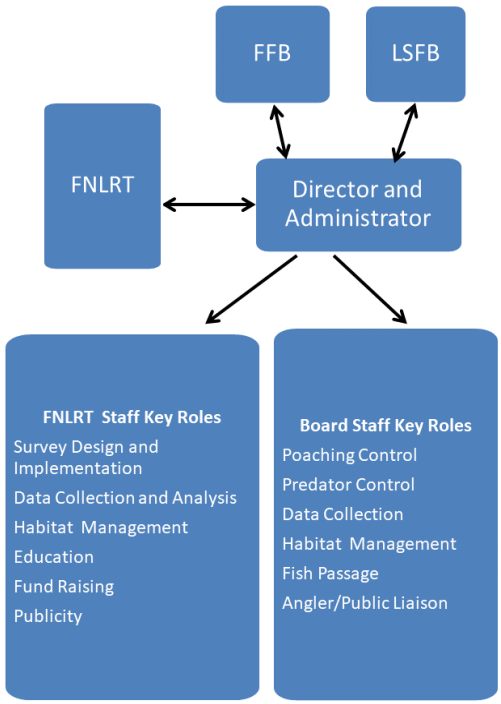
Management Structure

The Findhorn Fishery Board (FFB) is a statutory body constituted the Salmon Fisheries legislation in the 1860s, amended by 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 FFB 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 within the Findhorn district.

The Findhorn, Nairn and Lossie Rivers Trust (FNLRT) is an independent charity which promotes sustainable management of river resources and fish populations through research, restoration and education. The Trust works with the Findhorn Fishery Board (and the Lossie Fishery Board) to provide management and scientific advice and administration support.

Fisheries Management Scotland (FMS) represents Scotland's network of Fishery Boards, the River Tweed Commission and the Rivers/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. Both the FFB and the FNLRT are members of FMS and Alasdair Laing has continued as member of the FMS Board during 2023.



Management structure for the FDSFB and FBLRT

- Management Plan

The Management Plan 2021-26 underpins the work of the Board and Trust and encompasses six key priorities, Climate Crisis, River Habitat and Land Use, Biosecurity and Invasive Non-Native Species, Fish and Fisheries, Marine and Inshore Environment, Education and Awareness.

FINDHORN DISTRICT

The River Findhorn has a catchment area of over 1,300km^2 and a stream network length of about 1,500km, of which the main river comprises 90km. The catchment is split between two Local Authority administrations, which are the Highland and Moray Councils.

The Findhorn Fishery District (Figure 1) includes the River Findhorn and its tributaries plus 35km of coastline in the Moray Firth, from Burghead to the east of the Findhorn estuary to The Bar in the west. The District extends 3 nautical miles out to sea (Figure 1). The Muckle, Mosset, Kinloss and Burgie Burns are also included within the District.

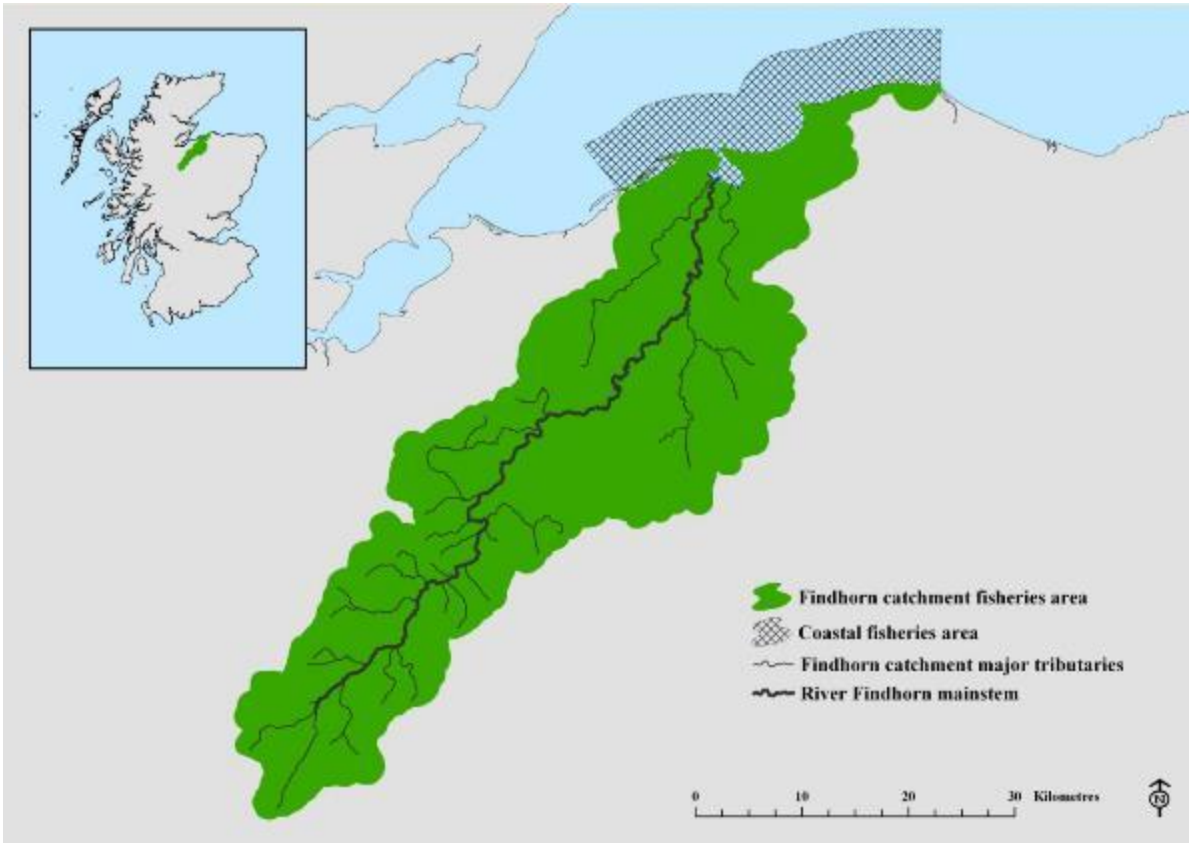


Figure 1: River Findhorn catchment and coastal district.

Further information on fisheries management on the Findhorn and Scotland in general is available on the following web sites:

http://www.fnlrt.org.uk/river-findhorn/

http://www.fnlrt.org.uk/

http://fms.scot/

THE FISHERY

Salmon and Sea Trout Catches 2023

The Findhorn salmon and sea trout angling season starts on the 11th February and ends on the 30th of September each year. The Forres Angling Association organized the traditional opening ceremony at the Stoney Pool on the 11th February 2023. Forres AA president Michael Barron opened the season in traditional style by offering a dram of Benromach to the river. The fine weather brought an excellent turn out to see opening and enjoy lovely food and drinks provided by Audrey and Billy Strathdee.

Forres AA president, Michael Barron, provides a dram of Benromach malt whisky to the Stoney Pool as part of the opening ceremony on the 11th February 2023.

The first salmon of the season was caught by Al Green. Findhorn anglers continued to enjoy a promising start to the season with reasonable catches of spring salmon reported and most of these salmon were of good size and in good condition. However, May 2023 turned out to be very dry, leading to low flows which curtailed catches significantly and led to another outbreak fish disease. Although water levels improved

during the summer, catches of salmon and grilse remained low with only a slight upturn in September. Sea trout catches were also low within the river, but anglers reported slightly better catches within the Bay.

Salmon and sea trout catches are summarized in Figures 2 and 3, respectively. Note that the catch for 2018 to 2023 is data submitted to the Findhorn Board while data from 1952 to 2017 is from official returns published by Scottish Government.

The salmon and grilse catch for 2023 was 818 and the sea trout catch was 92, (Figures 2 and 3). In general, the angling season was poor with catches showing a small drop from 2022.

Release rates for spring salmon was 100% in keeping with Scottish Government recommendations. The overall release rate for salmon and grilse was 93%. Sea trout release rates were 73%.

