A fine 19lb salmon from the Forres AA beat, May 2021.

FINDHORN ANNUAL REPORT 2021

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River Findhorn Fishery Board

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FOREWORD

Catch figures in 2021 showed an increase compared to 2020. However, it is perhaps more appropriate to compare them with pre-pandemic figures i.e., to 2019. Using that comparison, the salmon catch was down from 1007 to 716 and the grilse catch was up a little at 477 compared to 399. Despite the small increase in grilse numbers, this is still a disappointing figure which emphasises the need for us to increase our efforts on conservation.

I am pleased that business returned to near normal during 2021 despite Covid precautions having to be taken. The Board has continued to place more emphasis on science and conservation in 2021, believing that long term statistics are the best way to plot the health of the river. Bob and his team managed to tag 93 smolts for the Atlantic Salmon Trust Missing Salmon Project to which the Board again contributed £10,000 from its reserves. Initial results from the project can be seen on page 26 of this report.

Good weather conditions from July to September allowed a large number of electro-fishing surveys to be completed and you can see the initial results of these surveys on page 27.

In December 2021, we received the sad news that Ewen Brodie had died. Ewen joined the Board in 1976. He was a visionary Chairman of the Board and drove forward the need for conservation in the most dedicated and passionate way. It was Ewen who ensured that the first Conservation Code was introduced at such an early stage.

I would like to thank Bob, Valerie, Sean and Alister for all their hard and diligent work during the year.

Anthony Laing

Chair Findhorn Fishery Board

FINDHORN FISHERY BOARD

Chair	**Anthony Laing** *(Coulmony)*
Board Members	**Alasdair Laing** *(Findhorn Salmon Fishings Ltd)* **Julie Balgonie** (*Glenferness Estate)* **Alex Leven** *(Glenferness Estate)* **Colin Cawdor** *(Cawdor Estate)* **Andrew Howard** *(Moray Estates)* **Graham Bell** (Forres Angling Association) *Note: Forres AA will be represented by Graham Bell or Tony Watts depending on availability.*
Co-optees	**Mark Laing** *(FNLRT)*
Staff	**Robert Laughton** *(FNLRT Director)* **Sean Maclean** *(Head Bailiff)* **Alister Taylor** *(Assistant Bailiff)* **Valerie Wardlaw** *(Administrator)*
Clerk	**Anthony Laing**

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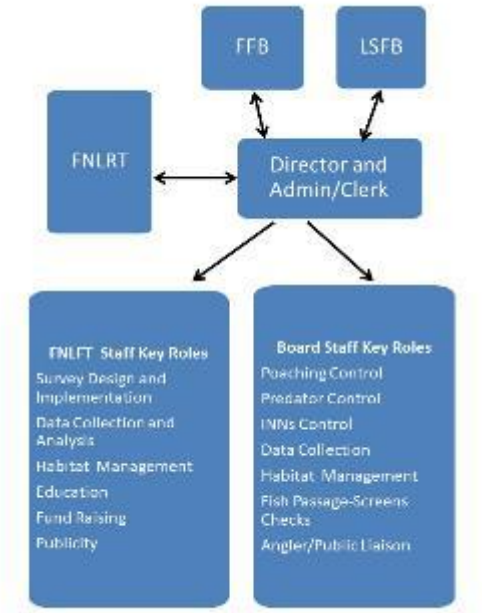
Management Structure

The Findhorn Fishery Board is a statutory body constituted by the Salmon Fisheries Act of the 19th century and have management responsibility for salmon and sea trout 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 Board to provide management and scientific advice and administration support.



Operating structure for the Boards and FNLRT.

- Management Plan

A new Management Plan for the Findhorn and Lossie was prepared which 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. The Plan completed consultation and was published in early 2021 and now underpins the work for the Board and Trust.

- Staff

Board and Trust staff remained the same during 2021. A review of the of the bailiffs roles was completed towards the end of the year. Their roles were widened to include fish and habitat surveys predator control, river works monitoring, educational work as well as deterring poaching.

James Symonds continues in his role as Project Officer for the Scottish Invasive Species Project (SISI) and the Trust also welcomed Ellis Cox as seasonal project officer to the project during the summer.

Bob Laughton and the team presenting Vicky Hilton (SISI VCO) with an engraved Quaich and flowers before she leaves to join the Cairngorms National Park. (photo: James Symonds)

Vicky Hilton decided to leave her post as Publicity and Volunteer Officer (VCO) to take up a new role as an Outdoor Access Officer with the Cairngorms National Park from January 2022. Vicky made an outstanding contribution to the SISI project over the last four years delivering the Volunteer Management Plan, providing support to our project officers, coordinating the education, training and evaluation programs, collecting data on INNs control and communicating the project across all the various social media platforms.

Two of her achievements really stand out, the "Alien Detectives" educational resource is exceptional and has been very well received by schools throughout the project area. She also led on the development of a volunteer database (CERVIS) which was torturous process, but her tenacity brought this home and it is proving its worth in managing volunteers and their data more effectively. We wish Vicky every success in her new role.

We are pleased to announce that Jane Hamilton will take up the VCO role from 1st March 2022. Jane was previously involved in the SISI project as a seasonal project officer on the Tay and the Esks and is looking forward to the challenge.

Coronavirus (Covid-19) Pandemic

The COVID-19 pandemic continued to affect the Board and Trusts work throughout the year. The Board continued to follow Government guidelines for the Covid-19 outbreak and our Coronavirus Policy was regularly revised and updated to ensure staff safety.

