Tay District Salmon Fisheries Board



Annual Report
2007 / 08

ANNUAL REPORT 2007/ 08

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TAY DISTRICT SALMON FISHERIES BOARD

Chairman

John Milligan (Mandatory for Ballathie Timeshare)

Members Elected by Upper Proprietors

W. Lindsay (Mandatory for Taymount Timeshare)
J. Apthorp (Mandatory for Stobhall Timeshare)
R. Gardiner (Mandatory for Pitlochry Angling Club)
D. Glass (Mandatory for Clayfield Investments)
J. Young (Mandatory for Laird Securities)
A. Riddell (Mandatory for Taymouth Fishings)
Viscount Stormont (Mandatory for The Viscount Stormont's Trust Trustees)
R. White (Mandatory for Mr A. Gifford)
P. Steuart-Fothringham

Members Elected by Lower Proprietors

D. Clarke

Co-opted Members

Representatives of Tenant Netsmen

Tay Foundation

Representatives of Salmon Anglers

Lt. Col. R. P. D. Gordon
J. M. Smith (Resigned 3/10/08)
Brigadier C. C. Dunphie
J. Tritton (Tay Ghillies Association)
J. Wood
R. Rattray

Clerk and administrator

Callum Towns, Strathtay M. S. Ltd, 5 Strathalmond Green, Edinburgh, EH4 8AG (Tel: 0131 4670092)

Board Staff

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CHAIRMAN'S REPORT

On reflecting over the 2008 fishing season, I am pleased to say that the spring yielded an improved number of catches and there were also a preponderance of big fish.

However, the summer grilse runs were disappointing and the autumn fishing was disrupted by heavy rains and releases of water from The Hydro dams.

The Board also recognise that the fish stocks are below the level that we would all like to see.

We introduced a Catch and Release programme last year and this has been a measured success. My particular thanks goes to the Ghillies who have had to recommend and encourage the anglers to adopt this conservation measure.

The current estimates are that 1,100 (600 in 2007) salmon were released before the end of May. This initiative approximates to 2 million eggs being laid in the river by spring salmon. This must help the salmon population.

It is the Board's intention to recommend the same Catch and Release policy as last year and we hope that the few defaulters will emulate the example of the angler and ghillies who are implementing the policy.

The question of worming remains a thorny problem but we would earnestly ask that no worming is done after the 1st September. We are also recommending the use of an American designed worming hook which allows the easy release of fish. (Details can be obtained from David Summers, TDSFB or David Godfrey, Cargill)

The Board have been initiating a number of improvement projects and details can be perused later in this report.

The bailiffs have worked hard this winter at clearing riverbanks and obstructions.

We are developing a range of projects with SEPA and Scottish Native Woodlands, which we hope will improve salmon habitat.

The Tay Conservation Award Dinner was well attended this year. We were all pleased to acknowledge John Apthorp's winning of the Ballathie Conservation Trophy.

My special thanks goes to The Ghillies Association for the many projects they financed for the benefit of salmon fishing on The Tay.

The Hatchery achieved its full capacity last winter and the bailiffs did a remarkable job in catching brood fish, stripping, nurturing the eggs and planting them back in the river.

The lack of Sea Trout in The Tay is becoming a noticeable problem and one which The Board is addressing.

Rafting and canoeing remain a very considerable problem to the fishing at Aberfeldy and Stanley and we must somehow reach a working accommodation that allows these activities

but stops the immense damage that is being done to salmon fishing and the economic consequences this will have on The Tay District.

The Board has moved to improve our management structure and we have appointed an Office Admin Manager and hope to appoint a Biologist and a Development Officer (fundraising) in 2009.

There is an election in December and I am sure that you would like to join me in thanking the exiting Board Members who have served us so well and welcome the new Board Members who we hope will bring new idea and fresh talents.

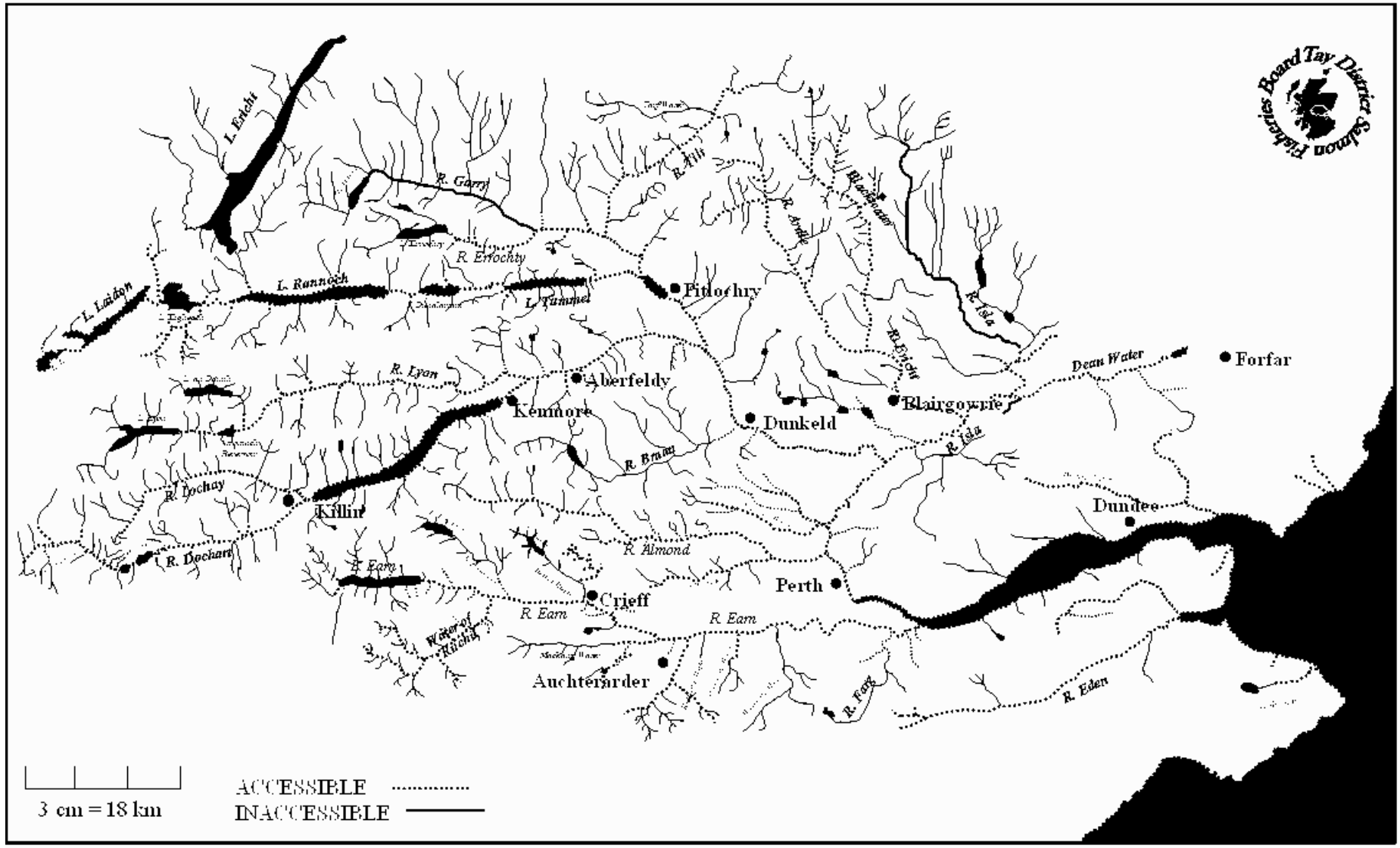
May I conclude by wishing all the anglers of The Tay System a successful and safe fishing season in 2009.

Yours sincerely,



John R Milligan
Chairman

Salmon Distribution within the Tay District



2008 REPORT

Season 2008

As usual the 2008 season commenced on the 15th of January, the official opening ceremony at Kenmore being performed by Jane Grimlay of Dewars' World of Whisky. Unfortunately after a very dry winter, water levels rose just before the season opened and the first two weeks of the season saw constant rain and massive waters. Therefore catches in January were poor with only 19 springers reported.

February also proved to be a washout, apart from one fine week in mid month. Only 101 salmon were reported. The best of the fishing was on Loch Tay where something like 19 fish were caught. However there was a reasonable showing of fish in the high teens and twenties of pounds. This was to prove a foretaste of better things to come.

March also started disappointingly with a continuation of the near-monsoon conditions. Eventually the weather did settle and the latter half of the month was dry and cold. Snow lay on the hills in what was the most "wintry" period of the year. River levels fell and catches picked up. Numbers of the smaller two sea winter fish started to rise and catches were well spread throughout the system from about Stanley right through to Loch Tay. 346 springers were reported for the month of which about 100 were caught in the second last week, an excellent weekly tally for recent times. Given the poor conditions at the start of the month, it was clear there were more fish in the river than at the same time in 2007.

April also opened with high water, but cold and dry weather settled in and levels fell quickly. April 2008 was in fact the coldest for some years and the strengthening runs of fish tended to move upstream more slowly than they have been in the way of doing in recent years. As a result fish were caught throughout the length of the mainstem Tay, including beats down to Scone, which has become very unusual in April. Most of the beats from Islamouth downstream had a better April, but catches were generally lower than usual above Dunkeld, although some fish were still caught in Loch Tay and the Lyon. Conditions did not really encourage big runs up the Ericht although catches were relatively good on the Isla at Coupar Grange. However, a really encouraging feature was the number of big fish caught, especially in beats upstream of Islamouth. Six fish were estimated to be over 30 pounds and over 70 fish over 20 pounds were caught during the entire spring period, the best showing of such fish for quite some years. In total 574 springers were reported in April, as opposed to 298 in 2007.