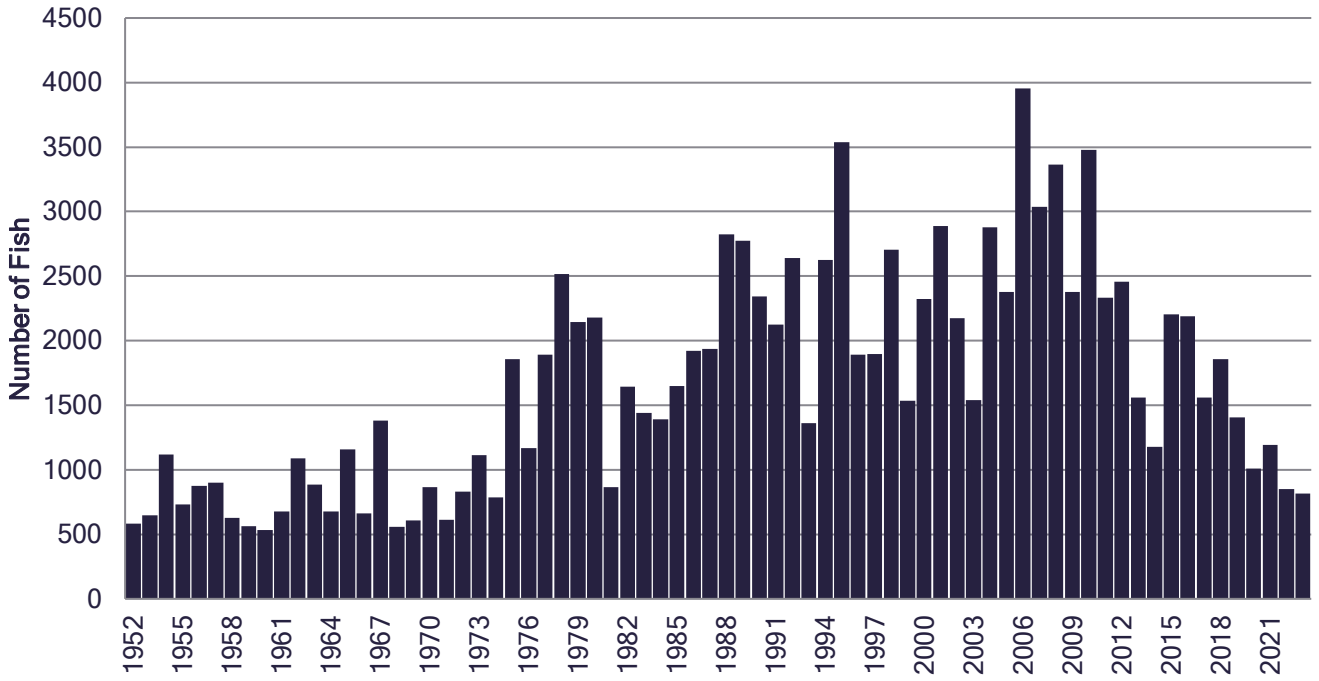


Figure 2: Salmon and grilse rod catch for the River Findhorn from 1952 to 2023.

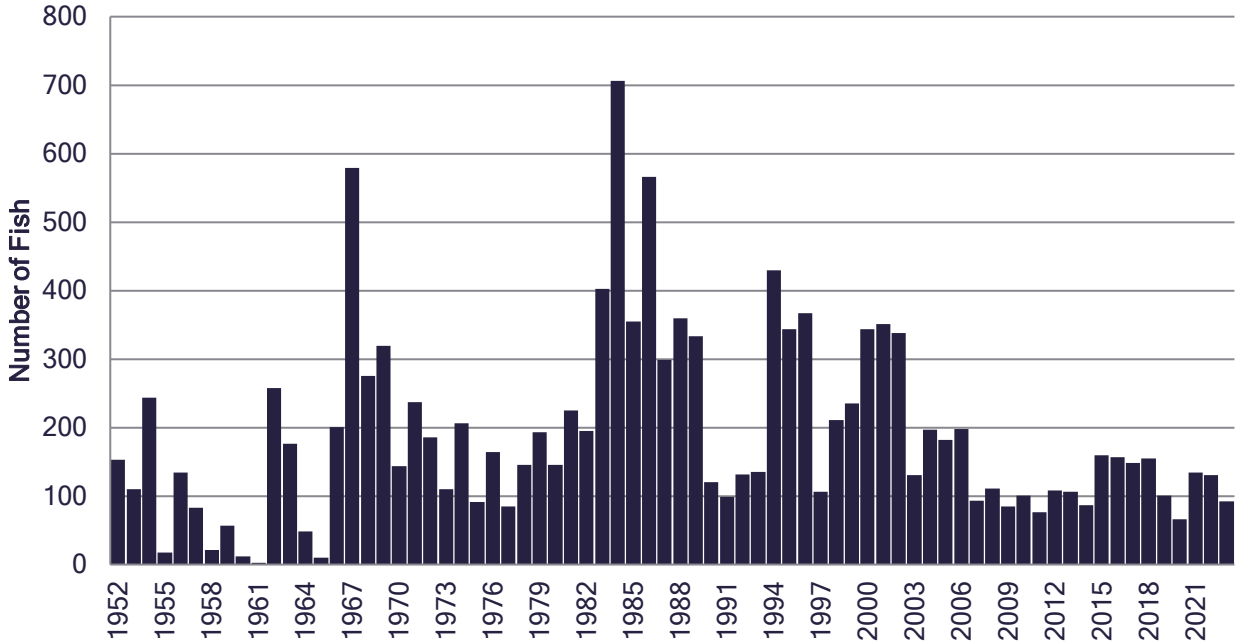


Figure 3: Sea trout rod catch for the River Findhorn from 1952 to 2023.

The Board are delighted that anglers have continued to adopt a very positive response to the catch and release recommendations and are contributing to safeguarding stocks for the future. The Board reviewed and updated its conservation policy in August 2023.

An impressive 35lb male salmon caught and released at Tomatin (photo Edward Usbourne)

Findhorn Conservation Code Conservation Code 2024

FINDHORN CONSERVATION CODE

RELEASE: Up to and including the 14th May, anglers must,

Release all salmon and grilse.
Are encouraged to release all sea trout and finnock.

RELEASE: From 15th May,

All salmon over 9lbs / 28inches (4kg / 72cm)
All Sea Trout over 4lbs / 21inches (1.8kg / 55cm)
All coloured, stale and gravid salmon/grilse/sea trout
As many female hen salmon/grilse/sea trout as possible

RELEASE RATE: Anglers are asked to achieve a minimum of:
75% of all salmon/grilse caught **from the 15th of May**
75% of all sea trout and finnock caught from **11th February**

KEEP RATE: Guidance only as Release Rate above should take priority:
A maximum of 1 salmon (under 9lbs) or 2 grilse (fish under 4lbs) per rod per 6 days.

METHOD: Before 1st May fly fishing is encouraged, most beats are fly only all season. From 1st May it is mandatory. Pinched or barbless hooks are recommended and avoid using triple hooks.

If an angler catches a fish that they feel is likely not to survive, then the angler can retain it, but they must report immediately to the estate, the head bailiff (Sean McLean 07920 483081) or the FNLRT (Bob Laughton 07887 535986), who will decide what to do with the fish. This course of action also applies to all fish over 9lbs, which would normally be returned throughout the season under the FDSFB Conservation Code.

Catch and Release – 6 Simple Steps:

1. Use the strongest practical nylon cast to aid quick landing of fish. Long playing leads to the build-up of harmful metabolites such as lactic acid which kills fish even after they appear to swim away unscathed.

2. Use single or double hooks but avoid using triple hooks. Pinch the barbs by carefully crimping them with slim-jawed pliers. This is better than using barbless hooks.

3. Plan your release strategy as you are playing the fish - think where the best area would be to net or beach, unhook & release your fish. Avoid sandy beaches and silty bays, and where there are extensive areas where the water depth is shallower than the depth of the fish.

4. Take great care in handling fish. It helps if there are two of you so try and fish in pairs. Do **not** pick the fish up by the tail and carry it to the bank for unhooking purposes. If possible, use a wide-mouthed small knot-less mesh net to minimise handling, remove the hook, and release the fish while still in the water. Wet the hands first or use surgical gloves and wet them as well, avoid the gill area, do not squeeze the stomach and take care not to rub off scales. Turning the fish upside down will often prevent it from struggling. Use your knees or the riverbank to keep the frame of the net level and just above the water surface.

5. Use long-nosed artery forceps or slim-jawed pliers for removing hooks.

6. Try to minimise out of water and handling times. Return the fish as quickly as possible. Some photographers keep fish out of the water far too long, reducing their chances of recovery. Support it until it has recovered enough to swim away.