The Board's bailiffs were furloughed for a short period during March 2021 but by April normal working hours were resumed for the remained of the year. The fisheries office remained closed for most of the year with all staff working from home.

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.

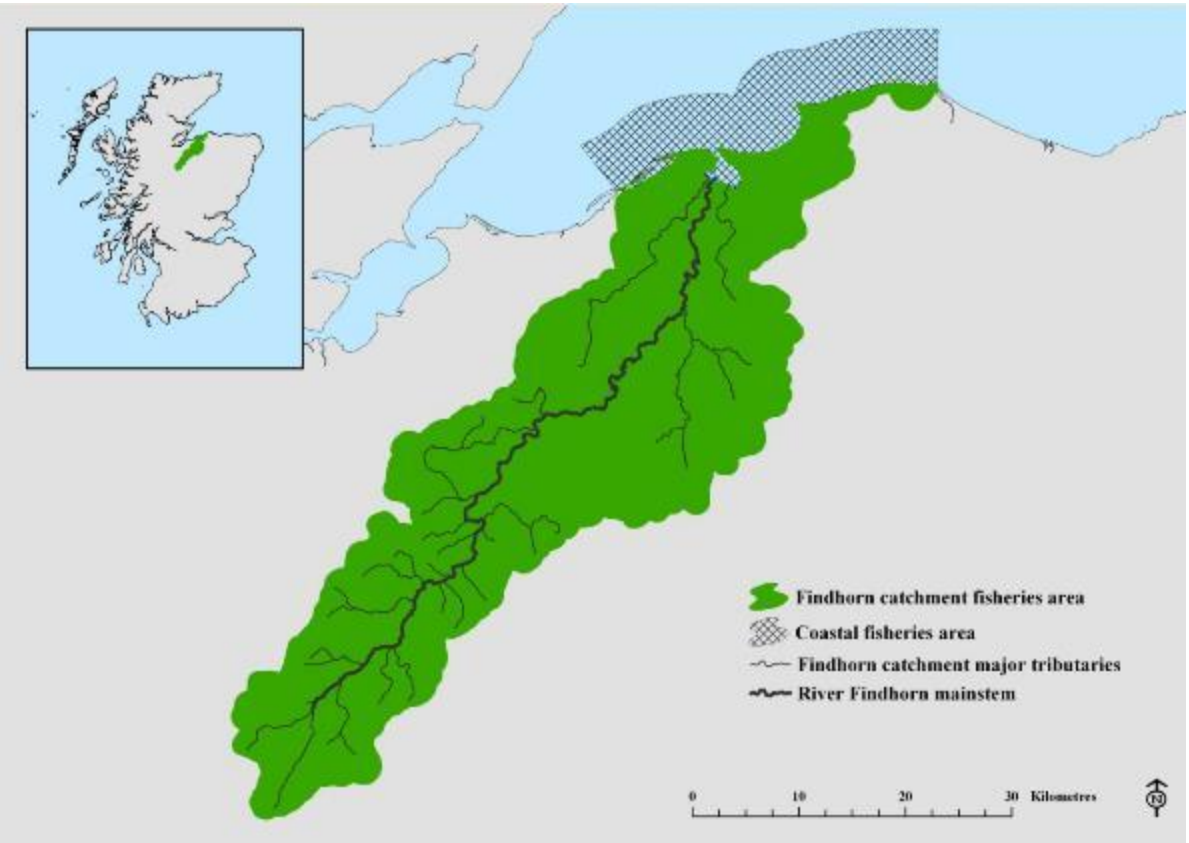


Figure 1: River Findhorn catchment and coastal district.

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

2021 Season

Covid-19 restrictions led to the traditional opening ceremony at the Stoney Pool being cancelled. Although this was disappointing, weather conditions on the 11th of February were not ideal for fishing due to the severe frost! The icy conditions lasted for a few days and when it eventually broke up anglers returned to the river. A few, well mended, kelts were reported and the first salmon of the season was

Icy conditions at the Stoney Pool for the start of the season. (photos: Sean Mclean and Alister Taylor)

caught by Leslie Tyson at Altyre. Findhorn anglers enjoyed a good season for spring and summer salmon, while catches of grilse were lower.

The first salmon of the 2021 season was caught by Leslie Tyson at Altyre.

Salmon and Sea Trout Catches 2021

Salmon and sea trout catches are summarized in Figures 2 and 3, respectively, and more detailed beat by beat information is provided in Appendix 1. Note that the catch for 2018 to 2021 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 2021 was 1193 and the sea trout catch was 134, (Figures 2 and 3). In general, the angling season was successful with most beats seeing anglers return and visitor numbers to the Forres AA beat remaining high.

