

## **River Findhorn Juvenile Survey 2010**

**Robert Laughton**

**Spey Foundation Report 03/11**

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## 1. Introduction

The Findhorn Fisheries Management Plan (Laughton, 2009a) highlighted the need for data on fish populations (FMP Action 3.1), this survey aims to add to the juvenile fish dataset for the Findhorn and its tributaries and examine their relative abundance.

Electro-fishing surveys of the juvenile salmon and trout population in the River Findhorn have been conducted from 1997 to 2010 with the exception of 2002 and 2004 when poor weather conditions and high river flows hampered surveys (Forbes, 1997; Adderton, 1998; Murray, 2000 and Murray, 2001; Redgewell and Laughton, 2008, Laughton 2009b).

This survey report examines salmon and trout fry distributions for 2010 and provides a brief outline of the trends in juvenile salmonid populations.

## 2. Materials and Methods

From late August to mid-September 36 sites were examined in 2010 within the River Findhorn catchment. Similar to previous surveys, all electrofishing was undertaken using Scottish Fisheries Co-ordination Centre methodology (SFCC, 2007). Photographic records, Ordnance Survey grid references and a Global Positioning System (GPS) were used to re-locate each site. In 2009 and 2010 a small tissue sample from juvenile salmon at a range of sites throughout the catchment was also obtained and submitted to the [FASMOP](#) project for determining sub-population structure within the river.

The data from 1998 was entered into the SFCC electrofishing database and densities of each individual age class of salmon and trout were calculated. Additional information about the physical properties of each site, e.g., substrate, water depth, land use, were also compiled. The data was digitised using the Spey Fishery Board's Geographic Information System (GIS). Data from 2009 and 2010 is stored in Excel spreadsheets and will be compiled into the new SFCC database in due course.

### 3. Results

The population density data from the 1998 to 2010 surveys are presented in four sections. Each section contains a GIS generated map indicating the locations of the individual survey sites, followed by two data tables.

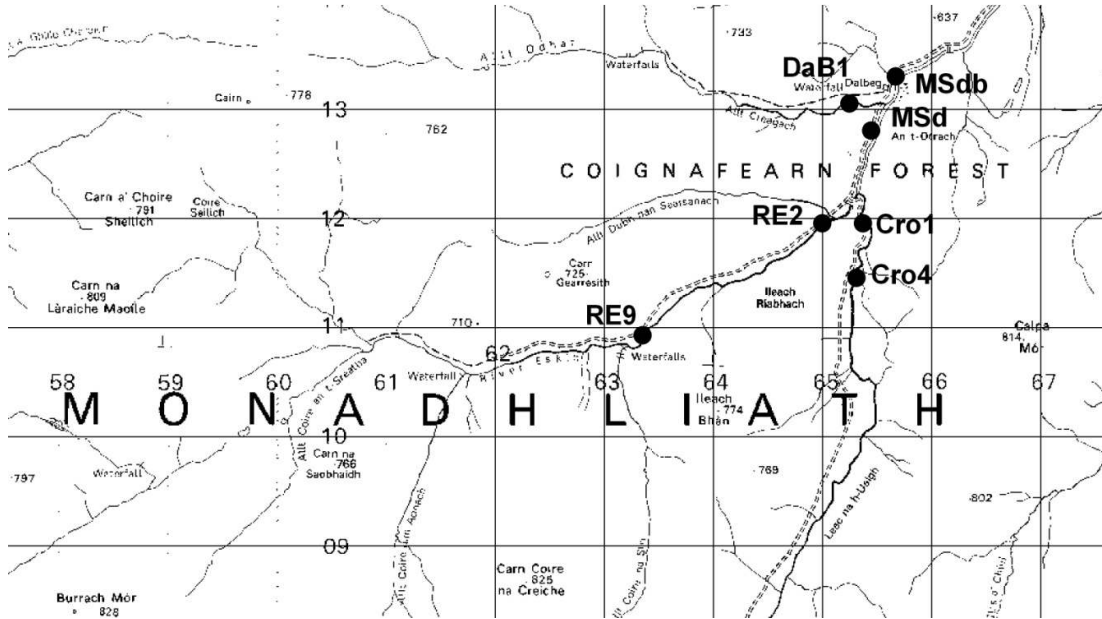
The first table displays information about each site, such as date of sampling, site code, river or burn name, study area, grid reference and altitude. The second table provides the calculated fish densities. The fish densities are expressed as number of fish per 100m<sup>2</sup>. Densities are calculated from one fishing per site and so provide a minimum estimate of the population.

Results sections are organised as follows:

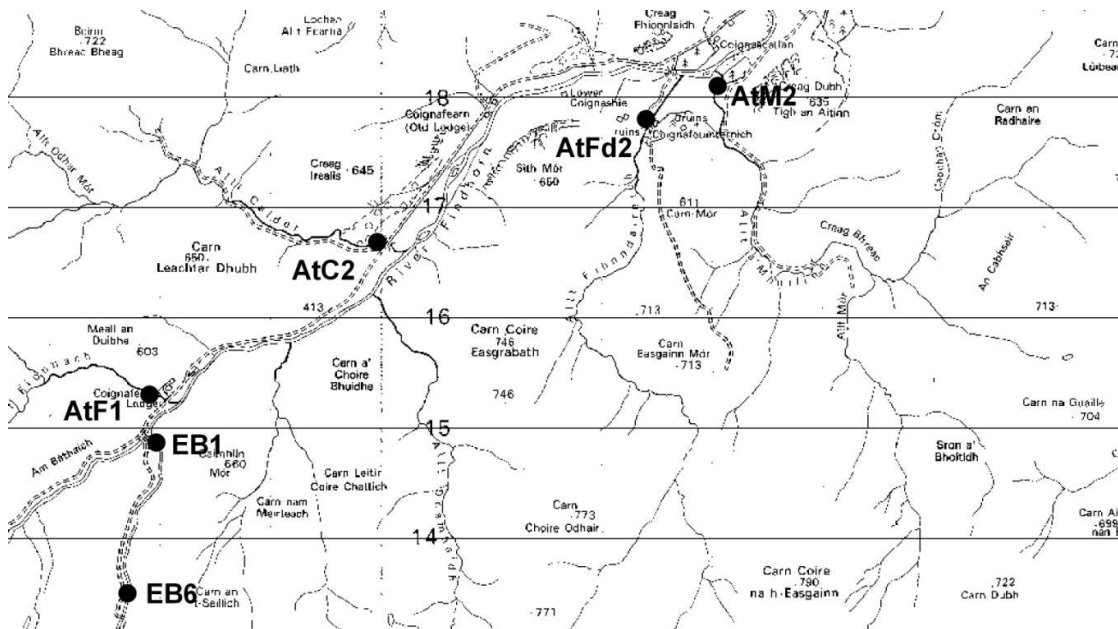
- |                                   |                      |
|-----------------------------------|----------------------|
| A. Upper and Lower Coignafearn    | E. Dorback and Divie |
| B. Glen Mazeran and Glen Kyllachy | F. Muckle and Mosset |
| C. Tomatin and Strathdearn        | G. Lower Mainstem    |
| D. Drynachan                      |                      |