Fishing During Periods of Hot Weather and High-Water Temperatures

1. Salmon start to become uncomfortable at water temperatures of 20˚C (68F) or more and there is documented evidence that with a water temperature above 20°C salmon may not survive C & R.

2. Early morning fishing is best from a welfare point of view as the water temperature will be at its lowest. As the day wears on into the evening on a hot sunny day the fish will be very reluctant to show any interest in taking a fly. A reduced fishing effort at this time decreases the chances of over-stressing the fish as there is still an element of stress caused by fishing over them.

3. If a fish is hooked the playing increases the fish's requirement for oxygen, and as warm water holds less of it, they can struggle to catch their breath when released. Great care must be taken to unhook the fish in the water and not remove it to improve its chances of survival on release. The fish should be gently held upright in the water until it is fully recovered so allow plenty of time before releasing it.

Conservation of Wild Salmon Stocks

The Scottish Government published a Wild Salmon Strategy for Scotland in January 2022. The strategy sets out the vision, objectives and priority themes to ensure the protection and recovery of Scottish Atlantic wild salmon populations as follows,

- Scotland's rivers have healthy, self-sustaining populations of wild Atlantic salmon that achieve good conservation status.
- Wild salmon management is evidence-based and underpinned by integrated data gathering, research and dissemination.
- The environmental and socio-economic benefits arising from healthy wild Atlantic salmon populations are identified and maximised through partnerships between the public, private and charitable sectors.

This was followed by the publication of the Wild Salmon Implementation Strategy in early 2023 setting out the actions to be taken over the next five years to 2028.

Within the strategy Marine Scotland (MS) continued to develop a conservation limits model for Scottish rivers. The approach requires some knowledge of actual spawning levels and the minimum acceptable (target) levels of spawning. The target level is also called the "conservation limit". Actual spawning levels are usually expressed in terms of egg deposition and rely on estimation of numbers of returning adult salmon from counters and catches. The conservation limit (CL) approach uses rod catches from the most recent 5 years to develop a run reconstruction model. This value is then used to estimate egg deposition which is compared to the estimated egg requirement to assess the probability that the stock will equal or exceed its CL in each year. Rivers are then graded 1 – 3 and local management actions applied as detailed below. More details on the approach and results for Scottish rivers can be found here.

Towards the end of 2023 the International Union for Conservation of Nature (IUCN) published their latest Red List of threatened species which highlighted the precarious state of the world's freshwater fish species populations. Alarmingly Atlantic Salmon have been classified as near threatened across their global range and as endangered within the UK. Climate change, pollution, barriers, the effects of fish farming among other issues are contributing to this decline in population status. With catches declining in the Findhorn and other Scottish rivers this is a very worrying trend and the need for action is acutely necessary. Many

of the issues are targeted within our management plan and the Board continues to promote the conservation of salmon stocks, through predator control and habitat improvement throughout the river.

Grade 1 At least an 80% mean probability of CL being met in the last 5 years.

Advice provided to the District Salmon Fishery Board indicating that exploitation is sustainable therefore no additional management action is currently required. This recognizes the effectiveness of existing non-statutory local management although a Conservation plan for the future must be prepared.

Grade 2 60-80% mean probability of CL being met in the last 5 years.

Management action is necessary to reduce exploitation though mandatory catch and release will not be required in the first instance, but this will be reviewed annually. Production of a conservation plan is required in consultation with Marine Scotland.

Grade 3 Less than 60% mean probability of CL being met in the last 5 years.

Exploitation is unsustainable and mandatory catch and release (all methods) for 1 year will be required. Management action is necessary to reduce exploitation and production of a conservation plan is required in consultation with Marine Scotland.

The Findhorn remains in Grade 1 for 2024

National Electrofishing Program for Scotland (NEPS)

Incorporating juvenile salmon data is a key part of improving the conservation limits model and led to the establishment of the National Electrofishing Survey program for Scotland (NEPS).

This approach uses randomly selected sampling sites and appropriate statistical analysis, to estimate the number of fish in a particular section of a river and then estimate the total production of fish in a river or region. This information can be used to compliment angler catch data to assess whether sufficient adult fish are returning to each river system to indicate a healthy population of salmonids. FNLRT and FFB staff completed surveys in 2018, 2019 and 2021 for this initiative. The 2018 survey indicated that juvenile salmon density for the Findhorn, Nairn and Lossie catchments was at Grade 1, however in the 2019 and 2021 surveys this dropped to Grade 2. The 2018, 2019 and 2021 reports are available by clicking here.

The results can also be reviewed using the ShinyApp. The NEPs survey was carried out again in 2023 with 30 sites examined across the rivers Findhorn, Nairn and Lossie and the data submitted to the NEPs team at the Freshwater Lab Pitlochry. The NEPs team are currently analyzing the data and results should be available late 2024.

A long and wet trek up the Cro Clach, Coignafearn, to this NEPs site but encouraging numbers of juvenile salmon were present.

RIVER MANAGEMENT

Poaching Control

Poaching or illegal fishing is a wildlife crime and despite the ban on the sale of wild salmonids it still occurs within our district. It occurs in a range of forms such as illegal netting to fishing without permits. To control and deter poachers Sean Mclean and Alister Taylor, the bailiff team, conduct regular patrols throughout the year. Poaching can occur at any time, so the timings of patrols are varied throughout the week and during the day. The entire river including the bay and coast is covered. The bailiffing staff have a good range of equipment, including a thermal camera and they also utilise the Trackplot system if patrolling individually. Both Sean and Alister also completed a handcuff and conflict resolution refresher course (Streetwise Training LTD) during the season with bailiffs from the River Spey.

Alister in control of Roger Knight (Spey Director) during the conflict resolution training course. (Photo Sean McLean)

Poaching Incidents

Last year we reported on two prolific long-term poachers who were caught at the Railway Pool in the lower Findhorn. Police Scotland were called, and the poachers were arrested on site with illegally caught grilse in their procession. The case was submitted to the Procurator Fiscal (PF) and the two culprits were issued warnings. The Board pursued the matter further with the Procurator Fiscal to express their concern at the disappointing outcome.

The response provided some further clarity, the two poachers in question had no previous convictions and so in this situation a written warning from the PF is considered an appropriate sentence. However, should any further arrests for poaching occur a more severe sentence may be issued. Each case is considered on its own merits and bailiffs and police officers are encouraged to continue to bring cases forward. A copy

of the response from the PF is available on request.

Richard Whyte (Spey Head Bailiff) with Alister Taylor and Sean McLean conducting a coastal patrol during August 2023. (photo Richard Whyte)

Illegal netting for salmon still occurs along the coast and on the 25th August, we were invited by the Spey Head bailiff, Richard Whyte to crew the Spey Fishery Board's rib on coastal patrol from Fraserburgh to Lossiemouth. It was a very early start, meeting at Lossie harbour at 5am and then on to Fraserburgh with the rib on the trailer and launched around 07:30am. It wasn't a flat calm day, but we persevered, no illegal nets were found but it was a very worthwhile experience.

During 2023 there were 15 fishing incidents, 12 of these were fishing without tickets/permission or with improper tackle and resulted in verbal or a written warning being issued. Three incidents were of a more serious nature and were reported to Police Scotland. Sean and Ali outline a few examples below.

During May we received information about an angler using spinning tackle on the Moray and Moy Estate area, we found the angler with a spinning rod with a yellow belly Devon minnow attached. We asked if he read the information on his fishing ticket and why he was using spinning tackle when it clear states fly fishing only for this beat in keeping with the rest of the Findhorn from April onwards. His reply was, "Yes, but it's too low to fly fish this part of the river, and I know where to get a fish with my spinning rod." We advised him to pack away the spinning rod and leave the river, but he became obnoxious and insisted that it was his right to spin on these waters and he had been doing this for fifty years and would continue to do so. His attitude became increasingly awkward and dismissive towards us, so we issued a warning and then he did leave the river. We reported his disregard for the fishing rules and aggressive behaviour to Moray and Moy Estates which resulted in both estates and Fishpal, banning the angler from this area.