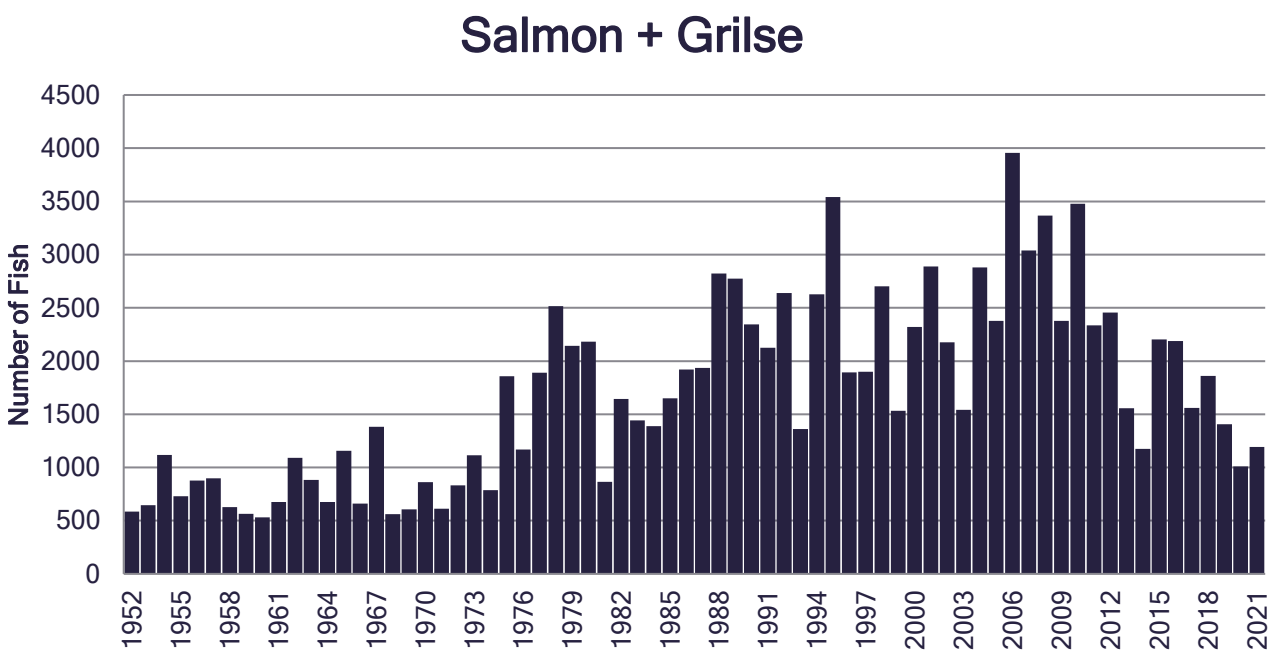


Figure 2: Rod catches for salmon and grilse for the River Findhorn from 1952 to 2021.

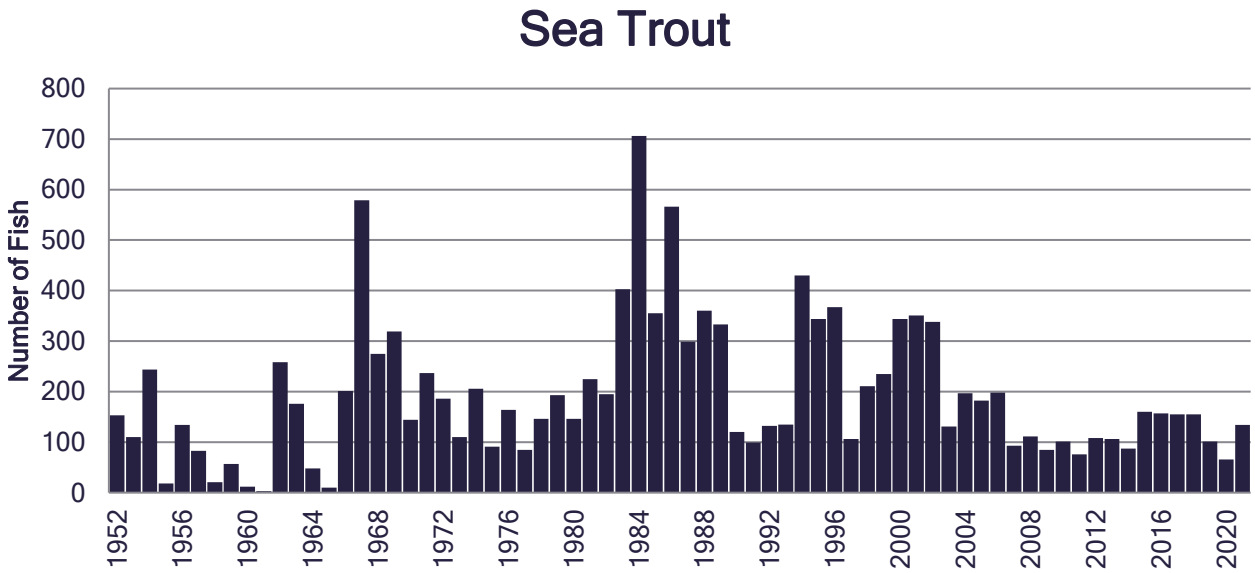


Figure 3: Rod catches for sea trout for the River Findhorn from 1952 to 2021.

Release rates for spring salmon was 100% in keeping with Scottish Government recommendations. The release rate for salmon and grilse was 90% up by 1% on 2020. Sea trout release rates improved from 77% in 2020 to 86% this season.

Additional catch data for of sea trout in Findhorn Bay was also received this year with 50 sea trout caught and 190 finnock, currently no data on release rates but anglers reported better numbers of sea trout and finnock within the Bay suggesting an improvement in stocks. Catch data was also received

for the Muckle Burn for the period 2001 up to 2021. In 2021 two grilse were caught and retained, 13 sea trout caught with 3 retained, and 9 brown trout were also caught and released.

Further details on the catch are available in Appendix 1. 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 its conservation policy in August 2021 and will maintain the current conservation code into the 2022 season.

Findhorn Conservation Code Conservation Code 2022

FINDHORN CONSERVATIION CODE

RELEASE: All fish caught up to 14th May inclusive.

From 15th May: All fish over 9lbs / 28 inches (4 Kg / 72 cm)
all coloured, stale and gravid fish; as many hen fish as possible.

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

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.