**Section A: Coignafearn**

Figures 1a and 1b provide details of the locations of the eight survey sites visited within the Coignafearn area during 2010. Table 1 provides additional data on grid references, altitude and location.



**Figure 1a: Map showing electrofishing sites in the Upper Coignafearn area 2010.**



**Figure 1b: Map showing electrofishing sites in the Lower Coignafearn area 2010.**

Date	Site Code	River/Burn	Study Area	Grid Ref.	Altitude (m)
07/09/2010	Re2	River Eskin	Upstream of confluence	265000 811950	510
07/09/2010	Cro1	Cro Chlach	500m above confluence with Eskin	265375 811950	505
07/09/2010	Msd	River Findhorn	Upstream of Dalbeg bothy	265450 812800	490
01/09/2010	AtF1	Allt Fionnach	Above bridge, below waterfalls	267900 815300	460
01/09/2010	Eb1	Elrick Burn	50m above ford	267950 814175	455
01/09/2010	AtC2	Allt Calder	Above bridge	269900 816600	415
01/09/2010	AtFd2	Allt Fionndairnich	Below bridge	272400 817800	380
01/09/2010	AtM2	Allt a' Mhuillin	Coignascallan	273050 818100	380

**Table 1: Electrofishing sites completed in the Coignafearn area 2010.**

Site	Salmon				Trout			
	0+	1+	2+	3+	0+	1+	2+	3+
RE2	6.24	3.74	4.37	0.00	0.00	0.00	0.00	0.62
Cro1	7.14	0.71	1.43	0.71	0.00	0.00	0.00	0.00
MSd	9.51	2.38	4.16	0.00	0.00	0.30	0.00	0.00
AtF1	20.83	5.68	3.79	3.79	4.73	0.95	0.00	0.00
EB1	28.42	13.78	2.58	0.00	0.00	0.86	0.00	0.00
AtC2	21.46	6.53	14.93	0.00	0.93	0.93	0.93	0.00
AtFd2	39.73	9.08	3.41	0.00	5.68	0.00	0.00	0.00
AtM2	34.09	21.97	4.55	0.00	3.79	1.52	1.52	0.00

**Table 2: Salmon and trout densities per 100m<sup>2</sup> at Coignafearn survey sites 2010.**

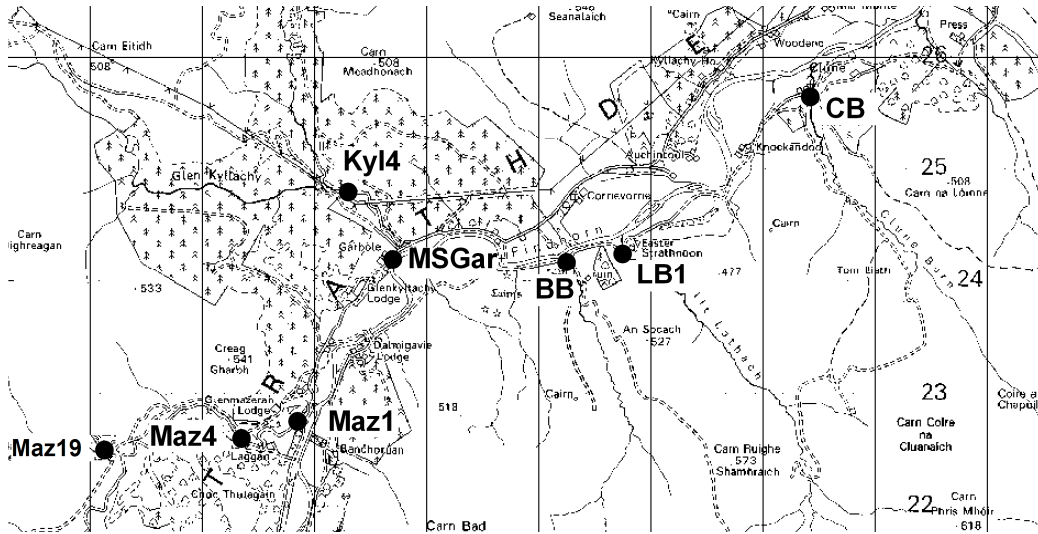
### Salmon

Table 2 indicates that 0+ salmon were caught at all eight survey sites during 2010 and densities ranged from 6.24 per 100m<sup>2</sup> to 39.73 per 100m<sup>2</sup>. 1+ salmon were also caught at all eight sites with densities ranging from 0.71 per 100m<sup>2</sup> to 21.97 per 100m<sup>2</sup> and similarly salmon 2+ were also captured at all eight sites with densities ranging from 1.43 per 100m<sup>2</sup> to 14.93 per 100m<sup>2</sup>. Older 3+ parr were also caught at two sites Cro1 and AtF1.

### Trout

Trout were poorly distributed (Table 2), trout 0+ were present at three sites and densities were low ranging from 0.93 per 100m<sup>2</sup> to 4.73 per 100m<sup>2</sup>. Older trout were present at several sites but were limited to a few individuals of each age class.

## Section B: Glen Mazeran and Glen Kyllachy



**Figure 2: Map showing electrofishing sites in the Glen Mazeran and Glen Kyllachy area.**

Nine sites were surveyed within the Glen Mazeran and Glen Kyllachy area during 2010 (Figure 2 and Table 3).