Early June produced a similar incident with a report of two males fishing with spinners in the Skater pool on a Sunday evening. We were some distance away at the time and the two individuals were driving away from the river as we arrived to investigate. We didn't manage to apprehend the two fishers, so no warning was issued but we managed to get their car registration and report it along with details of the incident, to Police Scotland. Salmon and sea trout fishing is illegal on a Sunday, using spinning tackle is illegal and although we didn't apprehend the anglers, reporting the incident to the Police is important since the car registration can be traced and occasionally it can be connected with other criminal activity in the area.

Our third example is from the Tomatin area during September when we came across two youngsters fishing under one of the bridges. They had inappropriate fishing rods and tackle, but they also had a gaff! They were advised the using gaff to land fish has been illegal for some time and so it was confiscated. We accompanied them back to a local B&B where they were holidaying with their parents to discuss the incident. After amicable discussions on legal and illegal equipment the youngsters were encouraged to continue their fishing but use appropriate tackle.

Our final example involves an angler fishing out of season in the Moy – Funtack Burn area. When he was interviewed, he replied, "Lord Cawdor had given him permission." Clearly the angler was in the wrong on two counts, he was fishing out of season and was not on Cawdor Estate! Police Scotland Wildlife Officer, PC Dan Sutherland was also on the patrol and the angler was given a Police warning and his fishing gear confiscated for six months!

During 2023 we have continued to strengthen our connections with Police Scotland. On the 25th of July, we teamed up with PC Hannah Corbet and PC David Stuart to conduct an evening patrol across the Findhorn and this allowed us to show them particular poaching hot spots.

Bailiff team, Sean Mclean, Alister Taylor with Police Scotland Wildlife Officers, PC David Stuart and PC Hannah Corbett, out on patrol on the Findhorn. (Photo Graham Bell)

Police Scotland also invited us, to assist them at their stand at Moy Game Fair in August. This provided a great opportunity to meet the public who are not always keen to approach police officers, but we found they would approach us as water bailiffs. From the start, we found that once they started to talk to us, they would also open up and start to talk to the police wildlife officers, this worked well, and we have been invited back next year to assist.

Maintaining close contacts with Police Scotland and our neighbouring Fishery Boards is an important part of our work and helps to provide an effective deterrent against poaching across the Moray Firth. We continued to conduct regular patrols within the Lossie catchment funded by the Lossie Fishery Board and this led to three warnings being issued. To further support wider liaison Bob Laughton (FNLRT Director) continued to chair the Moray Firth Riverwatch group which met in October and allowed bailiffs and staff from the River Deveron round to the River Conon to meet with Police Scotland Wildlife officers and discuss poaching and other wildlife crime activities. He and Sean also attended the Northeast Partners Against Rural Crime (PARC) and Partnership against Wildlife Crime (PAW) meetings.

Alister on night patrol which remains an important part of our poaching deterrent (photo Sean Mclean)

Control of illegal fishing is still an important part of the bailiff's duties and Sean was interviewed by BBC Radio Scotland during September to reflect on the role, PC Hannah Corbett was also interviewed to discuss wildlife crime in the north-east. The bailiff's role is evolving to include a wider range of river management duties including, fisheries surveys, smolt trapping, compiling catch data, scale reading, predator monitoring and control, dealing with river works, as well as education activities. Details of these activities are indicated throughout this report. The bailiffs are also the eyes and ears for the Board and provide the best way to inform the anglers of fishing and conservation policies and return information back to the Board.

If you observe or suspect illegal fishing (poaching) is underway Please contact.

Findhorn Bailiffs:
Sean Mclean 07920 483081
Alister Taylor 07387 302649
Email: sean@findhorn.org.uk

or
Police Scotland
999 or 101

Do not attempt to apprehend the poachers!

Predator Monitoring and Control

Sawbill ducks (goosanders, mergansers) and cormorants can affect juvenile and smolt stocks. Typically, five counts are carried out throughout the year, in Jan/Feb, Mar/Apr, May, Oct, Nov/Dec, and are organised by Alistair Taylor. Counts are carried out by walking each section of the river simultaneously, between 08:00 and 10:00 and in Findhorn Bay counts are compiled by observers from several fixed points around the Bay. Counts are organized through a WhatsApp group, and we are extremely grateful to all the estate staff, keepers and volunteers who joined the bailiffs to complete the counts.

Left: Male Goosander (photo Gordon Rennie), right Female Merganser (photo Graham Bell)

During 2023 counts were completed in February, March, May and November and December and the results are presented in Figure 4 and Figure 5.

Figure 4 indicates that goosanders were present at four of the five counts ranging from 0 to 13 birds. This was similar to 2022 where the range was 3 to 14 birds. Goosanders generally migrate into Findhorn Bay during winter then begin to pair up in the spring and move upriver to find breeding sites. After mating the males leave the river in early summer and head back to sea while the females remain on the river to raise their brood. This pattern was evident through 2023 with goosander numbers peaking in March and May (Figure 5) and then lower in the November, December and February counts.

Mergansers were observed in all five counts with numbers ranging from 18 to 62 birds. Merganser counts were higher than in 2022 where the range was 7 to 19 birds.

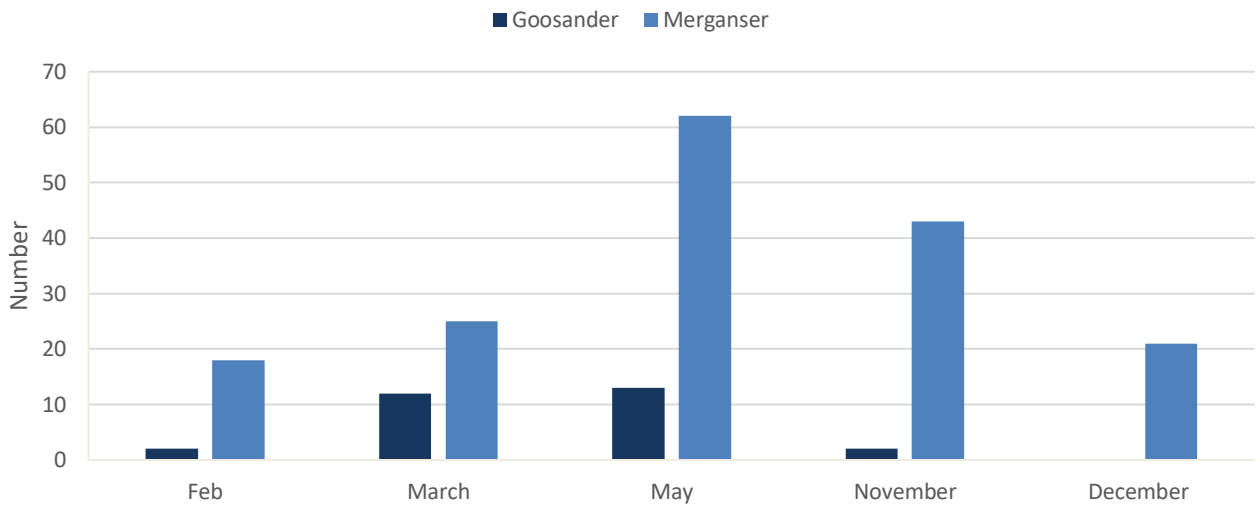


Figure 4: Goosander and Merganser count data form the River Findhorn and Bay, 2023

Mergansers numbers were higher than goosanders in all counts. The maximum count of 62 mergansers was recorded in May. The pattern was similar with birds appearing in winter and spring and then a decline in May as males left the river. However, counts indicate that a population of mergansers remain on the upper Findhorn throughout the year.