Up to 15th May 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 and 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, considerably reducing their chances of recovery. Support it until it has recovered enough to swim away.

Conservation of Wild Salmon Stocks

The Scottish Government through Marine Science Scotland (MSS) continued to develop conservation limits model for Scottish rivers throughout 2021.

Assessing the conservation status of salmon is a straightforward idea as essentially it is determining whether the number of salmon spawning is above a critical threshold level. However, managing the uncertainties in assessing this leads to some complexity. The International Council for the Exploration of the Sea (ICES) and countries reporting to North Atlantic Salmon Conservation Organization (NASCO) have developed pragmatic approaches for applying conservation limits and these have been drawn on to construct the system for Scotland. The approach requires some knowledge of first, actual levels of spawning and second, 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 (attainment of CL). 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.

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 2022

National Electrofishing Program for Scotland (NEPS)

The conservation limits model approach continues to evolve and to further improve the approach a National Electrofishing Survey program for Scotland (NEPS) to assess the juvenile fish stocks in rivers was initiated by Marine Scotland and funded by Scottish Government. Using randomly selected sampling sites and appropriate statistical analysis, it is possible to estimate the number of fish in a particular section of a river, or by upscaling, 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. The FNLRT completed

surveys in 2018 and 2019 for this initiative and juvenile salmon overall the FNL area was Grade 2 in 2019 a drop from Grade 1 in 2018. The full report is available click here.

A further series of national surveys was completed in 2021 with 12 sites completed on the Findhorn, (14 sites on the Lossie and 4 on the Nairn). Data on these sites are currently under analysis by Dr Iain Malcolm and his team at the Marine Scotland Freshwater Laboratory in Pitlochry.

Electrofishing a remote NEPS site on the Cro Clach in Coignafearn, August 2022.

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 on our rivers. It occurs in a range of forms such as illegal netting to fishing without permits. To control and deter poachers Sean Mclean and Alistair 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. Patrols are also carried out along the river Lossie which are funded by the Lossie Fishery Board.

The Forres Angling Association water had a high number of visitors throughout the season, this in turn made the bailiffs very busy with ticket checks and giving out information. The Findhorn Bay Association also reported an upturn in ticket sales, this was due to lots of family's staying in Scotland for their holidays, regular visits were carried out at the Bay daily to check tickets and to check the coastal waters. It was encouraging to see a good mix of local anglers and holiday makers giving angling a go!

Maintaining regular patrols and keeping a presence on the river ensured that poaching was kept to a minimum for most of the year. In 2020 during we saw an increase in poaching activity which was mostly people dusting off old rods and fishing without tickets due to Covid restrictions. This year incidents were less although over 25 incidents were reported and dealt with across the Findhorn and Lossie.

On Saturday 20th of February, Sean and Alister received a call from a local angler regarding three boys fishing the Broom Pool, these youngsters were between 13 and 16 years old, they were being very abusive to other fishers nearby. The boys fled the river on their arrival but were caught in Forres and admitted to fishing without permits. A stern warning and some education regarding rules of the river and antisocial behaviour was issued. Sean also explained that free tickets for juniors were available from Sue's News. However, two of the youths persisted in poaching activities not only on the Findhorn but also on the Spey where they received warnings from Head Bailiff, Richard Whyte. In June they were arrested and charged by Police Scotland after further incidents on the Findhorn and the Spey.

In September we received information regarding a man residing on a small yacht at the south pier at

Findhorn Bay. His actions were monitored, and he was observed fishing without a permit. His yacht was also leaking diesel into the Bay. The incident was reported to Police Scotland but that same evening, he decided to leave Findhorn Bay. However, the individual was eventually caught in Whitehills by Police Scotland and charged.

Not all incidents are as serious, in June a Forres AA member reported a man fishing the Broom pool without a valid permit. However, although Sean and Ali arrived quickly, he had made his escape by swimming across the river!

These are just a few examples of poaching incidents. The rivers are regularly patrolled but we also rely on information from anglers and other members of the public to protect the fish stocks. Liaison with Police Scotland is also important and after a gap of 18months due to Covid-19 restrictions the Riverwatch group meetings were resumed. The meeting is chaired by Bob Laughton (FNLRT) and is attended by fisheries officers, bailiffs and Police Scotland Wildlife Crime Officers from around the Moray Firth. It allows an excellent opportunity to meet and exchange intelligence on poaching and other wildlife crime within the area.

Control of illegal fishing is still an important part of the bailiff's duties however, to reflect the changing requirements for river management their roles were reviewed in 2021 and updated to include, fisheries surveys, smolt trapping, compiling catch data, predator monitoring and control, dealing with river works, as well as education activities.

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

Findhorn Bailiffs:
Sean Mclean 0792 0483081
Alister Taylor 0738 7302649
Email: seanmclean268@btinternet.com

or
Police Scotland
999 or 101

Do not attempt to apprehend the poachers

Predator Monitoring and Control

- Avian Predator Control

Sawbill ducks (goosanders, mergansers) and cormorants can affect juvenile and smolt stocks. Typically, five counts are carried out through the year, in Jan/Feb, Mar/Apr, May, Oct, Nov/Dec. and are organised by Sean Maclean. Counts are generally carried out by walking each beat or section of the river simultaneously, generally between 08:00 and 10:00. In Findhorn Bay counts are compiled by observers from several fixed points around the Bay. We are grateful to all the estate staff and keepers who joined the bailiffs to complete the counts.

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

Bad weather prevented the early Feb and May counts but counts were completed in March, November and December (Figure 4 and Figure 5).