Date	Site Code	River/ Burn	Study Area	Grid Ref.	Altitude (m)
02/09/2010	MAZ19	Mazeran burn	Above road bridge	271580 821550	420
02/09/2010	MAZ4	Mazeran burn	Above footbridge	274350 822600	355
02/09/2010	MAZ1	Mazeran burn	Glen Mazeran lodge	274850 822750	350
02/09/2010	KYL4	Kyllachy burn	Below road bridge	275300 824800	345
02/09/2010	MSGar	Findhorn	Above Confluence with Kyllachy burn	275700 824200	330
06/09/2010	BB	Banchor burn	Beside sheep pen	277250 824175	330
06/09/2010	LB1	Allt Lathach (Strathnoon Burn)	Above bridge below waterfall	277750 824250	330
06/09/2010	CV	Corrievorrie burn	Below road bridge	277600 824900	330
06/09/2010	CB	Clune burn	Above bridge beside shed	279425 825650	320

**Table 3: Site locations for the Glen Mazeran and Glen Kyllachy area 2010.**

## Salmon

Table 4 indicates that 0+ salmon were caught at all nine survey sites and densities ranged from 15.26 per100m<sup>2</sup> to 85.68 per100m<sup>2</sup>. Salmon 1+ were also captured at all nine survey sites and densities ranged from 5.09 per100m<sup>2</sup> to 31.95 per100m<sup>2</sup>. Salmon 2+ were present at eight sites and densities ranged from 1.51 per100m<sup>2</sup> to 12.41 per100m<sup>2</sup>. Salmon 3+ were present on all three Mazeran sites.

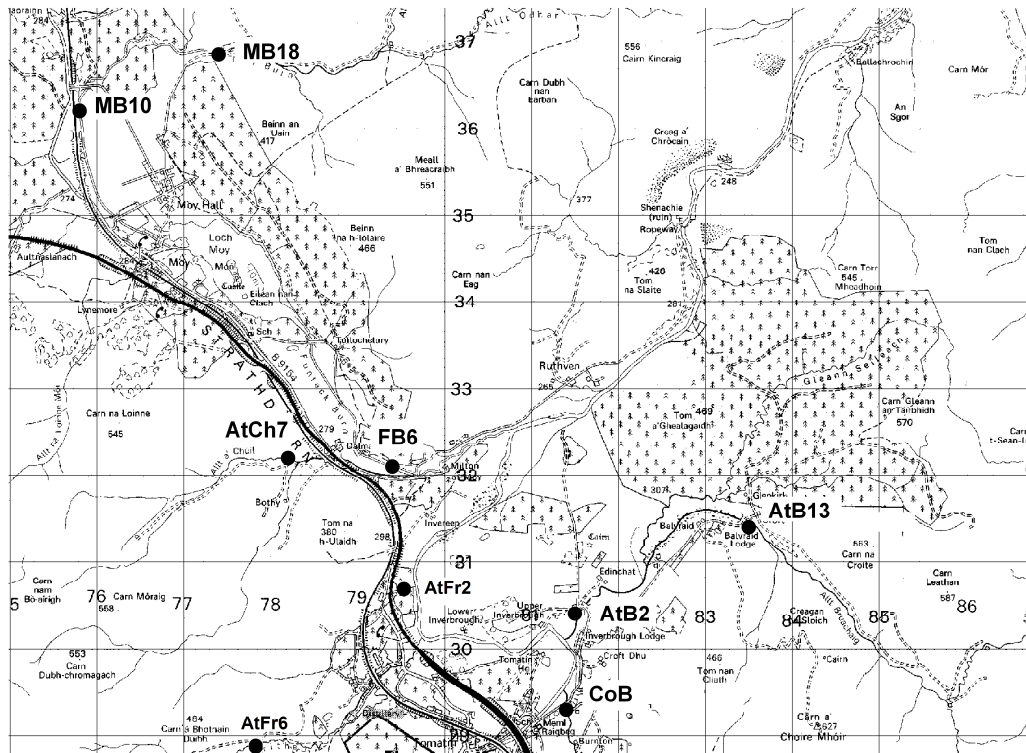
## Trout

Table 4 indicates that trout were more limited in their distribution and densities were low indicating only a few fish were present. Site CV on the Corryvorrie Burn was the exception with a high density of trout 0+ (44.5 per 100m<sup>2</sup>) but older trout were still scarce at this site.

Site	Salmon				Trout			
	0+	1+	2+	3+	0+	1+	2+	3+
MAZ19	85.68	21.42	8.03	1.34	0.00	1.34	1.34	0.00
MAZ4	37.43	20.50	5.35	0.89	0.89	0.89	2.67	0.00
MAZ1	43.74	5.09	2.03	3.05	0.00	0.00	0.00	0.00
KYL4	40.42	13.86	3.46	0.00	0.00	4.62	1.15	1.15
MSGar	15.26	8.54	2.75	0.00	0.31	0.00	0.00	0.00
BB	54.38	10.57	1.51	0.00	7.55	7.55	6.04	0.00
LB1	47.34	31.95	3.55	0.00	3.55	2.37	0.00	1.18
CV	34.61	14.83	0.00	0.00	44.50	0.00	1.24	0.00
CB	30.14	23.05	12.41	0.00	0.00	7.09	1.77	0.00

**Table 4: Salmon and trout densities per100m<sup>2</sup> at Glen Mazeran and Glen Kyllachy survey sites 2010.**

## Section C: Tomatin and Strathdearn



**Figure 3: Map showing electrofishing sites in the Tomatin and Strathdearn.**

Nine sites were surveyed in the Tomatin and Strathdearn area during 2008 (Figure 3 and Table 5).

Date	Site Code	River/ Burn	Study Area	Grid Ref.	Altitude (m)
09/09/2010	AtN	Allt Neacrath	Beside Conifer Forest	280050 828650	320
09/09/2010	Atb2	Allt Bruachaig	Below bridge	281500 830400	310
09/09/2010	AtFr2	Allt na Frith	Below Tomatin Distillery	279300 829300	300
09/09/2010	CoB	Allt na Feithe Sheillich	Above bridge	281400 829300	290
10/09/2010	Atch7	Allt a'Chuil	Upstream of confluence	278200 832200	290
10/09/2010	Fb6	Funtack Burn	Downstream of Dalmagarry	279400 832100	270
10/09/2010	Mb10	Moy Burn	Below bridge	275800 836200	270
14/09/2010	Mb18	Moy Burn	North side of pines	277400 836850	305
14/09/2010	MB28	Moy burn	Below ford and bothy (not shown on Figure 3)	279200 836750	350

**Table 5: Site locations for the Tomatin and Strathdearn area 2010**



## Salmon

Table 6 indicates that salmon 0+ were caught at seven of nine surveyed sites. Densities ranged from 7.6 per100m<sup>2</sup> to 57.41 per100m<sup>2</sup>. 1+ salmon were also present at these seven sites and densities ranged from 1.29 per100m<sup>2</sup> to 14.81 per100m<sup>2</sup>. 2+ salmon parr were captured at six of the surveys sites and densities ranged from 1.42 per100m<sup>2</sup> to 10.26 per100m<sup>2</sup>. Two sites produced 3+ salmon, AtFr2 and CoB.