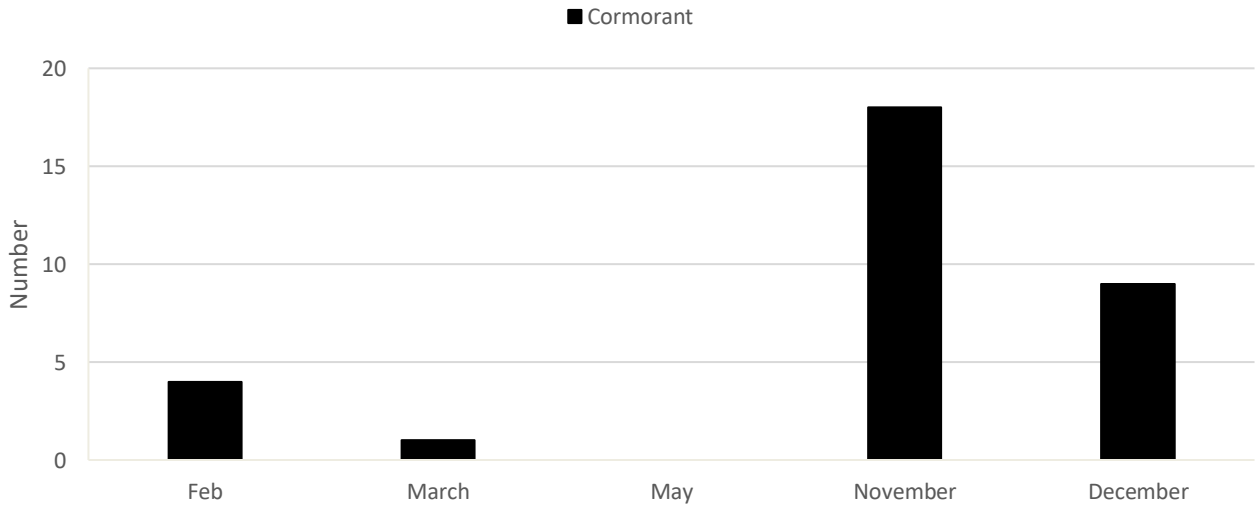


Figure 5: Cormorant counts from the River Findhorn and Bay 2023.

Figure 5 shows cormorant counts for 2023, they were present in four counts and ranged from 1 to 18 birds. Most of the cormorants are present in Findhorn Bay, but they also range upriver regularly.

Based on these counts and those from neighbouring rivers a joint license application for control of these birds during the smolt migration was prepared by Roger Knight (Spey Fishery Board). The application was successful, allowing birds to be controlled under license, from 1st October 2023 to 31st May 2024. The license includes 2 goosander, 9 mergansers and 1 cormorant for the Findhorn and Lossie and control is carried out by the bailiffs. Scaring tactics such as firing blank cartridges and the installation of rope bangers at selected locations are also used to disturb the birds throughout the smolt run. Counts and scaring tactics will continue in 2024.

Any additional sightings of these birds on the river from anglers is also welcomed, please send any data to Bob Laughton at director@fnlrt.org.uk or by text to 07887 535986, providing date, location and number/type of birds.

- Mink Control

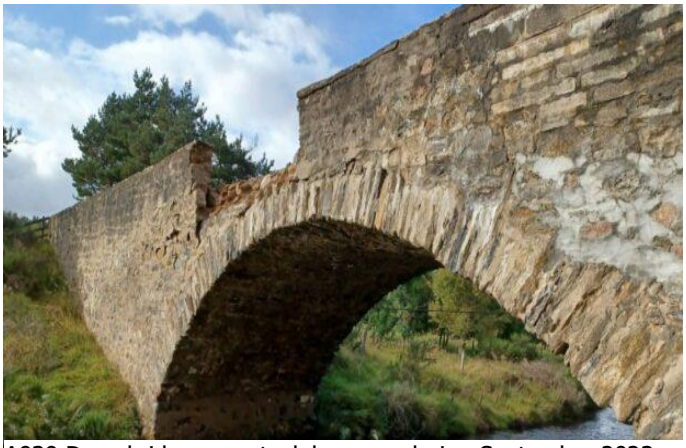
Elise Cox (SISI) continues to maintain the mink monitoring and trapping network across the Findhorn, Nairn and Lossie catchments with the help of a dedicated group of volunteers and with high tech 'smart traps' which allow deployed traps to be monitored remotely. A total of 11 mink were caught across the Findhorn, Nairn and Lossie area, with 5 caught on the Lossie, 3 on the Nairn, 1 on the Muckle Burn and 2 on the coast.

One of our volunteers, near Forres, had an interesting visitor this year, after capturing a few footprints on his raft that we couldn't identify, we set a camera trap and uncovered the identity of the culprit - a pine marten!

Any sightings of mink or mink tracks
Please contact Elise.
07880 971890
elisecox@fnlft.onmicrosoft.com

Catchment Developments and River Works

An essential part of the Trust and bailiffs' duties is to review, comment on and inspect river works to ensure that fish populations and habitats are not being blocked or damaged. Two physical works were completed within the Findhorn during 2023. These included repairs to the A939 Bridge over the Dorback Burn near Dava and the completion of a new access bridge to the Forres waste-water treatment works, over the Mosset.



A939 Dava bridge was stuck by a car during September 2023 leading to significant damage and closure of the bridge. (photo Highland Council)

Consultations regarding the removal of silt from Sanquhar Pond in Forres, tree blockages or buildups on bridges were also visited and discussed with landowners and agencies throughout the district.

A939 bridge at Dava station fully repaired, Jan 2024. (photo Sean Mclean)

- Wind Farms

The Trust and Board have worked closely with the developers for the Clashgour Wind Farm which received planning permission in October 2022. The development spans the upper Lossie and the upper Divie and to ensure there are no detrimental effects on the water courses a monitoring plan has been commissioned to monitor water quality, invertebrate and fish populations within these burns before, during and after construction. Monitoring is expected to begin in Feb 2024 one year prior to construction commencing.

RIVER WORKS GUIDANCE

All developers undertaking river works, should contact their local planning authority, SEPA, NatureScot and the Fishery Board for advice and guidance.

To provide protection for salmon and sea trout and other fish the preferred operational period for works is from 1st June to 30th September.

Juvenile Fish Surveys

The good weather and flow conditions during July and August 2023 allowed rapid progress with the National Electro fishing survey (NEPs) (see page 13). In addition, a full survey of the upper Findhorn was planned and supported with additional funding from LNER through the Findhorn Watershed Initiative (FWI). Good progress was made in August with seven sites completed. However, the remaining thirteen sites were cancelled due to high water levels in September and early October. We plan to re-survey the upper Findhorn in 2024 and to trial the smolt trap in the upper Findhorn. A couple of sites in the upper mainstem look promising and further work on their feasibility will be undertaken along with discussions with the proprietors for access.

Fish Disease Outbreak

Sadly, reports of badly infected and dead salmon began filtering through in May. Reports continued during June and with information from our own patrols and discussions with proprietors and anglers, our estimate of losses was about 100 salmon although it is very difficult to put an accurate figure on it.

Collecting tissue samples from infected salmon on the River Divie for Saprolegnia, June 2023.

Tissue samples were collected from several infected salmon on the River Divie for analysis by Prof Peiter van West and his team at Aberdeen University. Results confirmed the infection was a new variant of Saprolegnia which is more infectious than its previous forms. This outbreak was also reported from several other Scottish rivers and is extremely worrying. To address concerns Fisheries Management Scotland and Aberdeen University have raised funds from across the Fishery Board network to support a PhD study to understand the effects of this new Saprolegnia infection more fully. The Findhorn Board have contributed funds to support the PhD. Further sampling of the Findhorn and other Scottish rivers is expected to start in February 2024.

An additional 11 dead salmon were also examined from several fishing beats along the Findhorn by Board and Trust staff. These were visually examined, measured, weighed, sex identified, scales collected and photographed. Where the sex could be identified 9 of the 11 were female (82%) indicating a high proportion of spring salmon are female. The loss of these female spring salmon will mean a considerable loss of eggs during spawning. Salmon heads were also retained from 8 salmon for further analysis of otoliths and eyes by Dr Anna Sturrock and her team at Essex University.

Photographs and details were also received from anglers and estate staff and examinations of these indicated the majority had significant *Saprolegnia* infections some also had signs of red vent syndrome and red skin disease. We also entered a large proportion of this data into the Fisheries Management Scotland Fish Disease App. This provides an important resource for FMS and anglers are encouraged to submit any findings to this app in the coming season as well as inform the Board and Trust staff.

Thankfully, some rain appeared leading to a welcome rise in flows in June and numbers of infected fish declined sharply afterwards. However, the development of a more infections strain of Saprolegnia is very worrying for the future of salmon stocks. The low flows and warmer river temperatures which seem to be more prevalent in spring initially appear to provide ideal conditions for the infections to spread. Further information on the problem will develop as the PhD study progresses and some approaches to containing the infections will also hopefully develop.

Our thanks to the proprietors, anglers and estate staff who have alerted us to this problem and retained salmon for sampling and sent in pictures. Please continue to do this into 2024. We are particularly grateful to Ewen Manson (Logie) for his help in capturing salmon on the Divie and to Prof Peiter van West (Aberdeen Univ) and his team for their help and advice.