May commenced with a rise in water but thereafter no rain fell. River levels dropped away and reached summer low by the month's end. The weather was mixed with some warm weeks and others affected by a cool easterly breeze, but always dry. These conditions proved to be good for slowing fish up in some of the main river beats. For example the Islamouth beats did particularly well with 101 out of an overall total of 541 for the month.

The first three weeks of June continued dry and the Tay remained very low. The last week of the month saw the first appreciable rain for about six weeks, but even then levels never rose that much. The first half of the month saw good catches continue on beats like Islamouth and Ballathie which benefit from low water at that time of year. In fact Islamouth had 291 for the season to the end of June, as opposed to 219 for the best beat on the Dee (Park – which also fishes 11 rods) and 213 for the best Tweed beat (Junction). However, the salmon runs seemed to fade towards the end of the month and only a few grilse were in

evidence. Full returns were are not available at the time of writing but the total for the district is likely to have been around 500.

July saw the relatively dry weather continue and low water persisted for most of the month. Although conditions were good for holding grilse in the main river the main bulk of grilse did not arrive in July, as they used to do only a few years ago. Catches did gradually pick up towards the end of the month, but they were never particularly high. The best of the fishing was on beats like Islamouth, Coupar Grange and Ballathie, but the true total is likely to have been little over 500. Although this was better than the washout of 2007, it was poor relative to the years before 2005 when the main grilse run used to arrive in early July.

August saw the weather change. While there were no really big floods, it was a wet month with one or two rises every week. River levels were much too unsettled for the main Tay. The run of grilse did pick up considerably compared to July and summer salmon were perhaps more in evidence than for several years. However, the higher water allowed the grilse to move fast into the tributaries so main river beats did not benefit, although catches improved in the tributaries after some very lean dry months. The fish counter on the Ericht recorded an above average run but the Pitlochry counter did not. The month's catch is likely to have been around 1,500 which is down a bit on the last three years, but still better than August used to be prior to 2005. Then it was very much a doldrum month between the peak of the grilse run and the start of the autumn run proper.

September was also rather a frustrating month. Morning increases in generation from Pitlochry power station did not help at the start of the month and the middle part was marred by a succession of spates which prevented the river from settling. A steady fall did set in during the last ten days or so and catches improved somewhat. The best catches were on the lower Tay but middle Tay beats generally had a disappointing month as fish never seemed to push beyond Islamouth in good numbers. While conditions were not always ideal, it is fair to say that the run of fish does not seem to have been as strong as September 2007 and the total catch is likely to have been around 2,500. It was, however, particularly encouraging that there were more salmon in the teens of pounds and even over 20 pounds than for some time.

October was a short month for the Tay, with the fishing closing on the Tay and its tributaries on the 15th. For the lower Tay at least, October saw the best fishing of the season. Conditions were better on the whole than in September. There also seemed to have been a better run of fresh fish at the beginning of the month suggesting a slightly later run this year. As in September the size of some of the fish was again notable with several over the 30 pound mark landed and 20 pounders were relatively common. Around 1500 fish were probably caught on the Tay in the two weeks. After the Tay season closed fishing continued to the 31st on the Earn and the Eden. Some lower Earn beats, for example Dunning AC, apparently fished very well getting fresh fish to the end.

Collection of catch statistics

The collection of Scottish salmon catch statistics has been the responsibility of the Scottish Government's agency Fisheries Research Services (FRS). FRS request catch data from proprietors at the end of each season and the figures are published in an aggregate form for the entire district nearly a year later. Owing to the significant delay before publication and low level of geographic breakdown, the Association of Salmon Fishery Boards has long lobbied for boards to be given powers to collect catch figures themselves. These powers

were finally given by The Conservation of Salmon (Collection of Statistics) (Scotland) Regulations 2006 (Scottish Statutory Instruments 2006 No. 572). These regulations provide boards with the power to request statistics twice per year. The Tay Board did not exercise these powers in 2007, but it was decided that in 2008 catch returns would be requested for the period January – May and then from June – October.

Requests were sent out in June to those proprietors or tenants who were likely to have caught spring salmon. Requests were sent to all beats after the end of the season. The Board appreciates that requests from both the Board and FRS does cause duplication of work for proprietors and tenants and to both the Board and FRS, but there has been no way of avoiding this so far.

While this has caused extra work, it does allow us to obtain information in something nearer to real time and to provide a breakdown by subcatchment. Also, because the Board has its own informal information gathering network, it allows us to gauge whether there may be any significant misreporting of catches. Results from this exercise are presented at various points throughout this report.

Catch and release

The relatively poor Scottish spring run in 2007 and the continuing thin grilse problem showed that salmon are still facing great problems at sea. Faced with this uncertain situation the Board decided that more should be done to encourage anglers to release fish, especially spring salmon. Therefore the Board strengthened its conservation guidance for 2008. Anglers had previously been requested to release their first spring salmon and alternate fish thereafter. A running tally could be kept which was transferable between beats and days. However, this left significant latitude for fish to be killed, so the code was strengthened so that the first fish caught on each individual day had to be released. Anglers would no longer be able to transfer across beats and days. A springer could only be killed should an angler be lucky enough to catch at least two fish in one day.

It was also felt that the code had been too ambiguous in the latter half of the season and this was also strengthened. It was agreed that after 1 June all female salmon and all male salmon over 15 pounds should be released. Effectively only male grilse should be kept and even then anglers were requested to release 50% of what was caught. As it was felt that deep-hooking was incompatible with catch and release it was decided to ban worming in September and October throughout the district as opposed to just the headwaters.

Previously the catch and release code had also been presented as recommendations to anglers but for 2008 Proprietors were asked to make it a mandatory condition of let, which many did. In the event anglers generally did adhere to the strengthened code in the spring. While some beats have practiced almost complete catch and release in spring for some years, there was generally a great improvement (see Table 1), although there were a few exceptions. Although autumn catch figures have yet to be fully collated it is suspected that catch and release rates will have increased, but not by as much as in the spring.

The great improvement in catch and release rates in 2008 should take the Tay up to the equivalent level of the other major rivers. Even in 2007, the last year for which national figures are available, the Tay still had a relatively low catch and release rate (Figure 1).

Year	Number released	Number killed	Total caught	% released
1998	41	540	581	7
1999	108	831	939	12
2000	193	637	830	23
2001	415	739	1154	36
2002	271	524	795	34
2003	199	281	480	42
2004	301	684	985	31
2005	446	669	1115	40
2006	739	854	1593	46
2007	349	339	688	51
2008	739	235	974	76

Table 1. Numbers and percentage of rod-caught salmon released and killed before 30 April within the Tay District from official returns to the Scottish Government (1998-2007) and directly to TDFSB (2008).

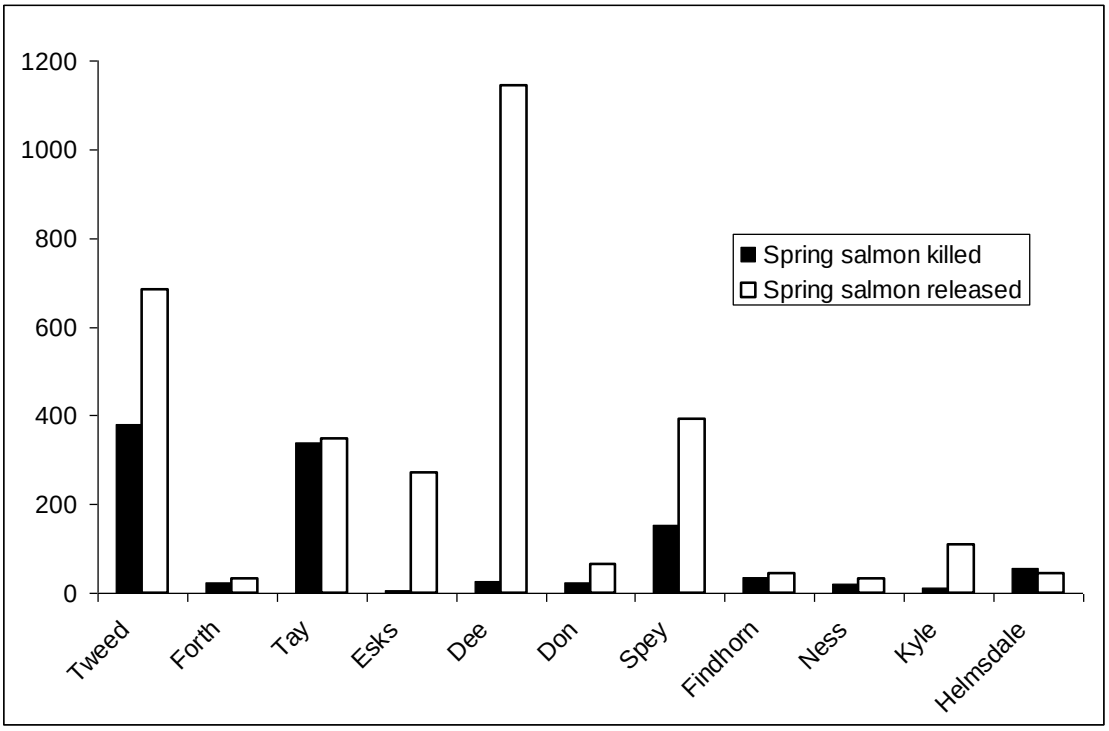


Figure 1. Numbers of salmon killed and released by anglers to the end of April 2007 on Scotland's major spring salmon rivers. Data from Fisheries Research Services Statistical Bulletin.