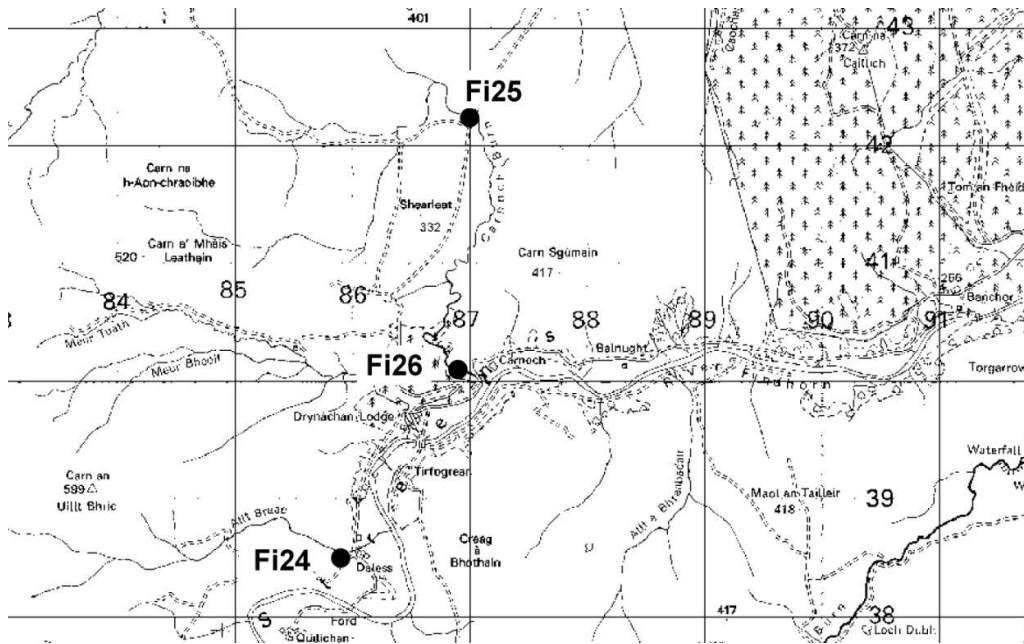
## Trout

Table 6 indicates that only low densities of trout were caught. Trout 0+ were present at eight of the survey sites with densities ranging from 1.09 per100m<sup>2</sup> to 10.26 per100m<sup>2</sup>. Trout 1+ were present at seven sites with densities ranging from 1.09 per100m<sup>2</sup> to 13.26 per100m<sup>2</sup> and 2+ trout were present at six sites while trout 3+ were present at four. The site on the Allt Neacrath (AtN) is above a bridge apron under the old A9 and this may affect adult salmon access leading to the lack of juvenile salmon. The trout population at the site was good with a range of age classes. However, it is not clear whether this is a resident population or whether sea trout also ascend the burn. The habitat in the burn tends to favour juvenile trout. Site AtFR2, on the Allt na Frith is below a series of weirs and previous surveys have shown salmon and trout to be present. Both 0+ and 1+ age classes were absent. This may have been due to distillery cooling water discharge which can raise water temperatures significantly in the burn but further investigation is required.

Site	Salmon				Trout			
	0+	1+	2+	3+	0+	1+	2+	3+
AtN	0.00	0.00	0.00	0.00	5.68	13.26	3.79	7.58
AtB2	53.57	11.90	2.38	0.00	1.19	1.19	1.19	1.19
AtFR2	0.00	0.00	0.00	1.23	0.00	0.00	1.23	0.00
CoB	57.41	14.81	1.85	1.85	1.85	3.70	0.00	0.00
AtCh7	18.80	10.26	10.26	0.00	10.26	6.84	0.00	0.00
FB6	31.01	1.29	6.46	0.00	0.65	0.00	1.29	1.29
MB10	13.49	14.20	1.42	0.00	3.55	1.42	0.00	0.00
MB18	7.62	9.80	0.00	0.00	1.09	1.09	0.54	0.54
MB28	11.07	6.22	5.53	0.00	1.38	6.22	4.15	0.00

**Table 6: Salmon and trout densities per 100m<sup>2</sup> at Tomatin and Strathdearn survey sites 2008.**

## Section D. Drynachan



**Figure 4: Map showing electrofishing sites in the Drynachan.**

Three sites were regularly surveyed in the Drynachan area during previous juvenile surveys 1998-2009 but were not surveyed during 2010 due to wet weather and high river flows (Figure 4, Tables 7 and 8).

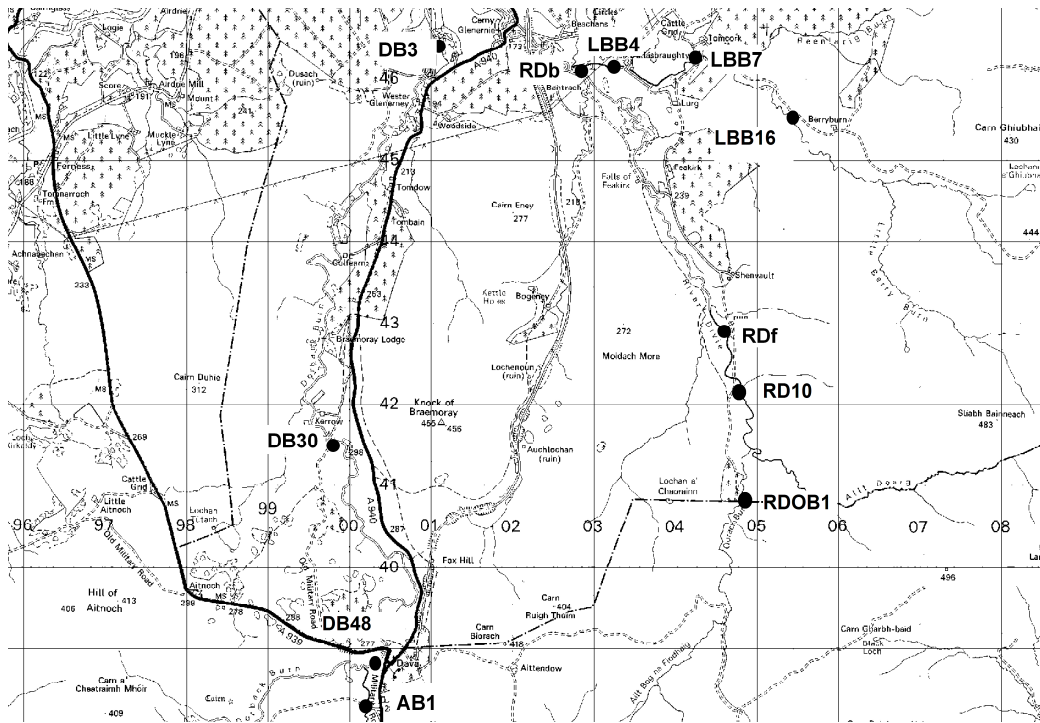
Date	Site Code	River/ Burn	Study Area	Grid Ref.	Altitude (m)
	Fi24	Allt Breac	Dales	285900 838500	360
	Fi25	Carnoch Burn	Above bridge	287000 842240	300
	Fi26	Carnoch Burn	Above bridge	286900 840100	225