Reporting Diseased Fish

If you suspect a salmon or trout, you have caught or found is infected or appears to be in poor health, please:-

If facilities exist, keep the fish alive (keep net etc)
If not store the fish in a cool place, if possible on ice,
But do not freeze the fish,
Note location and time and any observations on behaviour,

Collect scales, length, weight,

Photograph each side of the fish and the underside.

Contact:

Bob Laughton (FNLRT): 07887 535986

Sean Mclean (Head Bailiff) 07920 483081

or

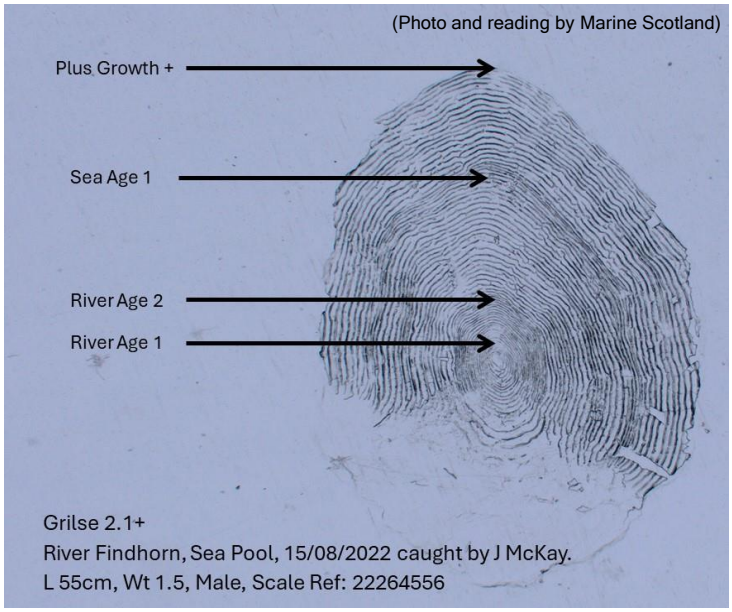
Use the Fisheries Management Scotland App

Scale Collection

Salmon scales have two distinct parts, a river zone which the period spent in freshwater until it leaves the river as a smolt and the sea zone, which is the period spent in the marine environment and also include the adult returning to the river (ICES 1992).

Salmon growth in freshwater is relatively slow and when it moves into the marine environment growth increases rapidly. The scale is formed around a central focus and as the fish grows it forms circuli in concentric rings on the surface of the scale. During periods of good feeding and growth (summer) the

circuli are widely spaced while during periods of poor feeding and growth (winter) the circuli are much closer together and form a dark band or winter check. These winter checks can be identified, and the age of the fish determined. Scales are read from the focus out towards the edge, and the age is present as "river-age.sea-age.plus growth", the photo to the right shows a scale reading of 2.1+ would be a fish which had spent two winters in the river followed by one winter at sea and the + indicates some extra marine growth was also observed, so this fish is a grilse!



Grilse 2.1+
River Findhorn, Sea Pool, 15/08/2022 caught by J McKay.
L 55cm, Wt 1.5, Male, Scale Ref: 22264556

A scale reading of 2.2+ would be a fish which had two years in the river followed by two at sea and some plus growth, this would be a multi sea winter salmon and would have probably entered the river during the summer or autumn. If the plus growth was absent on this scale, then the fish would have been a spring salmon. Freshwater and sea ages typically range from one to three winters so various combinations can arise. Scales can also be obtained from trout and read following the same procedure.

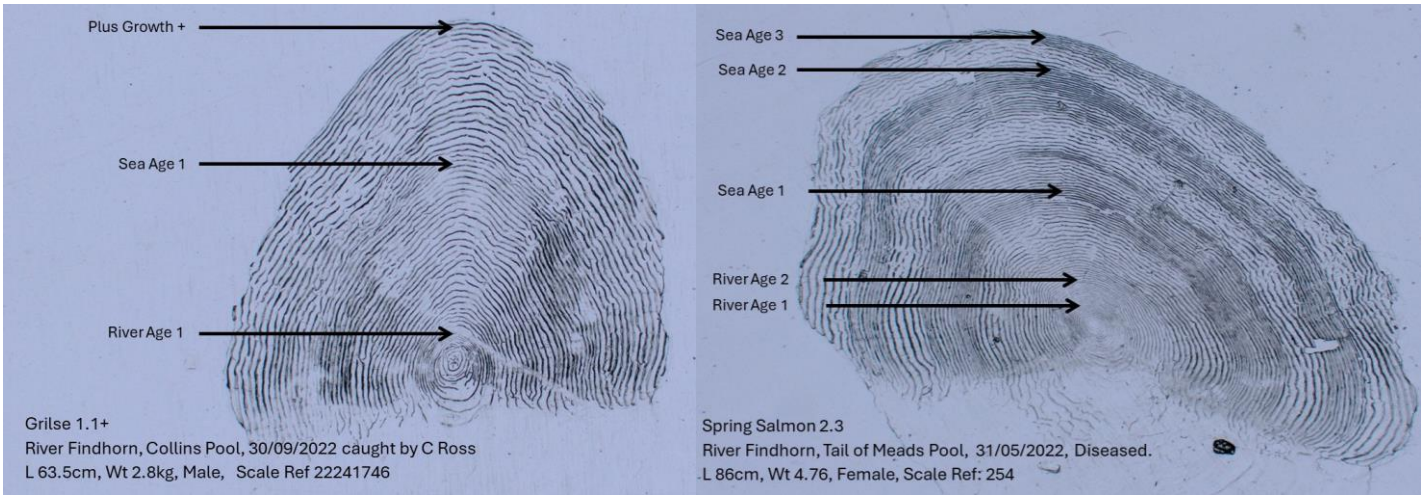
Scale reading is as much an art as it is a science and good practitioners take several years to fully hone their skills. Alistair Taylor completed the SFCC scale training course during 2023 and with Bob Laughton we can now complete most scale reading in house. However, we are very grateful for the help and support from Marine Scotland and SFCC for help with the trickier scales and organizing scale workshops each year.

Marine Scotland is working closely with Fisheries Management Scotland, Fishery Trusts and Boards to develop a national adult salmon sampling program across Scotland. The program will obtain valuable data on salmon entering Scottish rivers that can then be used in stock assessments. The Findhorn joined the program in 2022 and scales were collected from salmon the Forres Angling Association, Darnaway, Altyre and Logie fisheries. Data on date of capture, location, length, weight, sex, condition, was collected along with a sample of scales and a photograph of the fish if possible. The scales were stored in a paper packet for reading by staff at the Marine Scotland Freshwater Laboratory at Faskally. The scale samples were collected from diseased salmon by the bailiffs, Sean McLean and Alister Taylor and by anglers.

	Sea Age 1SW (Grilse)	Sea Age 2SW	Sea Age 3SW
River Age 1yr	1	0	0
River Age 2yr	11	25	2
River Age 3yr	0	2	0
Unreadable scales = 8			

Table 1: Summary of the river and sea age classes of River Findhorn salmon scale samples (49) read by Marine Scotland as part of the Adult Scale Monitoring Program 2022.

Forty-nine salmon scale samples were collected and submitted in 2022, of these 41 were fully readable providing both a river age and a sea age and a summary is present in Table 1. Most scales show a river age of 2 winters and sea age of 1 or 2 winters. There were a few outliers with one grilse showing a river age of one and two salmon provided sea ages of three. Examples of these scales are shown below.
The data was fully analysed by Marine Scotland scientists and incorporated into the conservation modelling approach.



Findhorn grilse, age 1.1+, on the left and a spring salmon, age 2.3, on the right. Photos and readings by Marine Scotland)

Twenty-one scales samples were collected in 2023, thirteen from salmon (Table 2) and eight from sea-trout (Table 3).

One salmon scale set was from an angler, Ian Lamb, who released the salmon during May and the remaining 12 were all from diseased salmon sampled during May and June. All the readable scales indicated that the salmon were spring salmon aged 2.2.

Salmon Scales 2023	Sea Age 1SW (Grilse)	Sea Age 2SW	Sea Age 3SW
River Age 1yr	0	0	0
River Age 2yr	0	12	0
River Age 3yr	0	0	0
Unreadable scales = 1			

Table 2: Summary of the river and sea age classes of 13 River Findhorn salmon scale samples collected during 2023. (read by Alister Taylor).

