

# Scale reading results update...

**2015 Competition!**  
**Win 30 Allan Liddle trout flies**  
 Prize draw for the 10 anglers  
 who collect most scales

## 2014 competition winner!

We are pleased to announce that keen angler and river custodian, Neil Gordon, from the Findhorn catchment won the Orvis Reel & Line in the scale collection prize draw! Neil and the other nine anglers who collected the most scales in 2014 were entered into the draw and Neil was the well deserved winner. To enter the 2015 competition contact Marcus Walters for a scale collection kit and submit your scales at the end of the season.



Neil Gordon, winner of an Orvis Reel & Line in the scale collection prize draw.

Table 1 MFTI Scale collection summary

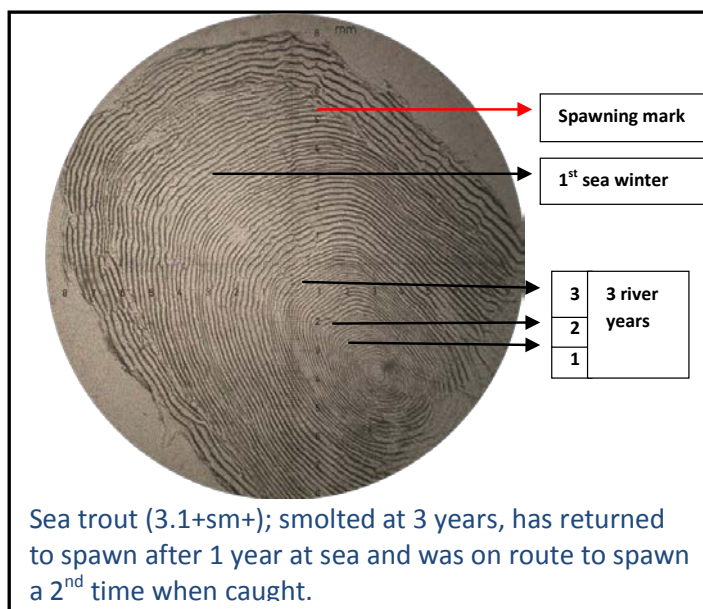
Catchment	Sea Trout	Brown Trout
Deveron	106	177
Spey	378	14
Lossie	1	12
Findhorn	10	16
Nairn	2	0
Ness	7	44
Beauly	31	0
Conon	158	100 (53=slob)
Kyle	131	29
Berriedale	1	5
Brora	3	0
Helmsdale	7	0
<b>Totals</b>	<b>835</b>	<b>444</b>

## MFTI Scale collection summary

The Moray Firth Trout Initiative has continued to build on the success of the MFSTP scale collection and thanks to the countless volunteer anglers (120+) is now beginning to build a significant compilation of trout scales for the Moray Firth Rivers (see Table 1). The collection initially started out as sea trout only but we are now building a brown trout resource as well and some of these results are summarised below. Our scale collection coverage is improving and although more scale are still required from some areas the overall number of scales is beginning to pay off as we can now summarise the overall trends in the data.

### Sea Trout Scales

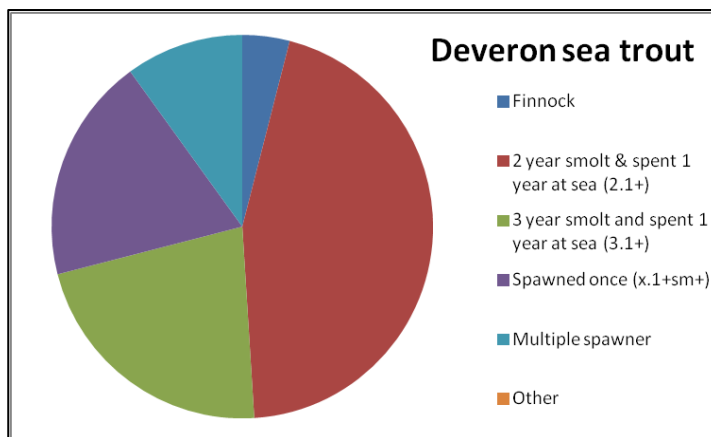
By reading sea trout scales under a microscope we can reveal the life history of an individual fish; smolt age, how long it has spent at sea before spawning and the number of times it has spawned. By collating the results from many fish we can learn something about the overall life history of that group or population. The collections from the Deveron, Spey, Cromarty and Kyle are large enough to produce the summaries outlined below.