**Table 7: Site locations for the Drynachan area during previous juvenile surveys 1998-2009.**

Site	Salmon				Trout			
	0+	1+	2+	3+	0+	1+	2+	3+
Fi24	Not Surveyed							
Fi25	Not Surveyed							
Fi26	Not Surveyed							

**Table 8: Sites Fi24, Fi25 and Fi26 were not surveyed during 2010.**

## Section E. Dorback and Divie



**Figure 5: Map showing electrofishing sites in the Dorback and Divie area.**

Six sites were surveyed in the Dorback and Divie area during 2010 (Figure 5 and Table 9). Additional sites were targeted on the Dorback but high river flows during the survey period prevented access.

Date	Site Code	River/ Burn	Study Area	Grid Ref.	Altitude (m)
10/10/2010	RD6	Divie	Bantrach above road bridge	302850 846100	175
10/10/2010	RDf	Divie	Below ford at ruin beyond Shenvault Farm	304600 842900	245
10/10/2010	LBB7	Little Berry Burn	Tomcork below bridge	304250 846260	210
11/08/2010	DB30	Dorback Burn	Kerrow Farm above ford	299800 841500	240
11/08/2010	DB48	Dorback Burn	Above Dava Bridge	300400 838850	280
11/08/2010	AB2	Anaboard Burn	Below bridge (not shown in Figure 5)	300300 835900	295

**Table 9: Site locations for the Dorback and Divie area 2010.**

### Salmon

Table 10 shows that the distribution of 0+ salmon was good with five of the six sites producing 0+ salmon with densities ranging from 2.66 per 100m<sup>2</sup> to 4.89 per 100m<sup>2</sup>.

Table 10 indicates that 1+ salmon parr were caught at all six survey sites and densities ranged from 1.05 per100m<sup>2</sup> to 10.42 per100m<sup>2</sup>. Salmon 2+ were present at three survey sites and a 3+ salmon parr was captured at site LBB7. Salmon have generally be absent from the Little Berry Burn but a 1+ and a 3+ salmon were caught this year. The lack of salmon in previous years may be the result of an awkward Irish Ford at Dallasbraughty preventing adult access however, but clearly some salmon are ascending past the obstacle.

### Trout

Table 10 indicates that trout 0+ were found at five of the six survey sites and densities ranged from 2.32 per100m<sup>2</sup> to 26.39 per 100m<sup>2</sup>. 1+ trout were present at four sites, densities ranging from 0.8 per100m<sup>2</sup> to 5.32 per 100m<sup>2</sup>. 2+ trout were also present at four sites with densities ranging from 0.77 per100m<sup>2</sup> to 5.32 per100m<sup>2</sup>. 3+ trout were present at two sites RDf and LBB7.

Site	Salmon				Trout			
	0+	1+	2+	3+	0+	1+	2+	3+
RD6	44.89	9.55	0.96	0.00	2.87	0.00	0.00	0.00
RDf	2.66	2.66	3.99	0.00	2.66	3.99	5.32	3.99
LBB7	0.00	1.05	0.00	1.05	8.37	5.23	3.14	3.14
DB30	32.85	10.42	1.60	0.00	0.00	0.80	0.00	0.00
DB48	25.56	2.32	0.00	0.00	2.32	0.00	0.77	0.00
AB2	16.67	8.33	0.00	0.00	26.39	4.17	2.78	0.00

**Table 10: Salmon and trout densities per 100m<sup>2</sup> at Dorback and Divie survey sites 2010.**

## Section F. Muckle and Mosset

Four sites were surveyed in the Mosset and Muckle burns during 2010 (Tables 11 and 12).

Date	Site Code	River/Burn	Study Area	Grid Ref.	Altitude (m)
09/08/2010	Fi48	Mosset Burn	10m downstream from Sanguhar Road bridge	304000 855900	30
09/08/2010	Fi47	Mosset Burn	200m from Dallas Dhu Road Bridge and weir	303900 858650	35
09/08/2010	Fi42	Muckle Burn	Easter Milton Farm	295850 853100	70
09/08/2010	Fi40	Muckle Burn	Below Bridge in Newlands of Fleenas Wood	290900 845200	190

**Table11: Site locations for the Muckle and Mosset burn survey sites 2010.**

### Salmon

Table 12 shows that salmon were found at both sites on the Muckle Burn (Fi42 and Fi40) and that two age classes were present, 0+ and 1+. Densities of salmon 0+ ranged from 8.65 per100m<sup>2</sup> to 13.33 per 100m<sup>2</sup>. Densities of 1+ salmon ranged from 2.42 per 100m<sup>2</sup> to 4.32 per 100m<sup>2</sup>.

### Trout

Table 12 indicates that trout 0+ were present at three of the survey sites with densities ranging from 3.42 per100m<sup>2</sup> to 9.7 per100m<sup>2</sup>. A small number of 1+, 2+ and 3+ trout were also recorded at the site Fi48 on the Mosset.

The complete absence of fish at site Fi47 was a surprise. There are several weirs downstream so salmon are not generally present but in previous surveys trout have been captured. The reasons for their absence in this survey is unclear.