In previous years catch and release rates tended to be highest in January and February but fell off rapidly after that. But in 2008 a high release rate was maintained at least right to the end of May (Figure 2).

In terms of location, the greatest overall catches in spring 2008 were made in the lower Tay (Figure 3). The biggest catches were generally skewed towards the latter end of the spring except for Loch Tay where catches peaked in March. There was also some variation in catch and release rates. The middle and lower Tay, the Earn and the Isla declaring the highest rates but Loch Tay lagged behind (Figure 4).

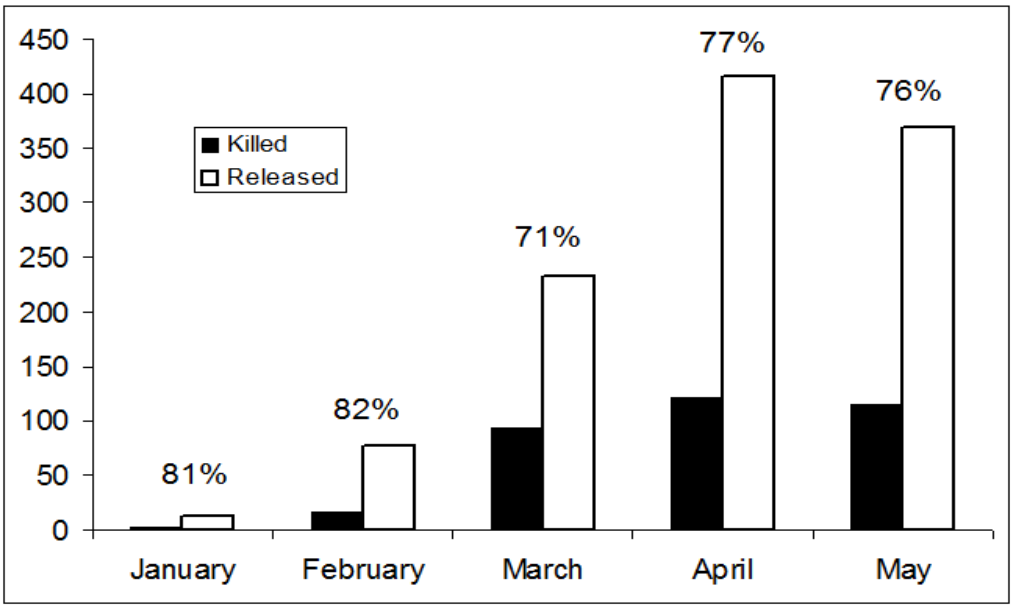


Figure 2. Numbers of salmon killed and released and percentage released according to month, Tay district, spring 2008.

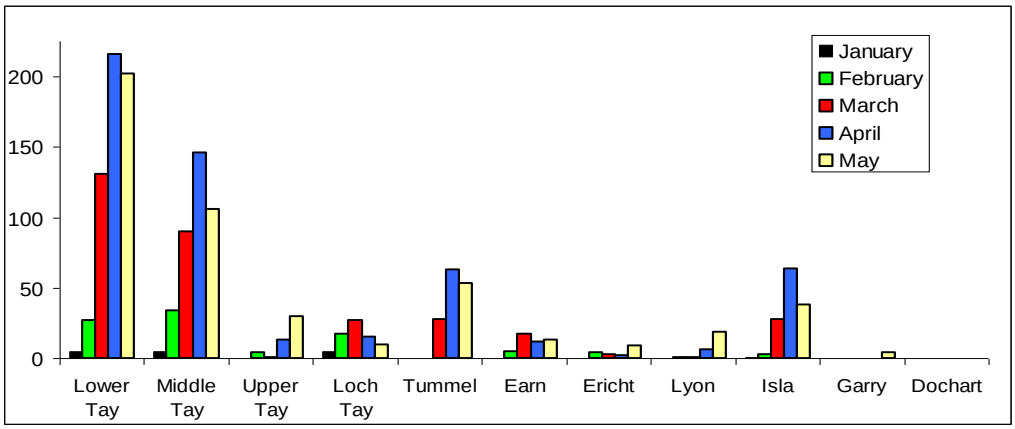


Figure 3. Distribution of catches (both killed and released fish) according to parts of the district, spring 2008. (From data collected by TDSFB)

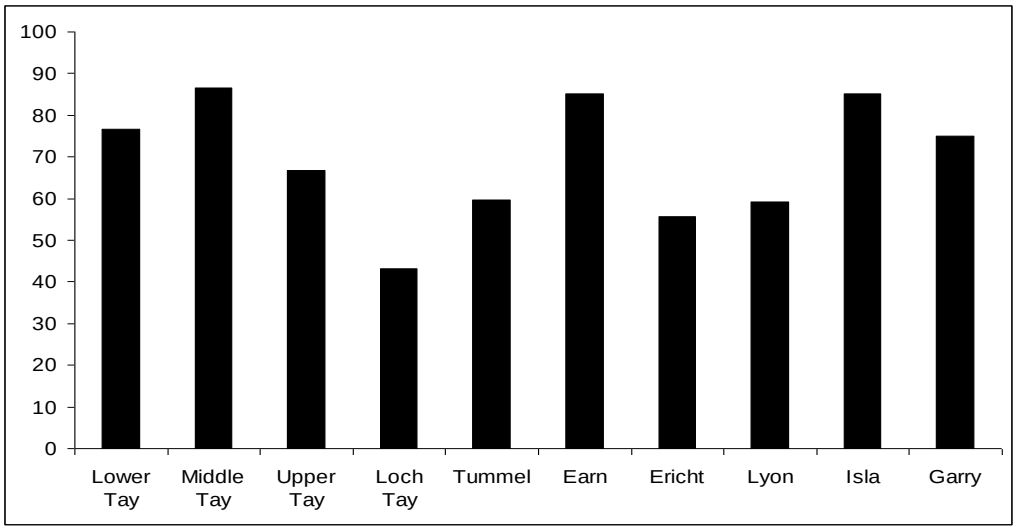


Figure 4. Percentages of salmon released January-May 2008 according to area within the Tay district. (From data collected by TDSFB).

Sea trout conservation

Historically sea trout have never been that numerous in the Tay itself but the River Earn and to some extent the River Eden have been very productive sea trout rivers in the recent past. Sea trout catches have been declining for many years (Fig. 5). In fact the decline might be worse than suggested by official returns as it is suspected that many coloured sea trout released in autumn may now be reported while in the past these may not have been recorded. While reported catches were somewhat better in 2007 the 2008 season appears to have been poor. This problem is not unique to the Earn, it has also occurred on other traditionally good sea trout rivers in north east Scotland, e.g. the South Esk, Ythan, Deveron and Spey.

A major cause of the decline in sea trout almost certainly lies at sea. As there is now very little commercial netting of sea trout the cause must be poor survival, as is the case with salmon. It seems too much of a coincidence for this not to be related to the collapse of stocks of small pelagic fish species such as sandeels and sprats and the related collapse in sea bird breeding success. While industrial fishing has been a significant contributor to this problem it now seems widely accepted that climate related changes to the North Sea ecosystem have had a profound effect in the last few years.

Given this unfortunate situation the Board has decided to recommend that all sea trout caught in the Tay district should be released.

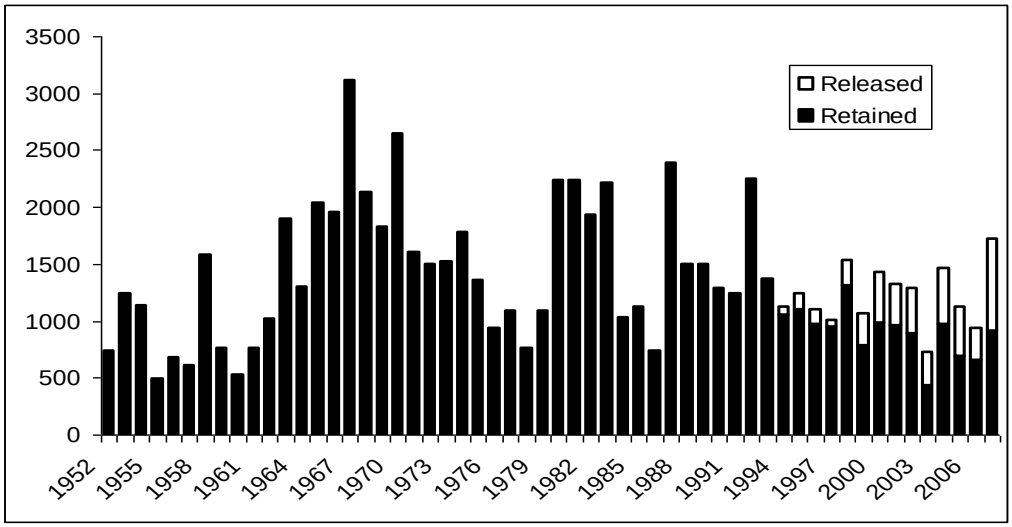


Figure 5. Tay District rod & line catch of sea trout, 1952 – 2007. (Data kindly supplied by Fisheries Research Services)

Grilse condition

Scottish summer grilse runs do not appear to have been particularly strong in 2008, in fact it seems to have been the weakest run for several years. The run was again late, peaking in August rather than July. There were reports of some very small grilse and some very thin grilse and some grilse and salmon with red vents, but the incidence of all these appears to have been lower than in some years, especially 2006. However, the fact that grilse now appear to be in better condition does not necessarily mean that this problem has gone away. Professor Chris Todd from St Andrews University has pointed out that it may just be that in years of poorer numbers more of the really thin ones may just have died at sea.