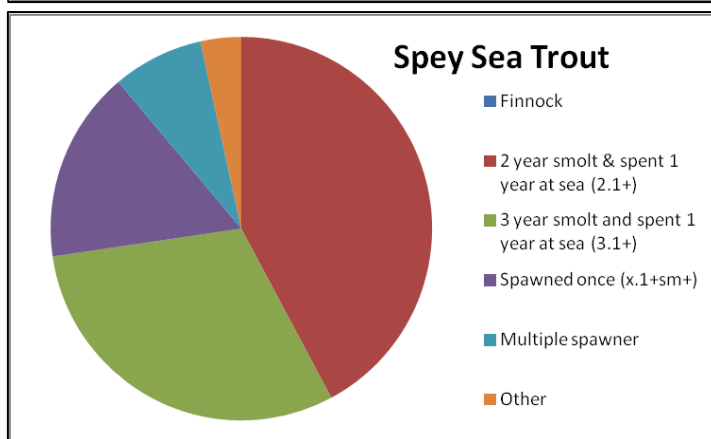
# Newsletter – Spring 2015

## Scale reading results update...

**The Deveron sea trout** scale collection is dominated (45%) by trout that have smolted at 2 years old and are returning as maiden fish to spawn for the 1<sup>st</sup> time (3.1+). While 22% smolted at 3 years and spent 1 year at sea. Nearly a 3<sup>rd</sup> (29%) of the sample are previous spawners (19% have spawned once and 10% multiple times).  
**Notable fish:** 69cm (~8lb) sea trout; smolted at 2 years, spawned 1<sup>st</sup> as a finnock\* & has returned 4 more times to spawn and was on route for the 5<sup>th</sup>.

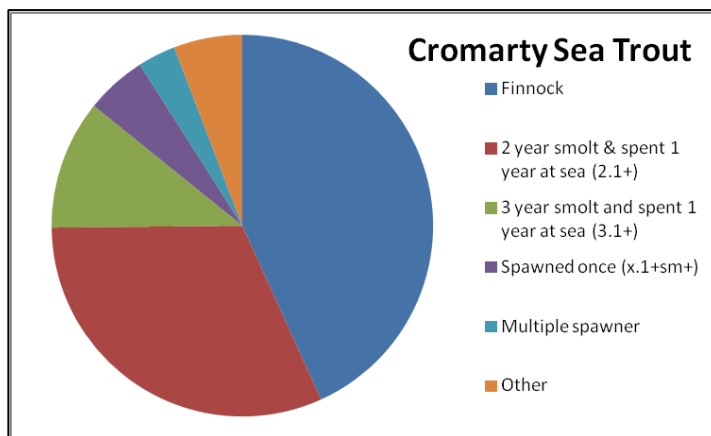


**The Spey sea trout** scale collection is also dominated by 2 year smolts that have been at sea for 1 winter (42%) while 30% smolted at 3 years and then spent 1 year at sea. The proportion of repeat spawners is a little lower (24%) with 16% having spawned once and 8% multiple times. The collection does not include finnock but they are certainly in the Spey.