Figure 4 indicates that goosanders and mergansers were present at all three of the counts. Numbers vary yearly and seasonally but during 2021 the numbers of goosanders remained low during the year ranging from 6 to 12 birds. Mergansers were observed in all three counts with numbers ranging from 6 to 30 birds. Goosander counts were similar to 2020 while merganser counts were slightly higher.

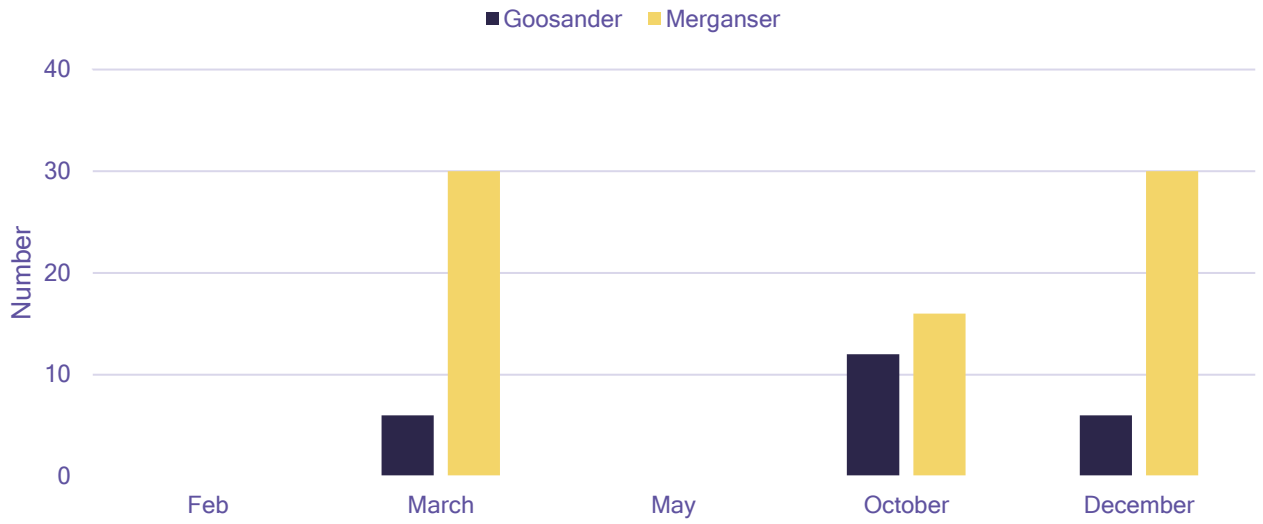


Figure 4: Goosander and merganser count data from Findhorn Bay and river during 2021, no counts were completed during February or May.

In previous counts goosander numbers were generally higher in winter and through to spring. The pattern reflects the behaviour of the birds with larger numbers migrating into the Bay during late autumn and winter then beginning to pair up in the spring and move upriver to find breeding sites. After mating, typically around May, the males leave the river and head back off to sea while the females remain to raise their brood. This pattern was evident through 2021. Mergansers counts were slightly higher than previous years and *ad hoc* data submitted also tended to show additional merganser sightings.

Figure 5 shows cormorant counts for 2021, cormorants were in all three counts and ranged from 6 to 10 birds. They majority of the cormorants are present in the Bay although the December count indicted 9 cormorants were on the river with one as far upstream as Glenferness. They may have been seeking

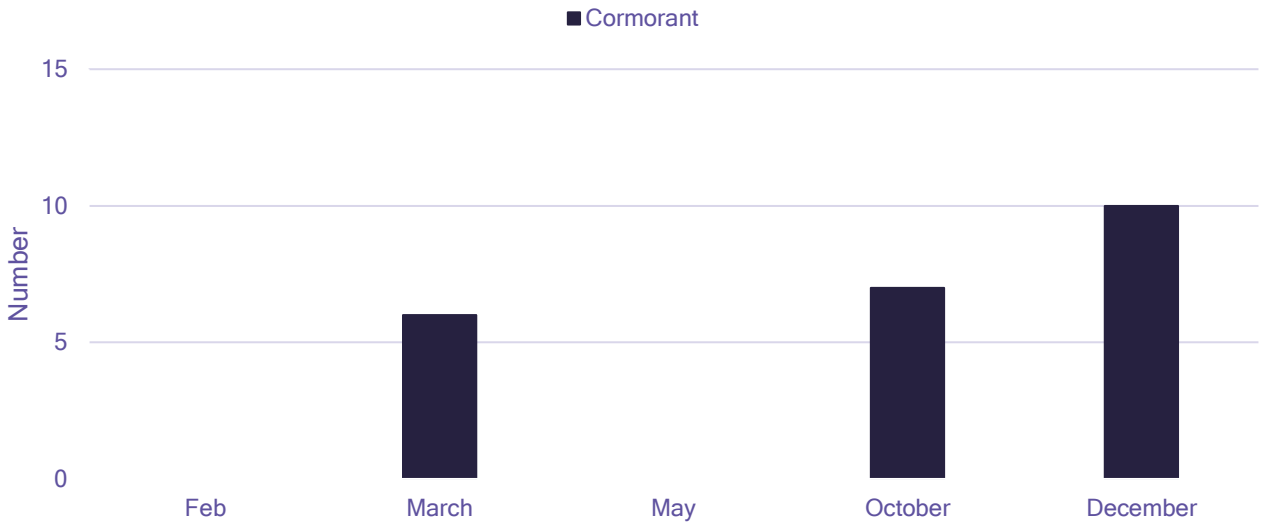


Figure 5: Cormorant count data from Findhorn Bay and river during 2020, no counts were completed during February and May.

shelter from stormy sea conditions and taking advantage of easier feeding opportunities on post spawning kelts.