Enforcement

2008 was not a bad year for poaching, partly because conditions were often not conducive for it. However, some problems did occur, especially in the Blairgowrie area. Reports were sent to the Procurator Fiscal concerning two incidents. In one of the cases the accused received a warning from the Procurator Fiscal and the other is still pending.

Unfortunately proceedings were not taken in three cases which were submitted to the Procurator Fiscal in 2007. It is a matter of great disappointment when Board staff and the Police go to considerable efforts to try to secure convictions only to find that the Procurator Fiscal does not deem the cases sufficiently important to pursue.

However, the Board is once again indebted to Tayside Police, especially Alan Stewart, Wildlife Liaison Officer, who has reported all cases on the Board's behalf and has given much help to Board staff. 2008 saw much good cooperation with the Police and it is hoped this will continue.

Gyrodactylus salaris

At the Ghillies Lunch on the 7th of January Charles Allan from the FRS Marine Laboratory in Aberdeen gave a presentation on the threat posed by the *Gyrodactylus* parasite. Mr Allan had visited Norway to see *Gyrodactylus* eradication policies at first hand. It was abundantly clear that this parasite must never come into the UK. There is a risk that anglers could transfer *Gyrodactylus* from Norway or any country adjacent to the Baltic Sea, but since the precautions are relatively simple and all beats should enforce these on anglers which have come from abroad, or as matter of good practice any angler coming from a different river in case *Gyrodactylus* was already in the country.

- Clothing and tackle should be thoroughly dried.
- Damp equipment such as reels could be put in the freezer for 24 hours.
- Particular attention should be paid to boots (especially felt soles), landing nets, lines etc. They could be dipped in a solution of disinfectant (e.g. Virkon) but it has a tendency to dye things pink. The simplest treatment is a 10 minute immersion in a 3% solution (3 grammes to each litre of water) of salt which anyone can make up. This can easily be provided at beats in tubs for disinfecting boots, nets etc, but a sealed tube containing the salty water is necessary for treating rods.

Health and Safety at Work

Health and Safety at work is a major consideration for the Board. The Board's staff are frequently required to work in situations where potential hazards are present. Therefore the Board is insistent that Health and Safety provision is of the highest standard. Accordingly, the Board has a Health and Safety policy which is reviewed periodically by an external consultant. No reportable accidents occurred in 2008.

Staff changes

There were several staff changes in 2008. Dr Kjersti Birkeland the biologist and Derek Gregor both left the Board's employment. Dr Birkeland took up a newly created post as a fish biologist with SEPA. A temporary bailiff, Mark Thorne, was recruited for the summer and a

former board member, Murray Smith was recruited as office manager. Murray Smith recently retired as the factor at Dupplin Estate and brings good administrative skills to the Board which should free up more time for the Fisheries Director to be employed in project development and implementation work.

Removal of obstructions

Probably the most cost-effective method of enhancing migratory fish populations is to expand their range by removing obstructions to migration, where these occur. Thus, a one-off action can produce a self-sustaining salmon population for ever more. Therefore the Board has been identifying man made obstructions, such as weirs, and has been seeking to progressively remove these. Progress has been made on the following obstructions in 2008.

Coupar Burn (River Isla)
A passage has been opened in an otherwise insurmountable weir on the Coupar Burn at Keithick. A sluice is being installed which will be opened during the spawning period to permit fish passage. The cost of this work has partly been met by fundraising by the Tay Ghillies Association. SEPA have also offered funding from a new river restoration fund which has been set up to help achieve Water Framework Directive objectives.

Dall Burn (Rannoch)
A weir which used to divert water to an old hydro station at the former Rannoch School site is totally impassable to salmon. SEPA have provided funding for the Board to contract an engineering consultant to design a fish pass. It is hoped that further funds can then be secured from SEPA to install the fish pass.

Urlar Burn
Permission has been obtained to demolish and remove a derelict weir on the Urlar Burn near Aberfeldy which will be completed as soon as contractors find a suitable weather window.

Dowie Burn logjams
The mouth of the Dowie Burn, which enters the Tay just upstream of Meikleour, was blocked by two substantial jams of branches which had backed up from the River Tay. As this stream is part of an SSSI permission was obtained from SNH and the log jams were removed during the summer by the Board's bailiff staff.

Kelt reconditioning

The kelt reconditioning project is a collaborative project between Fisheries Research Services and the Board which has been running for well over ten years. Spring salmon caught in headwater spawning areas by Board staff are kept in captivity at the FRS experimental fish farm at Almondbank and are successfully fed on to spawn in subsequent years. This facility produces up to 750,000 eggs from spring females which would otherwise have died. 2007 / 08 was the best year yet as a result of continued improvements in husbandry techniques which have been developed since the ban of the fungicide malachite green. It is a most valuable facility.

Hatchery report

2007 / 08 proved to be a very good year for the operation of the hatchery. A new hatchery manager, Lee Fisher, was appointed and he brought considerable energy to the job. The late autumn and early winter of 2007 was also extremely dry with a drought persisting right to Christmas time. This meant that conditions for catching broodstock were better than usual, although the lack of water also meant that salmon were unable to penetrate some of the usual tributaries to spawn. Thus in 2007 the hatchery had a particularly important role in stocking some areas where fish would normally spawn but simply could not.

It was estimated that nearly 3 million eggs were obtained, from electrofishing / electronetting in the headwaters, angling in larger watercourses (e.g. Tay and Earn) and the Fisheries Research Services kelt reconditioning project. Some losses inevitably occur during incubation, but these were less than 10%. The estimated numbers actually stocked out after losses are provided in Table 2. For logistical reasons over half were stocked out as eyed ova in February / March and the remainder as unfed fry in May. Eyed ova are stocked into the cleanest stony tributaries and fry are stocked into those streams which have the highest silt loads where eggs may be suffocated or in the highest tributaries which are inaccessible in winter.

It is the Board's policy to only stock any particular tributary with fish native to that tributary or in exceptional circumstances (e.g. where there are no native fish) with fish from a nearby similar tributary. After stripping eggs from different tributaries are kept separate in individually identifiable trays right through to stocking out. However, the Board is in the process of reviewing its hatchery policy to ensure best and most effective practice is being observed.

River Tilt (mainstem, Lochain Burn, Tarf Water, Fealar Burn, Glen More Burn)	345,000
River Lyon (including Innerwick, Milton, Camusvrachan and Invervar burns)	265,000
River Garry (main river up to Dalnamein Lodge and Banvie Burn)	375,000
Errochty Water	240,000
River Lochay (Corrycharmaig to Kenknock)	100,000
River Dochart (including Cononish, Allt Essan, Clifton Burn and Auchreoch Burn)	185,000
River Earn (including Turret / Shaggie Burn, Machany Water, Ruchill Water, Strathaglen Burn	380,000
River Almond (headwaters)	245,000
River Braan	145,000
Keithick Burn	80,000
Tay tributaries (Kindallachan Burn, Tulliemet Burn, Derculich Burn, Dowally Burn, Inchewan Burn, Balnaguard Burn, Dowie Burn)	330,000
Total	**2,690,000**

Table 2. Estimated numbers of eyed ova / unfed fry stocked out into respective tributaries in the spring of 2008.

During the unprecedented winter drought in November / December 2007 the River Almond became so low that flow into the hatchery was in danger of being restricted. In case such conditions occur again a new pipeline has been installed so that the water supply is now

obtained from a deep area which does not dry out. The work was conducted almost entirely by Lee Fisher and the bailiff team. This has included trench excavation, laying of the pipe and road restoration. We are fortunate in now having a team with a diverse range of skills.





Two of the bailiffs were previously employed in the construction industry and have brought very useful skills to the team

Lochay Smolt tracking

Board staff assisted staff from the Game and Wildlife Conservation Trust who conducted a radio tracking project on salmon smolts in the lower River Lochay for the Tay Foundation. The purpose of the experiment was to investigate whether the tailrace discharge from Lochay Power Station affects smolt migration. In May 19 radio tagged salmon smolts were released 2 km upstream of the power station and followed for several weeks.

The smolts' behaviour proved most interesting. Most sat for several days just upstream of the release site until they suddenly decided to move. Migration would typically commence in the late evening or after dark and they would normally move for a mile or so and then settle in a deep pool where they might stay for a day or two before repeating the process. The flow during this period had become very low and unfortunately the power station ceased operating at night when the smolts were passing. Several of the smolts failed to move even after two weeks, although they were still alive.