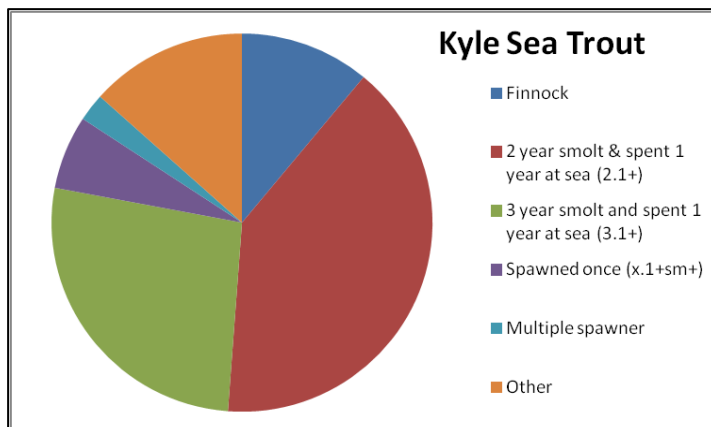
**Notable fish:** 75cm (~10.5lb) sea trout, smolted at 2 years, spawned after 1 year at sea then 5 more times & was on route to spawn for the 6<sup>th</sup> time.

**The Cromarty sea trout** scale collection has far more finnock (43%). Another (43%) have spent 1 year at sea either having smolted at 2 years (32%) or 3 years (11%). The overall proportion of repeat spawners is much less at only 8%. A lot of slob trout\*\* are caught in the Cromarty Firth but these are included with the brown trout collection.



**Notable fish:** 54cm (3 ¼lb) sea trout; smolted at 2 years, spawned 1<sup>st</sup> after 1 sea winter then 4 more times & was on route to spawn for the 5<sup>th</sup> time.

**The Kyle Sea Trout** scale collection includes 11% finnock but is dominated by trout that have spent 1 year at sea (67%); 40% smolting at 2 years and 27% at 3 years. Like the Cromarty collection the number of repeat spawners is less with 6% having spawned once previously and 3% multiple times. The larger proportion of "Other" fish includes four 4yr old smolts & twelve 2 sea winter 1<sup>st</sup> spawners.  
**Notable fish:** 54cm (3 ½lb) Oykel sea trout caught by ghillie Steven Mackenzie; smolted at 3 years and had spawned 3 times previously.

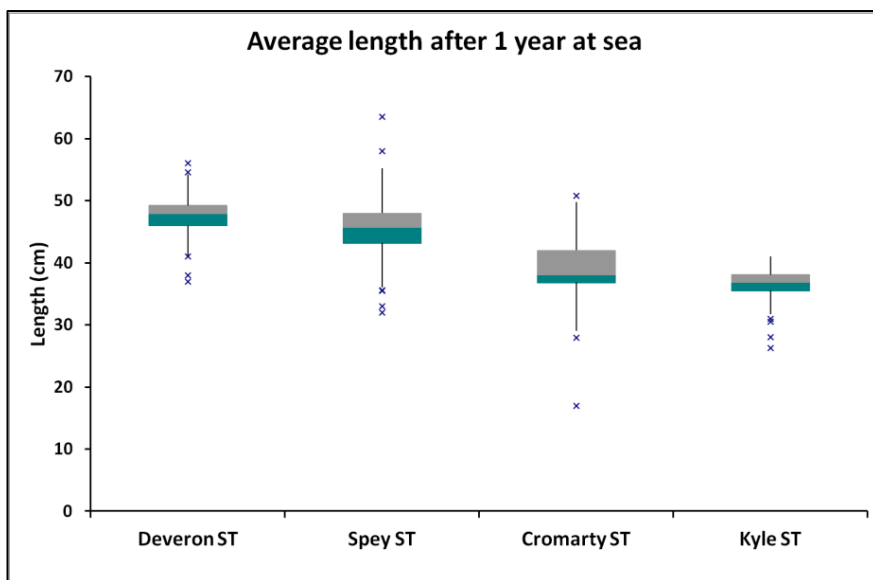


\***Finnock** are sea trout returning to the river in the same year as their first sea migration.