Based on these counts and those from neighbouring rivers a joint licence 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 licence, from 1st October 2021 to 31st May 2022. The licence included 1 goosander, 5 mergansers and 2 cormorants for the Findhorn and Lossie and control is underway. 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 2022.

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

Cormorant observed at Glenferness during December 2021. (photo Alex Leven)

- Seal Control

The Moray Firth Seal Management Plan was implemented in 2005 with the aim of protecting Salmon and Sea Trout stocks and maintaining the conservation status of the Dornoch Firth Special Protection Area (SPA) for Common seals. The Plan covered both Grey and Common seals, although no Common seals have been licensed to be shot for the last five years. This innovative Plan guided the licensing of Fishery Boards (and netting stations) around the Moray Firth, to control seal predation on salmonids along 16 rivers and, initially 5 netting stations, around the Moray Firth.

The scheme introduced the novel approach of managing seals and salmonids over a large geographical area, the training of Nominated Marksmen to an agreed standard and the accurate reporting of all seals shot. The Findhorn DSFB have been part of the initiative since its inception, and we are grateful to Roger Knight (Spey Fishery Board) for coordination licence applications since 2013.

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 apply 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 of March 2021, on behalf of the Spey, Deveron, Ness and Kyle of Sutherland District Salmon Fishery Boards, we decided not to apply for the Findhorn and maintained a watching brief.

The applications were rejected by MSLOT on several grounds including, Category 1 Rivers already have a sustainable salmon stock and 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 control seals.

However, subsequent meetings with MSLOT developed a revised application process for 2022 which has been issued and we have completed this application process along with the other Scottish rivers. We await the outcome of the application and meantime have begun to improve our data collection on seals entering and predating on salmon in the Findhorn.

Seals at the mouth of the Findhorn. (Photo Sean Mclean)

- Mink Control

Mink raft installed on the Mosset Burn.

James Symonds (SISI) continues to maintain the mink monitoring raft and trap network across the area with the help of a dedicated group of volunteers. Five mink were caught and dispatched during 2021 in the Findhorn, Nairn and Lossie area, one on the Muckle Burn and the other four on the coast. This is a considerable reduction from the 14 caught in 2020. Sightings have also been much lower perhaps indicating the population is reduced in size.

Any sightings of a mink or mink tracks can be reported to James on **07493 272898**, or j.symonds@speyfisheryboard.com

Catchment Developments and River Works

An essential part of the Trust and bailiffs duties is to review, comment and inspect river works to ensure that fish pollutions and habitat are not being blocked or damaged. With COVID-19 restrictions easing this year proved to be busy.

- Wind Farms

Clashgour and Rothes III: Clashgour Holdings Limited has applied to Scottish ministers for construct a new wind farm consisting of up to 48 turbines to the south of Forres, the development impinges on the upper reaches of the River Divie and the Lossie. Comments on the potential effects of the development on water courses and fish populations were submitted by FNLRT on behalf of both Fishery Boards. The Clashgour development, along with Rothes III wind farm development, have both been subject to a public enquiry which proceeded in 2020 and we are still awaiting the findings.

Ourack and Carn Duhie Wind Farms: Both wind farms are developing their plans and we continue contact with the developers and provide comments on rivers and fisheries issues.

- A96 Dual Carriageway Development

The Spey Foundation and the FNLRT completed a habitat and fish survey of the 22 river crossing points for the A96 section between Hardmuir and Fochabers. A full report on the data was submitted to the developers as part of the Environmental Impact Assessment (EIA) in 2021. The data will be used to guide the design of the river crossings and protect fish and riparian habitat. However, the proposed upgrading of the A96 to dual carriageway is under review by Scottish Government and an outcome of the review is expected towards the end of 2022.

- Muckle Burn

The Muckle Burn is an important tributary of the Findhorn, and our surveys indicate excellent densities of salmon and trout within the Burn. The burn flows through good agricultural land and has historically been re-channeled and embanked to mitigate flooding along various sections, particularly from Dyke downstream. These areas require management to maintain embankments and prevent flooding the adjoining land, however, were we disappointed to receive reports of two incidents of river works being carried out without appropriate Controlled Activities Regulations licence (CAR).

Sean and Ali inspecting re-channeling works at Achavraat on the Muckle Burn, March 2021.

The upper works were near Achavraat and Keppernach Farms where a new channel had been created by dredging with a large digger and the material piled onto both banks to provide a straight channel for 150m to create a new channel. The old natural channel was blocked at the upper end, was mostly dry. Banks had been built up to approx. 2m in height and consisted of loose unconsolidated material, gained from the riverbed. The works had clearly affected stream and bank side habitat and were carried out during winter when the disturbance would have led to losses of salmon and trout eggs and juveniles.

The lower works around Banarach Bridge were instigated to protect embankments and waste concrete was installed as bank protection and a significant amount of instream substrate had been removed to deepen the channel and also shore up the bank. Sean and Ali intercepted the works and called a halt to proceedings since it was clear that no CAR licence had been applied for. Both works clearly required a CAR licence since they were much bigger that routine repairs, and consultations with SEPA, the Fishery Board and neighbouring landowners should have been carried out. Both works were reported to SEPA who are now pursuing matters to resolve repairs.

Sean and Ali inspecting river works at Banarach Bridge on the lower Muckle Burn, where waste concrete was used to provide bank protection and the channel deepened.