Although the experiment did not achieve all its aims valuable lessons were learned about a novel technique which could have wider applications in the district. A report is being produced.

New hydro stations

Fuelled by the Renewables Obligation (Scotland) interest in new run-of-river hydro stations continues to mushroom. Permission was granted for three new schemes in Tayside but at least another 12 are within the planning system and perhaps as many again are being investigated. So far these schemes have generally been sited on modest sized steep tributaries and rely on a high head to generate sufficient energy from the modest flows available. Most of these proposals will have little impact on salmon as the areas affected are generally above impassable waterfalls, although in some cases flows will be reduced in stretches which salmon do use. In particular interest has once again been shown in installing a hydro scheme on the Ericht at Blairgowrie, where there could be serious repercussions for

migratory fish. By the way things are moving it is feared that more schemes on important salmon rivers will ultimately be proposed. Consideration of the potential effects of such schemes has become a significant time burden on Board staff.

Upper Tay Rafting

Despite an agreement now being in place for two rafting-free days during the week and a promise to reduce upper Tay rafting on Saturdays during peak fishing times, upper Tay owners still report a great reluctance by anglers to fish beats in the Aberfeldy to Grandtully area especially. It is practically impossible to let these beats, a situation which has become wholly inequitable. Unless as a minimum three consecutive raft-free days are provided (say Monday-Wednesday) it is felt there can be no chance of restoring the fisheries. The Board fully supports all efforts to restore a more equitable solution and will assist in any way possible.

Blairgowrie fish farm abstraction

Water is diverted from the River Ericht into a lade at the "Brig o' Blair" in order to feed a fish farm. After passing through the farm the water is eventually returned to the Ericht two miles downstream. During dry summers this fish farm can abstract the greater part of the flow of the Ericht, and the flow in the two mile stretch is greatly diminished. To make matters worse the Blairgowrie sewage treatment works discharges into this stretch, and on occasion the sewage works can contribute as much as 20% of the flow at the point of entry with unsightly consequences.

Under these conditions the upstream and downstream movement of adult salmon is practically impossible, a significant amount of juvenile salmon habitat is lost and young fish are packed into shrunken pools where they are vulnerable to predation and other effects. It is an unacceptable situation.

The EU Water Framework Directive provides a vehicle whereby such inappropriate abstractions can be remedied. However, it became clear that a review of this activity was not an immediate priority for SEPA. Therefore the Anglers Conservation Association took up the case on instruction from Blairgowrie and Rattray District Angling Association and the Board and threatened the operators with legal action. As a consequence of this pressure SEPA have agreed to conduct a review during the 2008 / 09 financial year. The operators seem aware that their abstraction will have to be reduced and have told the Board they are actively considering methods to reduce abstraction, for example by incorporating partial water recirculation. The outcome of SEPA's review are awaited.

Fisheries Management Planning

During the 2007 / 08 financial year fishery trusts throughout Scotland were contracted to the Scottish Government to collate information which would be required to inform a management plan for each fishery district. Tay Board staff performed this work on behalf of the Tay Foundation. A further contract was issued in the summer of 2008 by the Scottish Government to Rivers and Fishery Trusts of Scotland (RAFTS – an umbrella organization representing all fishery trusts) to produce fishery management plans for each district by the end of 2008. Board staff are in the process of completing this work for the Tay Foundation.

Tay Area Management Plan

The EU Water Framework Directive requires EU member states to produce a plan every six years of actions to improve the water environment. The first of these plans has to be completed in 2009 by SEPA. The part relevant to the Tay, the Tay Area Management Plan is due to be issued by SEPA as a consultation document in December 2008. Through the Fisheries Director's membership of SEPA's Tay Area Advisory Group the Board has had some input into the formation of this plan. The plan does not cover fisheries *per se* but as it concerns the general water environment it will be of great importance to fisheries as it will dictate SEPA's priorities in the coming years.

Overabstraction at Drummond Trout Farm

Drummond Trout Farm abstracts water from the River Earn upstream of Comrie. As at Blairgowrie, water is diverted into a lade with a weir. Operating on the basis of information received, in May the Bailiff team observed that a wooden board was blocking the fish pass in the weir and this had the effect of causing more water to be diverted into the lade. The bywash within the lade was also effectively blocked (see below) such that smolt passage was not possible. A representative of the new operators, Scottrout, has given an assurance that this practice will never happen again.



The lade which abstracts water into Drummond Fish Farm is provided with a bywash whereby smolts which have been deflected by the bar screens in the foreground are meant to find free passage downstream. However, when this visit was made the water flowed through gaps in loose fitting boards and there was no flow over the top. No smolt passage was possible therefore.

Habitat project development with Scottish Native Woods

Scottish Native Woods in Aberfeldy were contracted to develop a series of sub-catchment habitat projects following on from their Western Catchments Project survey. Three sub-catchments were taken on the Dall Burn (South Rannoch), the Lunan Burn (Butterstone/ Blairgowrie) and the Ruthven Water (Auchterarder).

On the Dall Burn the Forestry Commission have plans to de-forest a huge area of lodgepole pine from a wetland site, and restoring a more natural open bog environment which will improve the natural hydrology of this area to the benefit of fish. The Board will help FCS strengthen their arguments for carrying out this work, and to help them unlock the funds they will need to do this. On the Lunan Burn there is scope for 2 or 3 discrete projects in the upper catchment involving removal of non-native trees from within a woodland SSSI, which should be 100% funded through the new grant schemes and reduce shading on the Buckny Burn, to the advantage of any salmon re-stocked there. The other will involve an Errochty Water- type demonstration with the Forestry Commission, hopefully developing a cost-effective solution to removing shading, and finding better local outlets for the woodland produce, e.g. charcoal. If this is successful then this is an approach that could be used to good effect elsewhere on Tayside. The Ruthven Water catchment is inundated with invasive species, probably 30,000 sq metres. There is an urgent need for a sub-catchment invasive species control programme here, and opportunity could be taken to forward a series of small scale environmental projects in and around Auchterarder, perhaps involving local schools and using the Ruthven Water as an educational resource.

Fishtay / fishscotland website

2008 was the fifth year of operation of the **www.fishtay.co.uk** website, but there were fundamental changes in how the website is administered. Previously the Board paid a substantial franchise fee to Fishscotland Ltd which was necessary to cover the costs of Fishscotland's back up team and call centre. However, in 2008 the Board negotiated a reduced franchise fee and in return Fishscotland agreed to take a 10% commission fee on all online bookings (the Board itself had taken this in 2007) plus the proceeds of any advertising. Thus those owners who benefit financially from the site are paying a greater share of its upkeep.

2008 saw considerable further growth in use of the site. Online bookings increased from £114,780 in 2007 to £143,010 in 2008. For an increasing number of beats this is proving to be an invaluable service but as mentioned in last year's *Annual Report* there is considerable variation in the amount of lets beats obtain through fishtay, but there seem to be a number of factors which contribute to success. It is worth reiterating them again.

- Reporting catches is essential. Those beats which report catches on a daily basis do get the anglers' attention. Even if the beat is not performing too well it is better to report your catches than to never report at all.
- Have a realistic pricing policy. Fishtay introduces a transparency on pricing and beats which charge more for a similar product at a given time of year do less well. Check out what your competitors are charging. The website tends to do a lot of business in the early spring when daily prices are low but there can be a marked downturn in late spring in both the number of bookings and total value. Many beats have a lot of availability at this time, but there seems to be a tendency to increase prices as spring advances, although catches on many beats do not actually increase in May. Fishtay users also have the choice of other rivers coming under the Fishscotland website umbrella, so they do shop around.
- Beats which do display rod availability but insist on "no online booking", receive far less attention than those who do. There can be a lot of fishing for website users to choose from, so don't make it unnecessarily difficult for them.

Media and Public Relations

The Board has recognized that in recent years the profile of the River Tay and its valuable fisheries has not been as high as it should be. Therefore a PR agent, Andrew Graham Stewart has been contracted to help increase publicity. Over the course of the year good coverage was obtained in the local and national press and television on issues such as the catch and release policy and its success, the increase in large salmon and abstraction on the River Ericht. Board staff have also been involved with items on BBC TV's *The One Show*, a forthcoming series on Britain's top 40 wildlife spectacles, a forthcoming gaelic angling series and a series on rivers which stars Griff Rhys Jones.



Griff Rhys Jones assists the Bailiff team in catching hatchery broodstock on the River Garry for a forthcoming BBC TV series on Britain's rivers.

Out of season fishing

During the month after the end of the angling season in 2005, 2006 and 2007 a licence was obtained from the Scottish Government to fish selected beats on an experimental basis. The results for 2005 and 2006 have been published in previous *Annual Reports*. 2007 proved to be a particularly poor year as flows were very low in early November and few fish, let alone fresh fish were caught on the experimental beats. As a general synopsis the three years of fishing there were significant numbers of fresh fish at the very bottom of the system but elsewhere fish were generally colouring or well coloured. It was decided therefore that the experiment should not continue in 2008.

Salmon in the classroom

In 2008 the Board again contributed to the Salmon in the Classroom project, an initiative which also involves Scottish Natural Heritage, the Esk Board, Perth and Kinross Council Ranger Services, Angus Council Ranger Services, Atholl Estates Ranger Services and Scottish and Southern Energy. It is intended to raise awareness of the river environment and salmon in particular among school children in the locality.