\*\***Slob trout:** Trout that migrate to the estuary to feed in this productive brackish environment. They can become semi silvered like sea trout but often look more like brown trout.

**Sea Trout length**

By combining the scale age with the fish length data we can compare the relative size of the trout from the 4 catchments. With more samples we could use growth curves to compare growth rate; however, our data is limited in that we have relatively few samples from fish with more than 1 sea winter. To enable a fair comparison using an adequate sample size we have compared the average size after 1 year at sea (Graph 1). Although there is overlap in the range of sizes the Deveron and Spey fish are about 10cm larger after 1 year at sea than the Cromarty and Kyle fish.



Graph 1. Box plots of sea trout lengths after 1 year at sea. \* = outliers, whiskers = min / max range, boxes = upper and lower quartiles.

**Brown Trout scales**

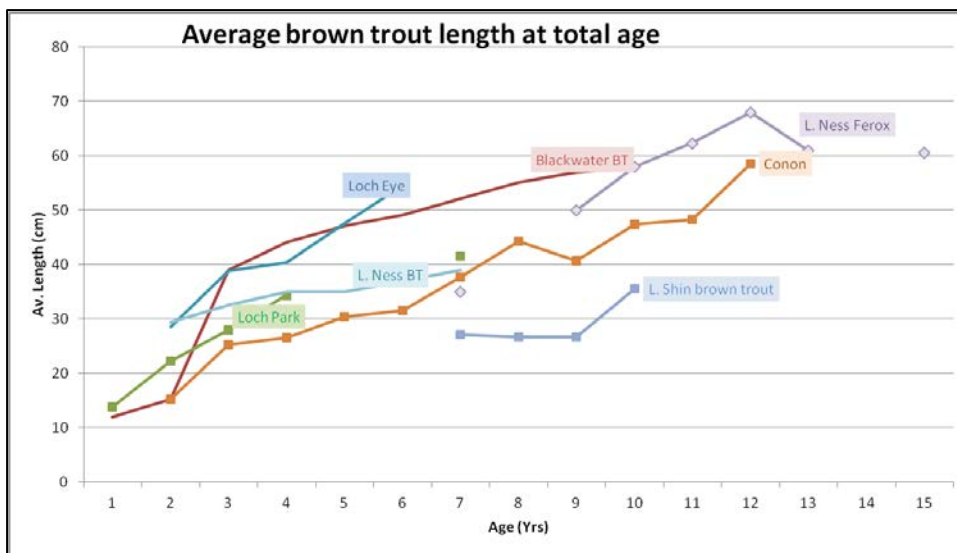
The brown trout scale collection only began with the MFTI in the autumn of 2012 but is already well established with a broad coverage across rivers and Lochs around the Moray Firth (see Table 2). However, most collections could benefit from a larger number of samples to be more representative of the diversity of trout present. The collection represents the huge range of ages and sizes of brown trout and the diversity of the local trout populations and life history strategies adopted.

Table 2 showing all the brown trout scales collected by the MFTI.

Sample	No fish	Max length (cm)	Min length (cm)	Av Length (cm)	Max age	Min age	Av age
Deveron Blackwater	155	63	6.8	46	10	3	5.6
Conon slob trout	53	47	21	32	6	2	3.2
Conon brown trout	47	58.5	15.2	31.9	12	2	5.5
L. Ness brown	33	39.5	27	33.3	5	3	4.7
Deveron Main stem	22	60	18	33.4	7	2	3.9
Loch Park	22	41.5	13	27.7	7	1	3.1
Spey	14	67	25	35	8	2	4
Loch Eye	12	54.5	24.5	36.9	6	2	3.3
L. Ness Ferox	11	71	35	58.3	17	6	11.7
Loch Shin	17	40.7	25.4	28.6	13	4	8.1
Loch Dallas	10	47	30.5	38	6	3	4.1
Muckle Burn	6	40	18	31.1	6	2	3.3
Loch na Bo	5	26	10.5	20.1	2	2	2
Glen Latterach	3	25.4	22.9	24.1	6	3	4
Allt Graad	3	34	21	26.2	5	3	4
Lossie	4	38.1	35.6	36.4	7	4	2.4
Berriedale	5	24.9	18.1	21.2	5	2	3.4