The eight sea-trout were all caught by Tom Hochenhall in the lower Findhorn. They ranged from 26cm to 35cm in length and the majority had spent two years in the river and one at sea. One large sea trout had spent two years at sea.

Sea Trout Scales 2023	Sea Age 1SW	Sea Age 2SW	Sea Age 3SW
River Age 1yr	0	0	0
River Age 2yr	5	1	0
River Age 3yr	1	0	0
Unreadable scales = 1			

Table 2: Summary of the river and sea age classes of 8 River Findhorn sea-trout scale samples collected during 2023. (read by Alister Taylor).

Our thanks to the anglers who donated the scales sets and we are always delighted to receive salmon and trout scales from anglers and happy to provide a reading.

Pollution Incidents

Thankfully, no significant pollution incidents were reported during 2023.

POLLUTION INCIDENTS

Should be reported to SEPA through the Pollution Hotline

0800 80 70 60

Invasive Non-Native Plant Control

Control of invasive non-native plants continued throughout 2023 with the support of the Scottish Invasive Species Initiative (SISI), which received funding from the Nature Restoration Fund (NRF) to continue running until at least 2026. In keeping with our approach from previous years, infestations of invasive plants were tackled strategically from their uppermost extent, then working downstream. As of 2023 we were controlling approximately 50km of river for invasive plants with the help of 16 volunteers, including over 150 hours contributed by graduate intern Sarah Hadfield.

We got an early start on giant hogweed (GH) treatment in the last week of April owing to favourable weather and carried on control until late July. Coulmony/Daltullich Bridge is the upper limit of GH treatment. Densities of plants have been much reduced in these areas, but we are still seeing isolated plants appearing along the stretch of river from Coulmony to Mundole. The emergent patch of GH at the Scum Pool first discovered in 2020 was revisited and no mature plants were found. This area will be revisited in 2024 to ensure this trend continues.

GH control in 2023 continued from Coulmony through Logie, Darnaway, Altyre, Mundole and Dalvey to the A96 bridge, thanks to the efforts of FNLRT and SISI staff, landowners, specialist contractors and volunteers. We have control underway downstream of the A96 thanks to the continuing work of Wild Things and their volunteers on the right bank. We are grateful for the continued support of all local landowners, and for that of our specialist contractors, whose expertise has allowed us to maintain our control efforts in difficult to access areas. Local outdoor activity company "Ace Adventures" provided their white-water rafts as transport through the gorge section of the Findhorn, allowing the team to reach otherwise inaccessible GH plants. The ropes access company,

Sarah Hadfield, Elise Cox and Clare Walker, enjoy a raft trip through the gorge section of the Findhorn. Rafting is the most efficient way to treat Giant Hogweed in this otherwise inaccessible section of the river. (Photo Ace Adventure)

"Blokes on Ropes", also returned to treat GH found on the cliff at Broadreeds and reported densities were much reduced from those they had encountered in previous years.

We also trialed a new method of GH control at Broom of Moy this year, using a large, pressurised spray tank that fits on the back of a trailer and allows extensive and dense infestations to be treated quickly and efficiently by a few operators. To tackle these areas using traditional methods would have required far more effort and manpower, meaning we were able to make significant in-roads into new areas this year. However, while this method of using the large spray tank has proved an excellent new weapon in the arsenal against invasive plants, it will not replace our traditional approaches to control. Through our work this year, we found that the tank would work best when used in tandem with knapsacks and stem injectors to allow for fine control.

GH control also continued on the Mosset and Muckle burns. The Mosset showed continuing improvement from the original upper reaches of the infestation in Rafford and Altyre all the way to the confluence with Findhorn Bay. We are now finding large stretches of the upper treatment areas to be completely free of mature plants, with only a handful of seedlings appearing. Treatment for the Muckle burn occurred from the Earlsmill to Abbotsford Bridge.

Pressurised tank in operation on Giant Hogweed, June 2023. (photo Sarah Hadfield)

We are also delighted to report this year that Network Rail initiated a Giant Hogweed control program along the railway between Brodie and Forres. Contractors, fully trained in railway safety procedures and herbicide spraying, tackled the section during May - June 2023. While the contractors concentrated their efforts along the track's we also sprayed any stands of Giant Hogweed along the field margins and behind the industrial units in Forres which adjoining the railway, so a full control approach was achieved. The initial results were impressive with over 95% of the GH killed leading to a considerable reduction in seed load for future years. However, it is important to build on the good start and Network Rail are committed to a longer-term program which we will continue to support. Our thanks to Mark Allen form Network Rail for pulling the program together.

Following the end of GH control, we began treating Japanese knotweed (JK) in mid-August and finished late October. Control for the year finished when we experienced our first hard frosts of the year, after which the JK begins to die off, so we made the most of the time we had until then. JK was treated from Daltullich to Mundole, mostly using foliar spray methods, and we were encouraged to find densities in many treatment areas were much reduced.

Elise and Sarah tackling Japanese Knotweed, Oct 2023.

We are grateful to NatureScot, to all the estate owners, SISI staff and volunteers for their continued support throughout 2023. Special thanks must also go to Kellas Estate who allowed us the use of their pressure tank.

Scottish Invasive Species Initiative

NRF NATURE RESTORATION FUND

NatureScot
Scotland's Nature Agency
Buidheann Nàdair na h-Alba

The Findhorn Watershed Initiative

2023 was a hugely significant year for the Findhorn Nairn and Lossie Rivers Trust, in its evolution towards becoming a leading place-based intermediary for climate adaptation and nature restoration. Since the inception of the Findhorn Watershed Initiative (FWI) and securing funding for its pilot year at the end of 2022, we have established a committed team, Elle Adams (Strategy Lead), Guy Harris (Project Officer) and Helen Nasrat (Communications Officer), to drive forward our multi-generational vision for nature recovery and connection at a watershed-scale. We are extremely grateful to the Scottish Government's Just Transition Fund, NatureScot's Nature Restoration Fund, and LNER's Customer and Community Investment Fund for the generous support they have provided, as well as to our local partners and contractors, who have been fundamental in helping us establish key relationships within the catchment and scale up the Trust's positive impact. The Findhorn Watershed Initiative (FWI) has three key areas of focus:

- **Nature Recovery** - Restoring a mosaic of nature-rich habitats from the source to the sea.
- **Nature Connection -** Growing a local culture of nature connectedness, belonging and stewardship amongst the people who live and work in the watershed.
- **Nature-Positive Economy -** Playing our part to enable a thriving rural nature-based economy.

Nature Recovery

We spent much of 2023 fostering new and existing relationships with landowners and land managers in the upper catchment area of the River Findhorn. Our key initial focus for the Initiative is to restore and expand riparian woodland in the upper catchment, with the aim of shading the river and its tributaries in future, reducing water temperatures and increasing nutrients, to make the river more hospitable for the Atlantic Salmon and other riparian wildlife in the face of the climate crisis.

Alongside the focus on riparian woodland restoration, we have also been exploring opportunities for habitat connectivity, river restoration, and further carbon sequestration through wetland and peatland restoration, as well as beginning to understand the potential climate adaptation benefits of seagrass and saltmarsh restoration in Findhorn Bay.

In the upper Findhorn riparian woodland is largely absent leaving no shading along the river. Higher temperatures, due to climatic change, are leading to a rise in river temperatures, resulting in river temperatures exceeding the natural limit of salmon and other fish species. The foreground illustrates a naturally regenerating forest which has established within a 20year old enclosure, indicating that with careful planning and management, riparian woodland could be re-established in the upper reaches. (photo ScotlandBigPicture)

2023 Nature Recovery Milestones

- 14 Landholdings engaged, collectively stewarding an area of over 60,000ha of the watershed.
- A growing pipeline of 9 riparian woodland and river restoration schemes currently in co-development with landowners - encompassing 1250+ha of woodland creation & restoration, with the potential to shade up to 40km of waterways in future and protect 200ha of ancient woodlands from further degradation.
- A range of ecological baseline surveys undertaken, including freshwater pearl mussel and invertebrate surveys, an upper catchment hydromorphology survey with plans for the installation of 32 large woody structures in a key salmon spawning burn, and a seedling survey across 2500ha of the headwaters to inform monitoring of natural native woodland regeneration as it develops.