In 2008 Dunkeld, Kinloch Rannoch, Arbirlot, Killin, Seaview (Monifieth), Milnathort and Cleish primary schools participated in the project. The Board supplied each with approximately 50 eyed salmon eggs from the hatchery (Milnathort and Cleish used trout from Loch Leven) and these were kept in the schools in small tanks in small clear fronted fridges (wine chillers) to keep them at approximately 4 degrees. These were generously donated by Mr John Apthorp. On hatching the fry were released into local streams and Fisheries Board staff later electrofished the streams to show the pupils how the fish had survived. The schools also visited the Fisheries Research Services hatchery at Almondbank which has always proved highly popular.

A notable discovery was made on the Elliot Water near Arbroath which children from Arbirlot school had stocked with salmon alevins, although salmon had not been recorded there before. On electrofishing in June a one year old salmon parr was caught which could not have been stocked. So it seems that Scotland has a new salmon river!

New Office Planned

Currently the Board's rudimentary office is situated within the hatchery building and lacks the necessary space to operate efficiently and store records etc. Therefore the Board has agreed that an extension be added to the hatchery building to house a more modern office. This is still at the stage of getting the relevant permissions.

TAY SALMON CONSERVATION AWARD

The Tay Salmon Conservation Award for 2008 was made to one of the River Tay's staunchest supporters – John Apthorp. Mr Apthorp has been a major benefactor to the Tay Ghillies Association and the Tay Foundation for a number of years. In particular John Apthorp's most generous support has been fundamental in enabling the development of a state of the art salmon hatchery with its capacity of three million eggs. He has also contributed substantially to other initiatives such as the buyout of the Northumbrian drift net fishery. The Board is delighted to be able to show its thanks in this way.

In Mr Apthorp's absence the Ballathie Trophy was received on his behalf by John Wood at the third Tay Salmon Conservation Award Dinner held at Ballathie House Hotel on the 12th of June. Attended by nearly 100 guests this was another successful and enjoyable evening where £4,500 was raised in donations to the Tay Foundation. A presentation was also made to Richard Blake, the Board's former clerk, in recognition of many years of service. Magnus Linklater rounded off the evening with an entertaining and thought provoking speech.



The 2008 Tay Salmon Conservation Award was made to John Apthorp whose generosity to the River Tay has been invaluable in recent years.



In John Apthorp's absence, the Ballathie Trophy was received on his behalf by fellow Board member, John Wood. The presentation was made by Mrs Penny Scott. Guest speaker, Magnus Linklater, looks on.

CONSERVATION OF ATLANTIC SALMON IN SCOTLAND: ERROCHTY WATER COPPICING PROJECT

The Errochty Water is an important spring salmon tributary, joining the River Garry near the House of Bruar. Its upper reaches were dammed as part of the Tummel–Garry hydro scheme and it receives a compensation flow from Errochty Dam. As the compensation water is drawn from the bottom of the dam the water temperature is on average lower than it would naturally be in spring and early summer. Furthermore a dense stand of alders has grown up along both banks which creates dense summer shade along its entire 10 km length. This shading increases the time taken for the water to warm up in summer and therefore reinforces the effect of the dam. Dense shading by trees also suppresses the growth of algae which feeds the invertebrates which in turn feeds the fish.

As part of the Conservation of Atlantic Salmon in Scotland (CASS) Project – a project funded by the EU LIFE Nature Fund – trees were thinned out along four kilometres of the Errochty. The project aimed to reduce shading by over 50% by removing alternate trees and lopping low level branches where appropriate. The felling work was largely conducted by Board staff. A contractor was employed to tidy up the brushwood by chipping. The work was completed in approximately 10 weeks in the spring and must rank as the largest individual habitat improvement project Board staff have yet conducted. Further coppicing work is planned for the upper Errochty, Ordie and Lunan burns.

This project dovetails into an ongoing collaborative project on Errochty temperatures between the Board and Scottish & Southern Energy. Loggers which record the water temperature every hour are located at each break between shaded or thinned reaches.

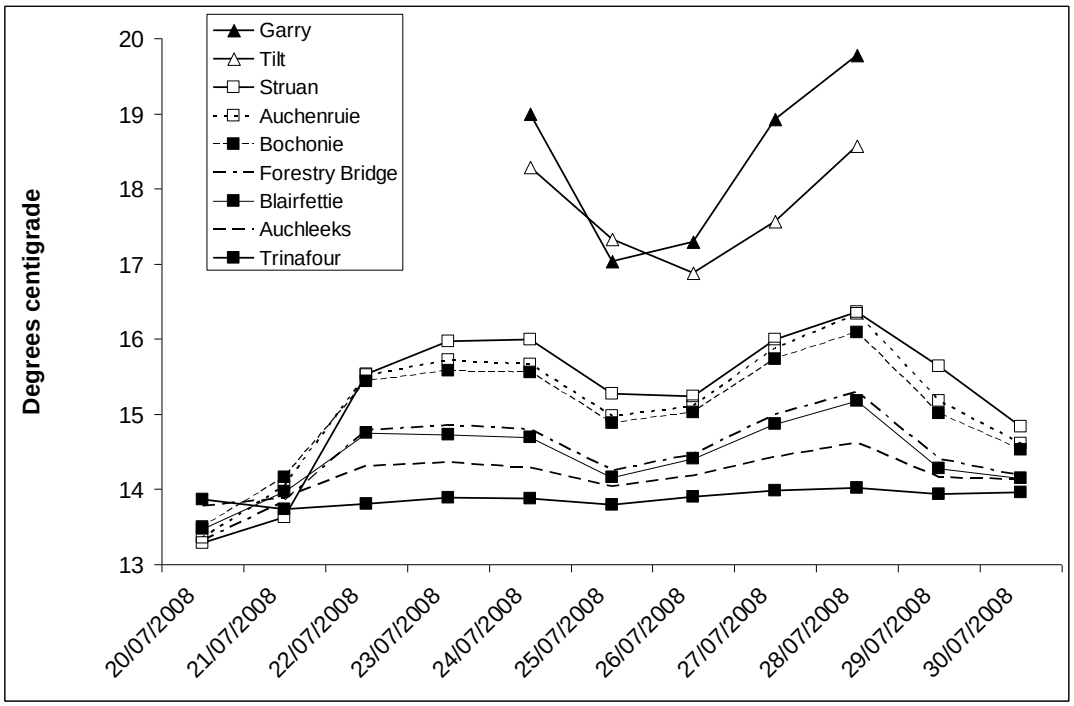


Figure 1. Average daily temperature at locations along the Errochty Water during the last week of July 2008, the warmest week of the year. Data are also presented for the River Tilt and the abstracted part of the Garry for comparison. Lines with square boxes represent sites upstream of shaded reaches and those without boxed are upstream of thinned reaches.

An illustration of the results so far is provided by Figure 1 which shows the average daily temperature at strategic locations during a very warm spell of weather at the end of July 2008. All the Errochty temperatures were markedly lower than the unshaded Tilt or the Garry, but within the Errochty there was a marked increase between the upper reaches (Trinafour) and the lower reaches (Struan) but the rate of increase was not even. Although there was a significant increase between Trinafour and Auchleeks which is a moderately shaded stretch, the majority of temperature increase did in fact occur in the two thinned blocks, Auchleeks–Blairfettie and Forestry Bridge–Bochonie.



Before….



After…..

The tree canopy along four kilometres of the Errochty Water has been opened to permit more sunlight to reach this unnaturally cold tributary of the River Garry.

RIVER GARRY FLOW RESTORATION – AN UPDATE

The 2006 *Annual Report* described how SEPA now have powers to review damaging abstractions and insist on remedial action if required. However, back in 2006 Scottish & Southern Energy effectively pre-empted this process by proposing to restore a small flow to the River Garry. This would be done on the condition that the "lost" generation would be balanced by abstracting even more water from the upper Spey. The Tay Board vehemently objected to this proposal as it believed what was on offer would not provide adequate water for salmon to ascend the river and spawn naturally, nor would all the potentially available salmon habitat be adequately re-watered. A public campaign was launched in 2007 to draw attention to the issue.

Probably as a result of the Board's opposition SEPA announced in the latter half of 2007 that it would conduct its own review of the Garry abstractions and that a new proposal would be forthcoming. The views of the Tay and Spey boards and other organizations were sought. We were told that SEPA planned to complete the review by March 2008 and move to a formal advertising process. However, 2008 has almost passed and no new proposals have materialized.

It is now understood that rather than SEPA making its own proposals, SSE will instead make a formal application to SEPA to vary their abstractions. It seems unlikely that this will occur until at least well into 2009. It is feared that one of the reasons behind this change of tack is that insufficient resources are being devoted to SEPA's new water resources function despite the new income SEPA now receives from Controlled Activities licence fees. This is most disappointing.

However, as part of the process it is understood that SSE have trialed flows in the Garry and aerial photography surveys have apparently been used to assess the extent to which the channel is wetted. Board staff happened to witness one such trial, shown in the photographs below. It is understood however that the flow released during this trial may have been over twice as high as the flow originally proposed by SSE. Whether SSE proposes to release more water than originally proposed remains to be seen. Whatever happens there will be a public consultation when the formal proposal is made.



A waterfall at Clunes Lodge, River Garry, during a period of trial flow released by SSE. Salmon would struggle to ascend the Garry at this flow. Periods of higher flow (freshets) are required if a self sustaining salmon population is to be properly restored.