On a more positive note, clearance of material from the Broom of Moy Bridge on the lower Muckle was carried out under CAR licence and the works were completed to a high standard. On the Mosset Burn

works at Sanquhar Mains to clear significant gravel deposits which had raised the riverbed above the level of the surrounding farmland were also carried out in August again under CAR licence and with regular meetings between the farmer, SEPA, FNLRT and other parties.

Advice and comments were also provided on the Wester Greens Distillery proposal, the upgrade and proposed new access bridge to the Forres wastewater treatment works, on improving management of the lower Mosset Burn and on a variety of other developments.

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 June to September.

Pollution Incidents

Thankfully no pollution incidents were reported during 2021 but we continue to keep an eye on the sewage outfall pipe from Mundole which is still not operating properly and liaise with SEPA on the matter.

POLLUTION INCIDENTS

Should be reported to SEPA through the Pollution Hotline

0800 80 70 60

Smolt Monitoring

In the spring of 2019 the Moray Firth "Missing Salmon Project", the largest acoustic telemetry project in Europe, was initiated. Led by the Atlantic Salmon Trust, the project aims to record smolt movements down through rivers and identify their migration routes out at sea. In addition, the tagging project will examine the effects of predators and obstructions such as hydro dams.

We were very grateful to Gary Friedman and Norman Maclennan (Ness Divers) who retrieved our buried acoustic receiver from Findhorn Bay.

In 2019, 100 salmon smolts and one sea trout smolt were tagged on the Findhorn, of these, 53 reached the downstream receivers at the estuary mouth (53% survival rate), and 40 smolts (40% survival) reached the Spey Bay acoustic receiver array in the Moray Firth. The results were similar for the other Moray Firth rivers, with an average of 49% of the smolts reaching the sea from freshwater. After leaving the river the majority of salmon smolts headed east to the North Sea, while the sea trout smolts opted to migrate within the Moray Firth. A full report on the Findhorn smolts can be download here.

The Missing Salmon Project was postponed in 2020 but tagging recommenced in spring 2021. Staff on each river were trained in tagging techniques and on the Findhorn a further 93 salmon smolts were tagged in 2021. Angus Lothian (AST) has provided an update on their success and of these 65 were recorded leaving Findhorn Bay and heading to sea, giving a survival of 70%, higher than in 2019 possibility due to the higher river flows experienced in 2021. Thirty-four smolts reached the Spey Bay array giving a survival rate of 37% which is similar to 2019. Further work is underway on the data and a full report will be available in 2022.

Juvenile Surveys

Electrofishing team on the River Divie, Dylan Price, Alister Taylor and Sean Mclean, August 2022.

Juvenile surveys provide an important indication of the distribution and density of juvenile salmon, trout, eel and other fish within the river. The bailiff team of Sean Mclean and Alister Taylor played a lead role in electrofishing surveys this year. Both Sean and Alister have completed the SFCC Introductory Course in Electrofishing and Alistair has been trained to read scales. This widening of their duties will ensure a skilled team is available for surveys in the future. Local students, Dylan Price and Rhys Pumphrey also joined the team.

The good weather throughout July to September 2021 provided good electrofishing conditions and 34 survey sites were visited on the Findhorn, Mosset and Muckle Burns. Table 1 provides details of the presence of salmon, trout and other fish species.

Table 1: Presence of salmon, trout and other fish species at 34 electro-fishing survey sites completed on the River Findhorn during 2021.

	Number	%
Salmon Fry (0+) Present	29	**85**
Salmon Parr (1++) Present	29	**85**
Trout Fry (0+) Present	28	**82**
Trout Parr (1++) Present	29	**85**
Eels	4	**12**
Minnow	3	**9**
Lamprey	1	**3**
Total Number of Sites Surveyed	**34**	

Patterns of distribution were similar to previous surveys with 85% of the survey sites producing salmon 0+ and 85% of sites producing salmon 1++. In general distribution was similar to previous years with salmon present throughout the catchment. The lower tributaries such as the Dorback, Divie and Muckle Burn produced good densities of salmon. The tributaries near Tomatin such as the Corrybrough Burn, Allt Bruachaig, and the Banchor Burn also provided good numbers. Further upstream the Mazeran, Kyllachie and Calder showed good densities of salmon.

Summer students Dylan Price and Rhys Pumphrey examining an eel form the Mosset Burn, July 2022.

Trout 0+ distribution was slightly less than salmon with trout 0+ present at 82% of sites while older trout was the same at 85% of sites containing trout 1++. Again, the results are very similar to previous surveys. The better trout populations were located in the Dorback, Divie and Muckle Burn areas.

In generally other fish species were rare with eels, present at 4 sites, minnows at 3 and lamprey ammocoetes at one site, very similar to previous surveys. It is worth noting that 27 eels were recorded at the survey site (Fi48) below Sanquhar Dam on the Mosset Burn!

Further analysis and a report on the juvenile fish survey data will be completed in early 2022.

Scale Collection

Basic data from salmon and trout catches is a key component to managing a river. Catch data is collected for the Findhorn but data from scales, weight, sex ratio, fishing effort etc. is often absent. Scales, in particular, provide an important insight into the age structure of the fish population. In time this can also provide an insight in changes in run time and growth within the river and/or the sea

reflecting changes in ocean or climate conditions. Genetic material and chemical isotopes can also be derived from scales providing information on growth and development.