- A catchment-scale deer management forum and strategy in co-development with land managers, to support a coordinated approach to herbivore management in the watershed, which enables natural native woodland regeneration.

- Development of agreements to formalise stakehold a Landowner Memorandum of Understanding, and Land Stewardship Agreements specific to implementing individual restoration schemes.

- Installation of a temperature monitoring network across the upper catchment Atlantic Salmon spawning tributaries (see Figure 6).

- Fully integrated catchment GIS system established to enable in-house desk-based coping for nature restoration opportunity.

Hard graft! Sean Mclean and Alister Taylor installing a temperature monitor. (photo ScotlandBigPicture)

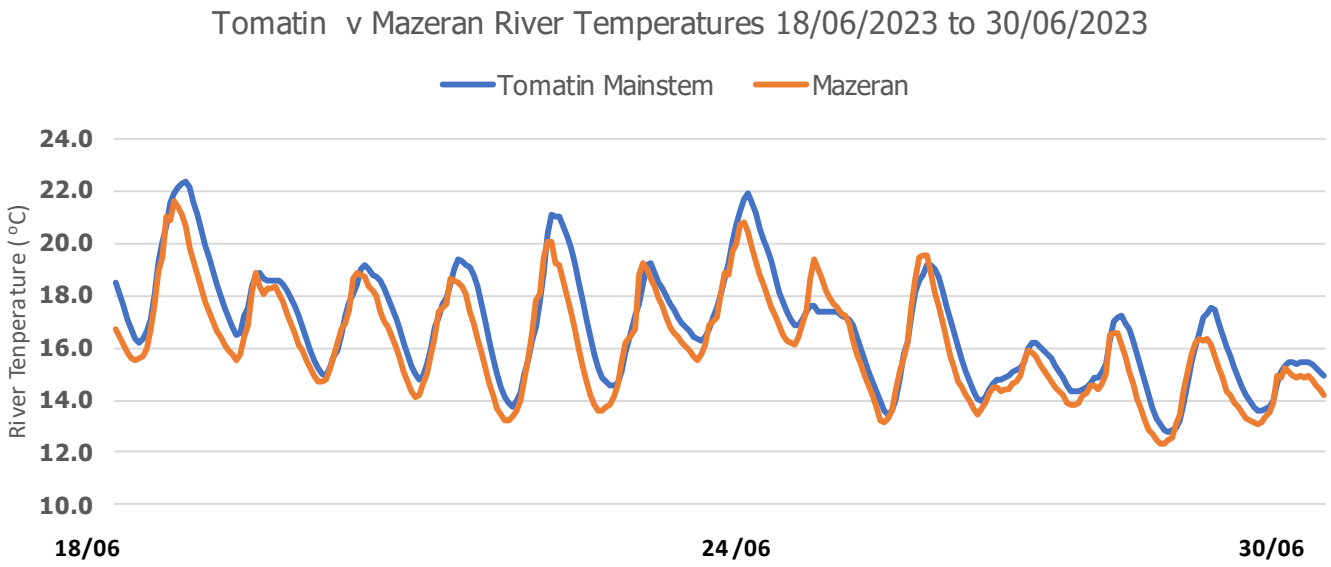


Figure 6: Temperature data for June 2023 from the mainstem at Tomatin and the Mazeran, an upper tributary. This short exert of data, from June 2023, clearly shows that river temperatures are reaching critical levels, ie., above 20°C, in both the mainstem and tributary during very warm summers. Data from other tributaries is also being compiled although the numerous spates during autumn and winter have led to the loss of a few temperature monitors!

Nature Connection

Alongside our work in habitat restoration and carbon sequestration, the Findhorn Watershed Initiative is committed to fostering a culture of nature connection and river stewardship amongst all those who live and work in this place we call home, with a view towards inspiring pro-nature behaviour changes.

To animate the first phase of river restoration activities currently underway for local residents, the Findhorn, Nairn and Lossie Rivers Trust commissioned a selection of local partners to help deliver a community engagement programme. The aim of this community engagement programme is to nurture the sense of connection with nature, a belonging to and care for the river for residents of all ages throughout the catchment. The programme began in the second half of 2023 and extends until March 2024.

2023 Nature Connection Milestones

Salmon Walk October 2023: Guy Harris (FWI Project Officer) describes the salmons' migration back to the Findhorn and where to spot them spawning. (Photo ScotlandBigPicture)

- Three screenings of Scotland the Big Picture's inspiring film Riverwoods in the upper, lower and coastal communities of the catchment.

- Lower catchment Creative and Cultural community engagement programme commissioned with Findhorn Bay Arts, including recruitment of a 'River Animateur' in Residence.

- Upper catchment Human Ecology Researchers in Residence commissioned; Raghnaid Sandilands and Mairi McFayden.

Spotting salmon on the Allt Bruachaig near Tomatin (Photo ScotlandBigPicture)

- Nature Connection Environmental Education programme commissioned with local charity Wild Things, working with a range of groups including schools, adults and over 60s from across the catchment area.

- Engagement with community development organisations including Strathdearn Community Developments, Strathdearn Community Council, Findhorn Bay Local Nature Reserve and the Findhorn Village Conservation Company.

- Local businesses engagements underway including key local nature-based enterprises such as Tomatin Distillery and Logie Timber, with more to follow in 2024.

- Citizen Science Seagrass Survey undertaken in Findhorn Bay and beginning to build a community of volunteers for future tree planting, invertebrate monitoring and other restoration activities. Keen to get involved? Get in touch!

Top left and right: Jack Farge (Wild Things) leading pupils from Dyke Primary in session about salmon and nature restoration at Blairs Loch followed by discussions over a toasted marshmallow.
Middle left and right: Salmon Ceilidh with drawings and stories at The Strathdearn, Tomatin,
Lower left "Salmon Tails up the Water" performed by local fiddler Rachel Campbell,
Lower right River Animateur, Eve Mosher (Findhorn Bay Arts) river prints at the Logie Christmas Market.
(Photos ScotlandBigPicture)

Nature Positive Economy

Thanks to our funding from the Scottish Government's Just Transition Fund, the Findhorn Watershed Initiative has been developed in alignment with Scotland's Just Transition Outcomes. These outcomes include a commitment to empowering local communities and economies, creating more opportunity for green, fair, high value work, and ensuring equitable distribution of costs and benefits.

2023 Nature Positive Milestones

- Three brand new jobs have been created at the Findhorn, Nairn and Lossie Rivers Trust to establish the Findhorn Watershed Initiative team, along with a range of training opportunities.
- We've been committed to building community wealth through the awarding of over £200,000 worth of contracts to local expert suppliers, including deer management, woodland creation, monitoring and evaluation, and freshwater ecology specialists.
- Development is underway of a high-integrity watershed nature finance and natural capital strategy, with the intention to ensure equitable distribution of any income generated from nature restoration for community benefit and further nature restoration work.
- Inspiring others to follow; the project has been featured in two best practice case study videos shared across national media, and the FWI team have offered presentations about the project at a range of conferences.

Follow the Findhorn Board, the FNLRT and the Findhorn Watershed Initiative at the following websites:

Fisheries Board - River Findhorn - Findhorn, Nairn and Lossie Rivers Trust (fnlrt.org.uk)

Findhorn, Nairn and Lossie Rivers Trust (fnlrt.org.uk)

Findhorn Watershed Initiative

Net Zero Scotland
Scottish Government

NRF

LNER
LONDON NORTH EASTERN RAILWAY

Acknowledgements

The Board and Trust are extremely grateful for the continuing support of the proprietors and anglers throughout 2023. We are also grateful for the support from the following organisations, Fisheries Management Scotland, Marine Scotland, Scottish Fisheries Co-ordination Centre, NatureScot, and Scottish Environmental Protection Agency.

Thanks also to Jane Hamilton (SISI), Elis Cox (SISI), Steve Turner, Jenny Davidson, Groves Forestry, and Wild Things for their considerable help with the treatment of Giant Hogweed and Japanese Knotweed. Thanks all the volunteers who help with spraying and look after mink rafts and traps.

Thanks to Forres Angling Association, Jim Mackay and Campbell Ross for supplying scale samples for the National Scale Sampling Program. Special thanks to Ewen Manson (Logie Estate), Prof Peiter van West who helped collect samples from diseased salmon, and to all the anglers and estate staff who reported diseased fish.