Site	Salmon				Trout			
	0+	1+	2+	3+	0+	1+	2+	3+
Fi48	0.00	0.00	0.00	0.00	3.41	5.68	2.27	1.14
Fi47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fi42	13.33	2.42	0.00	0.00	9.70	0.00	0.00	0.00
Fi40	8.65	4.32	0.00	0.00	4.32	0.00	0.00	0.00

**Table 12: Salmon and trout densities per 100m<sup>2</sup> at Mosset and Muckle burns survey sites 2010.**

#### 4. Species Distribution

Area	Number of Sites	Salmon	Trout	Eel	Minnow	Stickleback	Lamprey
A. Coignafearn	8	8	6	0	0	0	0
B. Glenmazeran and Kyllachy	9	9	7	0	0	0	0
C. Tomatin and Strathdearn	9	8	9	1	1	1	0
D. Drynachan	0						
E. Dorback and Divie	6	6	5	3	1	0	1
F. Muckle and Mosset	4	2	3	2	1	0	0
G. Mainstem	0						
<b>Total</b>	<b>36</b>	<b>34</b>	<b>30</b>	<b>6</b>	<b>3</b>	<b>0</b>	<b>1</b>

**Table 13 – Species distribution (no. of sites per region) within the Findhorn catchment 2008**

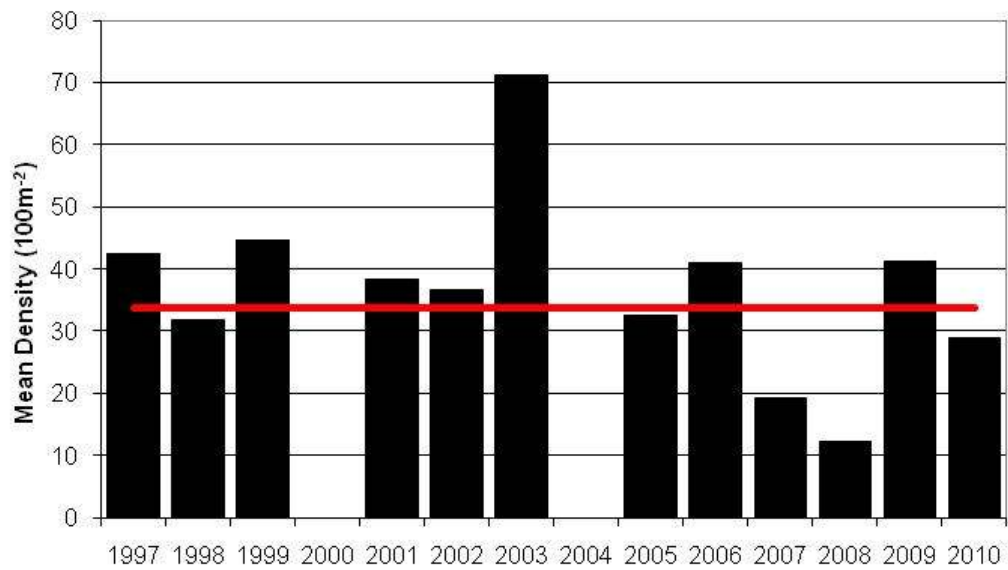
Table 13 shows that six fish species, salmon, trout, eel, minnow, stickleback (3 spined) and lamprey *sp* were recorded during the 2010 survey. Salmon were present 34 sites (94.4%). While trout were the next most abundant recorded at 30 sites (86%). Thus both salmon and trout are well distributed across the Findhorn catchment. However, although trout showed a similar distribution to the salmon there was often only single individuals or low numbers present at the sites. Other fish species were limited to eels at 6 sites (16.7%), minnows at 3 (8.3%) and lamprey and three spined sticklebacks at 1 each (2.7%). The lampreys captured were in their juvenile stage and not identified to species.

#### 5. General Trends

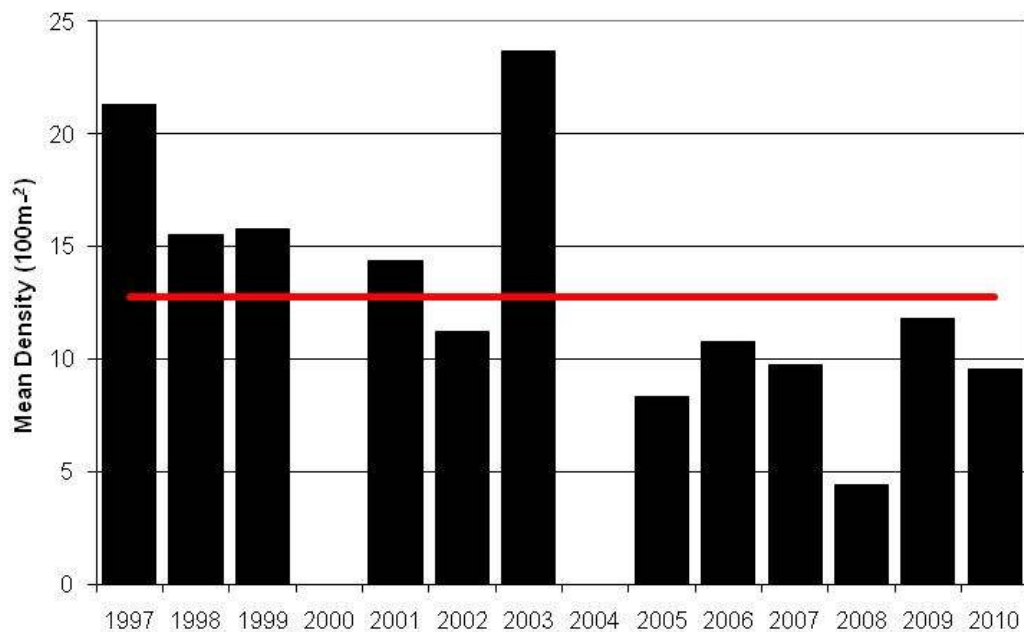
Juvenile surveys of the River Findhorn started in 1997 and with two exceptions have been completed yearly until 2008. No survey was carried out in 2000 and only six survey sites were completed in the upper Coignafearn area during 2004. Data from the 2004 survey is, therefore, not included in the present analysis. Data from survey sites which had been visited more than four times during the period 1997 to 2010 were compiled. Mean densities were then calculated for each year and across the

entire survey period. Figures 6 to 8 show yearly mean densities for salmon 0+, 1+ and 2+ age classes and Figures 9 to 11 show data for trout 0+, 1+ and 2+ age classes. The long term mean density for 1997 to 2010 is also indicated by the horizontal line and presented for each age class in Table 14.