A view of the River Garry during an SSE flow trial (above) and its normal state (below). The Board understands that the increase in flow at SEPA's Killiecrankie gauging station during this trial was more than twice the 499 litres per second flow originally proposed by SSE. Given the modest extent to which even this flow fills the channel the Board was correct in objecting most strongly to the original proposal. Under the original flow the river would still appear drought stricken and much of the Garry's great potential would remain unfulfilled.

FISH COUNTER RESULTS 2008

In the Tay district there are five resistivity fish counters which provide valuable information on the status of the salmon resource. Four of the counters ("Hydro Board" mark XI) are owned and operated by Scottish and Southern Energy plc at fish passes on the rivers Tummel, Lyon and Lochay and the Board is grateful to SSE for providing the data from these. A fifth counter (a "Hydro Board" mark X) is operated by the Board on the River Ericht at Blairgowrie. All these counters are located on spring salmon producing tributaries and the data so obtained are particularly important in monitoring the strength of spring runs.

Pitlochry Dam

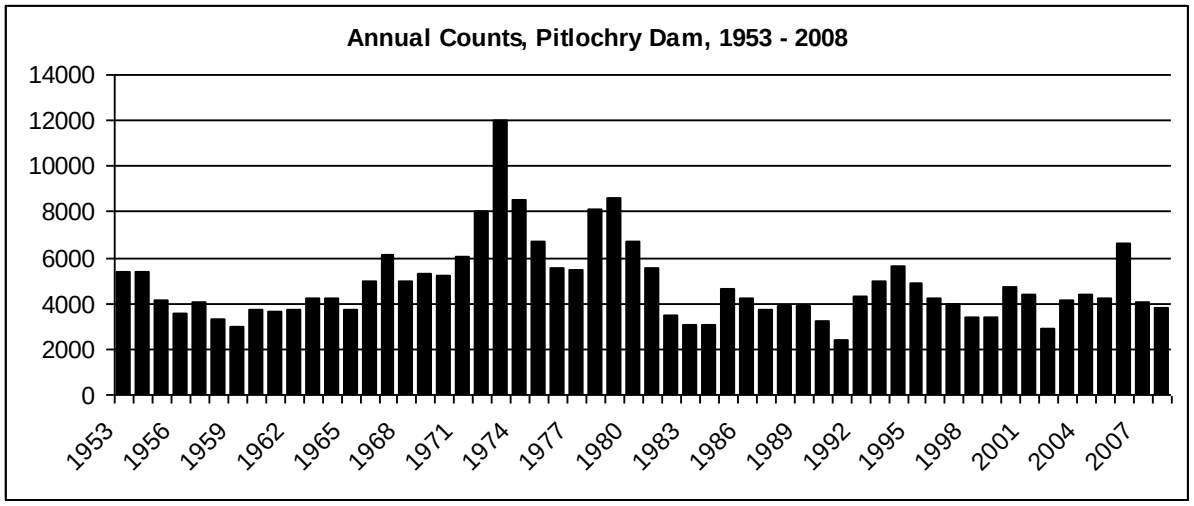


Figure 1. Annual net upstream counts (that is down counts are subtracted from up-counts on a daily basis) through Pitlochry Dam fish ladder, 1953 – 2008. (Data courtesy of SSE)

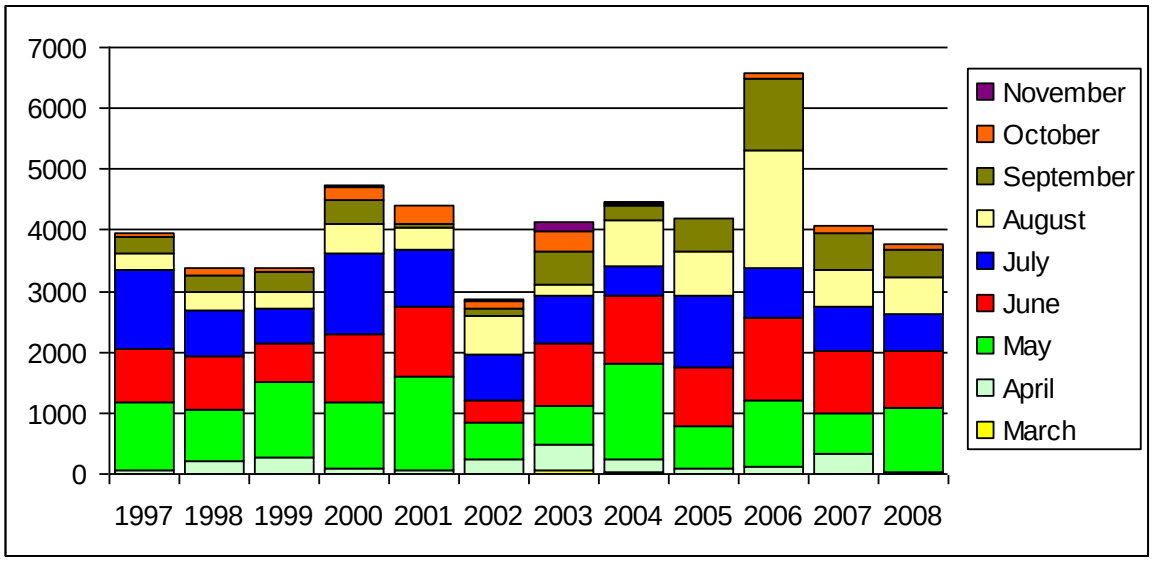


Figure 2. Monthly net upstream counts, Pitlochry Dam, 1997 to 2008

The count at Pitlochry Dam for 2008, at 3770 was a little below average for recent times. The count to the end of June, which should encompass the spring run, was also slightly below average despite spring stocks benefitting from an increased level of catch and release.

Clunie Dam

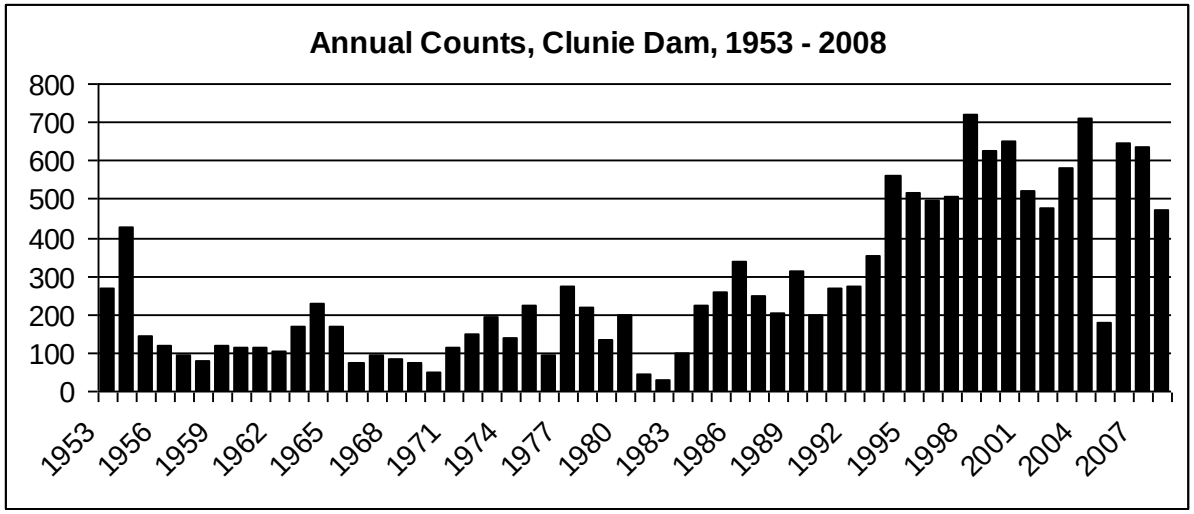


Figure 3. Net annual upstream counts through Clunie Dam fish ladder, 1953 to 2008. (Note: there was a malfunction in 2005).