Scale collection started in 2013 and a good collection has built up. However, with more emphasis being placed on releasing salmon and sea trout quickly and carefully we are not encouraging anglers to collect scales from released fish anymore. Scales can be taken from any retained salmon or sea trout or any diseased or any dead fish/kelts found along the river. With Covid-19 affected the fishery and the potential for transferal of the virus through handling packets, scale sampling was suspended in 2020. However, 2 salmon scale samples were collected in 2021 and added to the collection.

Invasive Non-Native Plant Control

The control of non-native plants continued along the river during 2021 supported through the Scottish Invasive Species Initiative (SISI). Once again, our approach was to work from the uppermost area of infestation downstream and concentrated on repeating treatment in the areas tackled in previous years.

Coulmony/Daltulich Bridge is the upper most limit for Giant Hogweed (GH) and treatments commenced there from June onwards. Although GH is largely reduced to individual plants from Coulmony to Mundole, a pocket of 20+ plants was spotted at the upper end of the Scum Pool in 2020 and treated. Good reduction in the number of plants was observed this year when the site was re-treated. This is the upper limit of GH on the Findhorn and demonstrates the need to revisit areas. Further checks will be maintained in 2022.

GH treatment continued through Logie, Darnaway, Altyre and Mundole downstream as far as the A96 bridge. Downstream from the A96 GH treatment is also underway led by Wild Things who are beginning to make in-roads particularly on the right bank. We are also grateful for the continuing support from Jenny Davidson (Mundole Farm), Dalvey estate and Moray Estates. local white water rafting specialists "Ace Adventure" also provide transport through the gorge section of the Findhorn to treat GH and Japanese knotweed.

During 2021 the Mosset Burn was treated from Rafford and Altyre all the way to the confluence with Findhorn Bay and GH is showing a significant decline in density and we were encouraged to see no GH present in one of the upper treatment areas this year. Treatment of GH was continued along the Muckle Burn from Earlsmill to Dyke.

Giant Hogweed control on the lower Mosset Burn. Top photo, Giant Hogweed present in high density in July 2016 prior to treatment. Lower Photo: density of Giant Hogweed considrably reduced after five years of treatment, July 2021.

Japanese knotweed treatment has made good progress with the majority of JK now treated between Daltulich to Mundole. We are using a combination of techniques with stem injection proving very effective but for some areas foliar spraying is still the better option. Treatments are carried out later in the year, typically from late August through to early October.

We are grateful to the funders Heritage Lottery and NatureScot , to all the estate owners, SISI staff and volunteers for their continued support throughout 2020.

Education and Publicity

- Schools Go To Fish

The Covid-19 pandemic continued to disrupt delivery of the Schools Go To Fish project, with no schools participating in 2021. However, we remain in touch and are optimistic that we will be able to recommence activities in 2022/23.

Updates on the activities of the Board and the Trust can be found on www.fnlft.org.uk and Facebook.

Acknowledgements

The Board and Trust are extremely grateful for the continuing support of the proprietors and anglers throughout 2020. 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.

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Thanks to the Atlantic Salmon Trust and Scottish Centre for Ecology and the Natural Environment (SCENE) staff for the support and training in smolt tagging, to Russ Baker and Mirella Toth for assisting with tagging and to the Forres Angling Association for their support throughout the project. Special thanks to Gary Friedman and Norman Maclennan (Ness Divers) for retrieving our buried acoustic receiver from Findhorn Bay.

Scottish Invasive Species Initiative

Scottish Natural Heritage
Dualchas Nàdair na h-Alba
nature.scot

heritage lottery fund
LOTTERY FUNDED

APPENDIX 1: CATCH DATA FOR EACH ESTATE/BEAT 2021.

		CONSOLIDATION						2021		
	SALMON RETAINED	SALMON RELEASED	RELEASED	GRILSE RETAINED	GRILSE RELEASED	RELEASED	OVERALL PERCENT RELEASED	S TROUT RETAINED	S TROUT RELEASED	RELEASED
LOCATION	No	No	%	No	No	%	%	No	No	%
Coignafearn		1	100%				100%			
Daltomich	1	2	67%		2	100%	80%			
Glenmazeran					2	100%	100%			
Dalmigavie	1	2	67%		3	100%	83%			
East Clune	1	7	88%		3	100%	91%		3	100.0%
Glen Kirk		13	100%		6	100%	100%			
Strathdearn (Banchor)										
Dalmigarry (Morlie & Corrievorrie)Dal		1	100%		1	100%	100%			
Glen Kyllachy		3	100%		1	100%	100%	1		0%
Findhorn Bridge(Old Clune)										
Kyllachy					1	100%	100%		2	100%
Corrybrough										
Tomatin	1	18	95%	2	5	71%	88%		1	100%
Balnespick		4	100%		3	100%	100%	1		0%
Moy (Upper)										
Moy (Pollochaig)										
Drynachan	4	108	96%	7	38	84%	93%		8	100%
Banchor	2	17	89%	1	3	75%	87%		1	100%
Lethen	1	141	99%	5	55	92%	97%	1	3	75%
Glenferness	3	69	96%	10	52	84%	90%		1	100%
Coulmony	2	6	75%	2	6	75%	75%		1	100%
Logie	3	43	93%		31	100%	96%		6	100%
Dunphail					6	100%	100%	6		0%
Moray Estates	6	122	95%	9	37	80%	91%		4	100%
Altyre Estate		56	100%	2	34	94%	98%		4	100%
Forres AA	11	66	86%	41	109	73%	77%	10	81	89%
TOTAL	36	680	95%	79	398	83%	90%	19	115	86%
Salmon & Grilse			*1193*				*Sea Trout*		*134*	