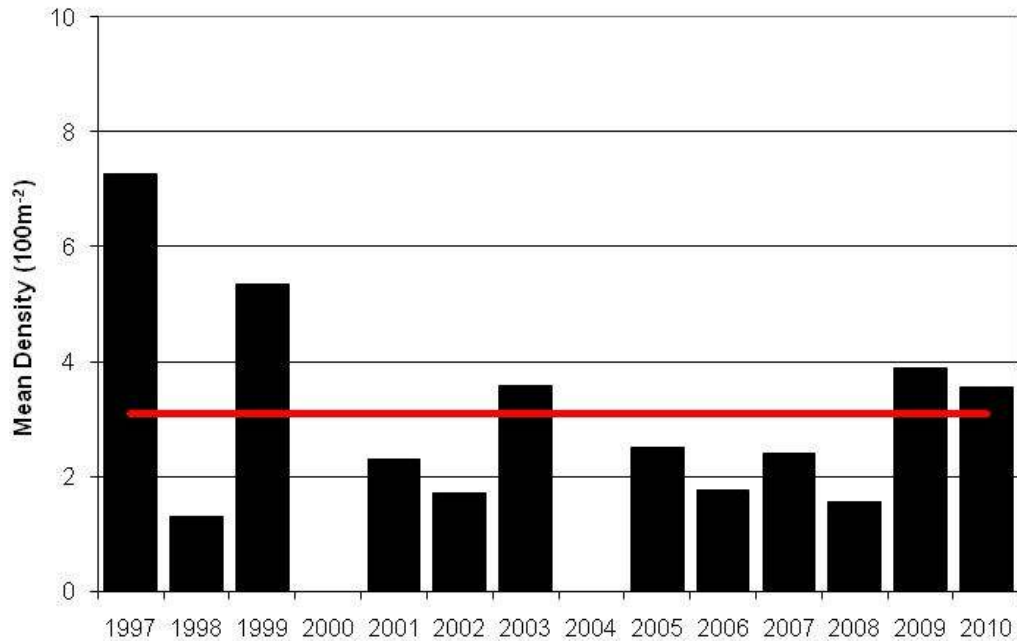
**Figure 6: Mean salmon 0+ densities 1997- 2010**



**Figure 7: Mean salmon 1+ densities 1997- 2010**



**Figure 8: Mean salmon 2+ densities 1997-2010**



**Salmon**

Densities of all age classes of juvenile salmon vary widely from year to year. Occasional exceptional years where densities are very high or low are evident, in 2003 densities of all age classes of salmon were high while in contrast 2008 mean densities were low. 2003 was a very dry year so the high density spike might be the result of low water levels and higher numbers of fish in a smaller wetted area. Figures 6 to 8 indicate no clear trend but encouragingly the recent survey years 2009 and 2010 have seen mean densities closer to the long term mean.

	Mean Density (100m <sup>-2</sup> ) 1997 to 2010		Mean Density (100m <sup>-2</sup> ) 1997 to 2010
Salmon 0+	37.03	Trout 0+	4.66
Salmon 1+	13.50	Trout 1+	2.75
Salmon 2+	2.98	Trout 2+	1.51

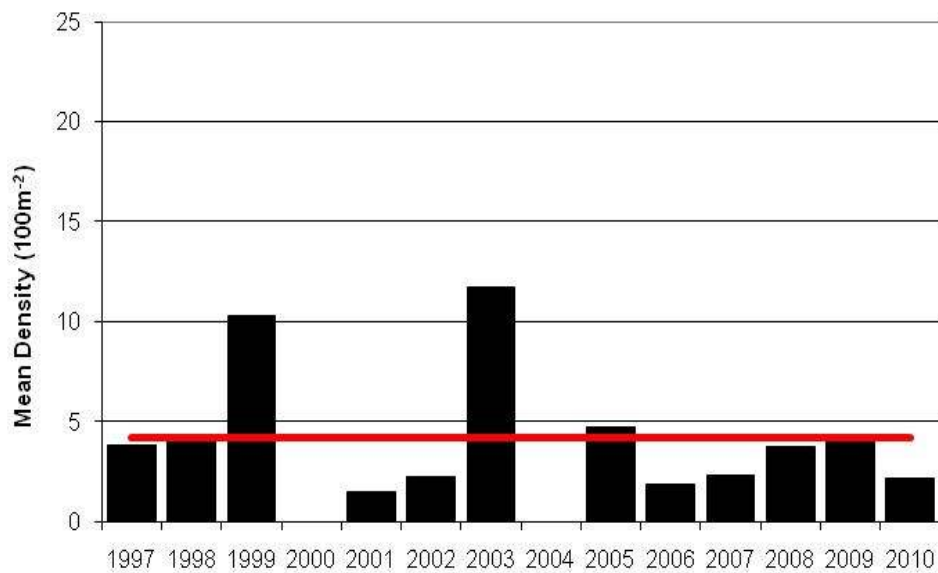
**Table 14: Mean yearly densities (per 100m<sup>2</sup>) for juvenile salmon and trout in the Findhorn 1997 to 2010.**