### Brown trout length at age

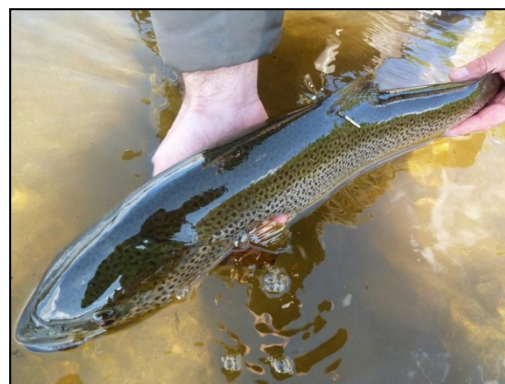
The average size of brown trout at different ages at different locations is summarised in Graph 2. This is only a rough guide from our limited sample size but it does illustrate the wide range in the growth rate of trout according to their environment. E.g. a Deveron Blackwater trout can be nearly 20cm longer than a Conon one at 6 years old. To build growth curves for these samples we need more scales.



Graph 2. The average length of brown trout from 7 locations at total age

### Tagged Deveron, Blackwater trout recapture

A Deveron, Blackwater, brown trout tagged in October 2010 has been re-caught on the Deveron Mainstem at Avochie by visiting angler Stuart Minnikin. First Tagged in October 2010 at 50cm the 7 year old brown trout was re-caught in April 2015 at 60.5cm (4lb 2oz) now 12 years old. The Blackwater trout were tagged as part of our investigations into the migrations of these large trout when we were still trying to determine if they were sea or brown trout. Our isotope and acoustic tagging work has since revealed that by far the majority of these trout are in fact large brown trout that migrate throughout the entire system. This is the 3<sup>rd</sup> tagged trout to be re-caught; the other 2 were also caught on the main stem at Avochie and Huntly.



Tagged Deveron, Blackwater, trout re-caught after 4 years by Angler Stuart Minnikin at Avochie: now 12 years old, 60.5cm & 4lb 2oz.

## Collecting Scales

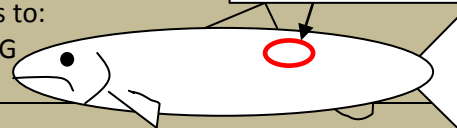
**2015 Competition!**

Win 30 Allan Liddle trout flies

Prize draw for the 10 anglers who collect most scales

1. Collecting scales causes no lasting harm to the fish and the scales will be replaced naturally.
2. Please handle and release fish according to the RAFTS / ASFB Catch & Release Guide
3. Collect scales from the area shown in the diagram. If they are missing take them from the other side
4. Remove excess mucus from the area using the back of a knife.
5. Run the blade of a knife gently back against the scales to lift and remove +/- 10 scales.
6. Insert the blade into a **scale envelope** (not plastic bag) and pinch the packet against the blade so the scales are left in the packet as the blade is withdrawn. Don't seal the envelope!
7. Clean the blade between samples
8. Record the details on the outside of the packet (where caught, length, weight, condition)
9. Please store all packets in a warm place to dry and return all samples to:  
Marcus Walters, C/O KSFT, Bank House, Ardgay, Sutherland IV24 3BG

Collect Scales Here



Mob: 07500602216;

Email: [marcus@morayfirhtrout.org](mailto:marcus@morayfirhtrout.org); Web: [www.morayfirhtrout.org](http://www.morayfirhtrout.org)

The MFTI is supported by local Fisheries Trusts, Boards and Angling Associations and funded by:



Scottish and Southern