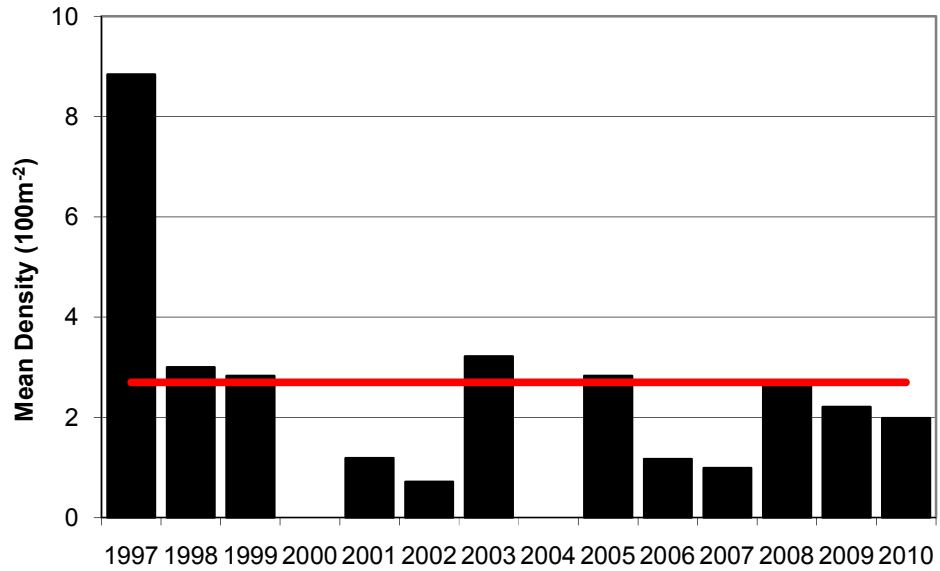
## Trout

Mean densities of trout in the Findhorn catchment have been consistently lower than salmon over the past decade (Table 14). The highest overall average density of just below 12 per 100m<sup>2</sup> was achieved by 0+ fish in 2003, but this figure might be artificially high due to the lower water levels which reduced habitat and restricted fish movements during that year. Trout densities in 2010 were similar to previous years for all three age classes. (Figures 9 to 11) although each age class was lower than the long term mean density.

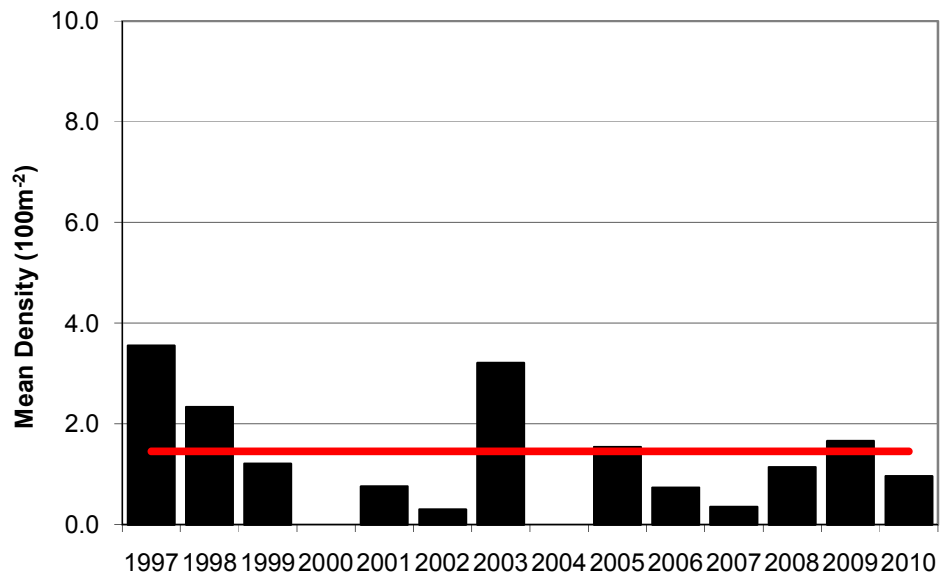
**Figure 9: Mean trout 0+ densities 1997-2010**



**Figure 10: Mean trout 1+ densities 1997-2010**



**Figure 11: Mean trout 2+ densities 1997-2010**



## 6. Discussion

In general the distribution of salmon in the Findhorn catchment was excellent in 2010 with most of the tributaries examined producing juveniles and mean overall densities for each age class were close to the long term average. This may reflect better runs of adult salmon during the last few seasons coupled with an increase in the catch and release rate allowing more spawning females. However, many other factors will also be important.

Juvenile salmon densities will vary greatly from year to year and also from site to site within a tributary. In many instance the current survey relies on a revisit to a single site per tributary and providing long term trend data from this limited data set will be variable. To address this in future surveys additional sites should be incorporated. This can prove difficult however, since the 2010 survey was again hampered by wet weather and higher river flows through a large part of the summer.

Trout fry distribution continues to be limited with burns such as the Anaboard and Little Berry within the Dorback and Divie catchment still being the most productive areas. The mean densities for all age classes of trout in 2010 were below the long term average. The lack of trout is curious but the Findhorn is not renowned for its sea trout fishery indicating that runs into the river may low. Similarly other fish species also seemed to be fairly few and far between.

The lack of juvenile fish in the Allt na Frith during 2010 was worrying since this site is often quite productive for both salmon and trout. There may be problems with the cooling water discharge from the Tomatin distillery and further investigation into water temperatures is recommended. There is also some weirs and concrete bridge aprons in the burn affecting fish access which need to be addressed.

In general the Findhorn is relatively free from obstructions with only the bridge apron on the Allt Neacrath, and the Irish weir on the Berry Burn. The bridge apron is part of a large bridge under the old A9 but could benefit from some remedial work through the installation of baffles. However, the burn upstream is dominated by trout habitat so this would be of little benefit to salmon and sea trout appear rare this far upstream. The Irish Ford on the Berry Burn does require action. It doesn't completely block salmon access with some juveniles found at Tomcork (LBB7) this year and anecdotal sightings of adult salmon above the weir in autumn 2009 reported by local

farmers and gamekeepers. However, it is problematic particularly at low flows and removal and replacement with a more suitable river crossing should be explored, perhaps with assistance from the Berry Burn wind farm developers.

The current survey data does not fully examine the influence of hatchery reared stock although any sites influenced by stocking are removed from the longer term mean density analysis (Figures 6 to 11). Further analysis on the stock areas is required.

The overall mean densities presented here provide a quick insight in to the Findhorns salmon and trout populations. No clear temporal trends were apparent for the river as a whole. However, analysing the data on a more regional basis may be more illuminating since this may reflect sub-populations more closely. This may become a more important approach as results from the FASMOP genetics project become available.

It is recommended that the tributary surveys should continue in the future but perhaps move to a survey every three years to fit in with a rolling programme of surveys proposed by the Findhorn Nairn and Lossie Fisheries Trust. In general coverage of the tributaries is good but data for the mainstem data is also still lacking and it is recommended that an array of timed survey sites should be established in the Findhorn mainstem.

## **7. Recommendations**

- Continue to electrofish the core sites that have been routinely surveyed since 1997 on a three year rotation,
- Establish an array of timed sites along the mainstem to determine distribution and abundance,
- Continue to monitor the success, or otherwise, of salmon fry populations in stocked areas.
- Identify preferred burns for juvenile trout and establish some preliminary survey sites

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