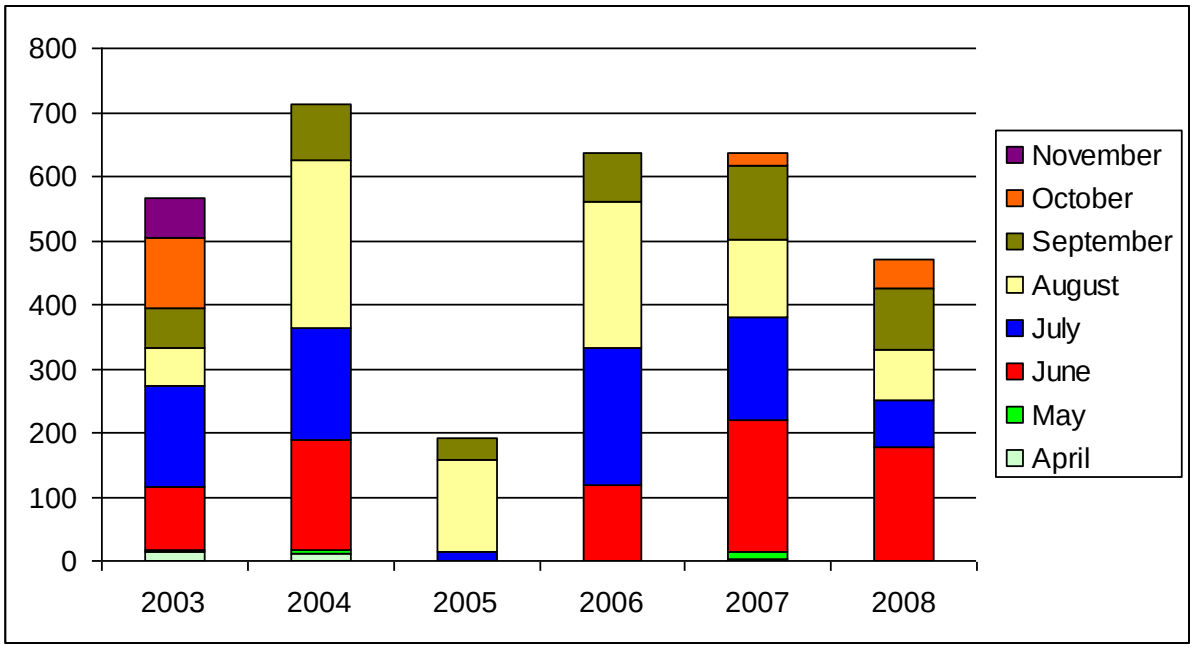


Figure 4. Monthly net upstream counts, Clunie Dam fish ladder, 2003 - 2008

In 2008 there was a fall in counts at Clunie Dam after a few years when counts have been at an historic high. The monthly breakdown shows that poorer counts in summer was the main problem, perhaps reflecting a poorer smolt run in 2007 or poorer marine survival of those returning as grilse in 2008. April and early May 2007 were also unusually dry and warm which could potentially have caused higher mortalities for smolts passing through the turbines at Clunie and Pitlochry power stations. Lower turbine loads are in fact the worst for smolts as the gaps through which they must pass are reduced in size.

Lochay Falls

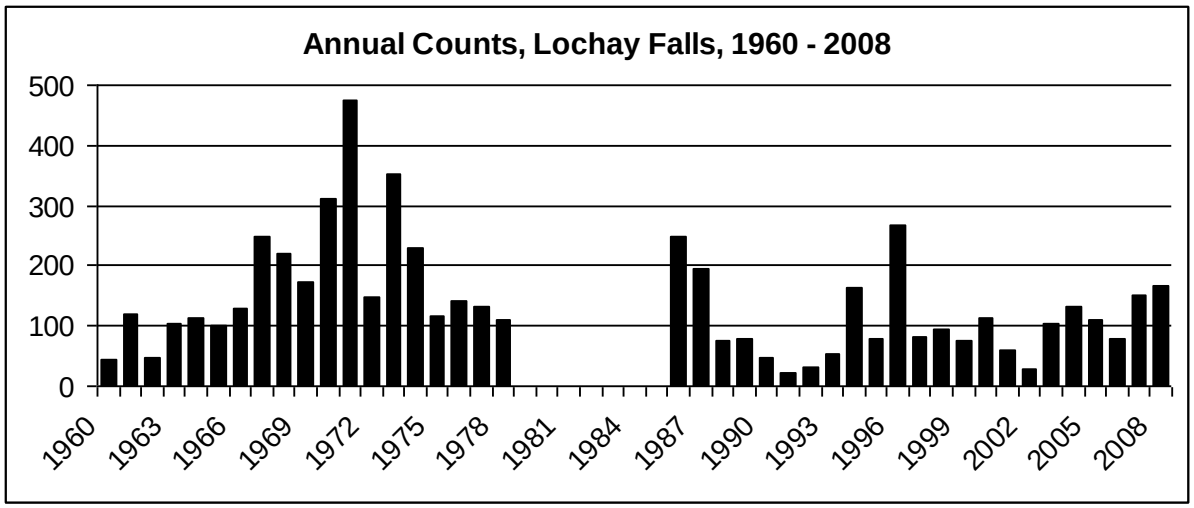


Figure 5. Net annual counts at Lochay Falls fish lift, 1960 to 2008.

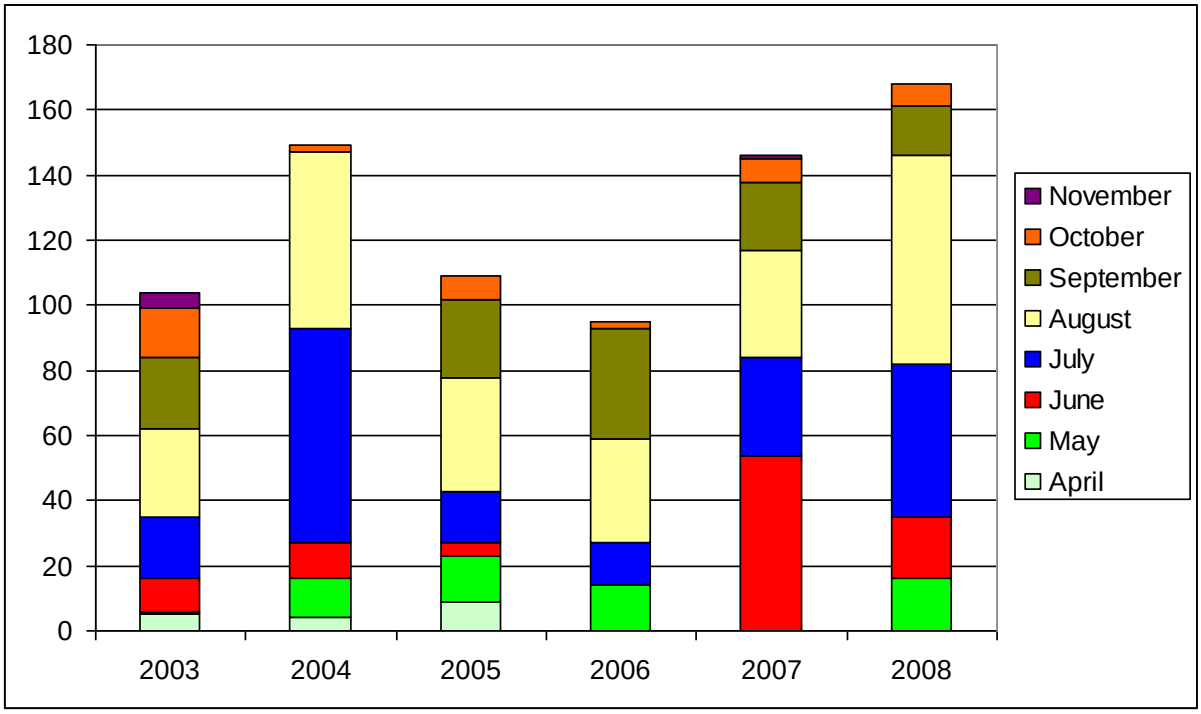


Figure 6. Net monthly upstream counts at Lochay Falls, 2003 to 2008.

The Lochay Falls are a naturally insurmountable barrier to salmon on the lower reaches of the River Lochay near Killin. As compensation for the loss of former spawning areas on the Lyon, the North of Scotland Hydro Electric Board installed a Borland fish lift to allow salmon access to the Lochay. The total count in 2008 was above the recent average, as was 2007. Hopefully this is a result of improvements to the Borland lift which Scottish & Southern Energy made in early 2007. Time will tell.

Stronuich Dam

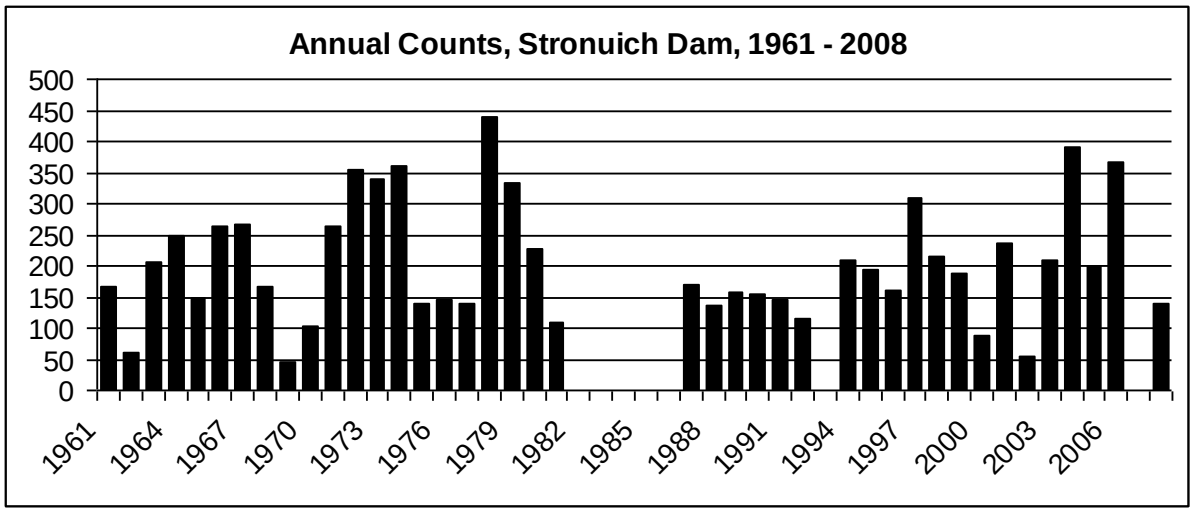


Figure 7. Net annual counts at Stronuich Dam, 1961 to 2008. (Note: there are no data for 2007).

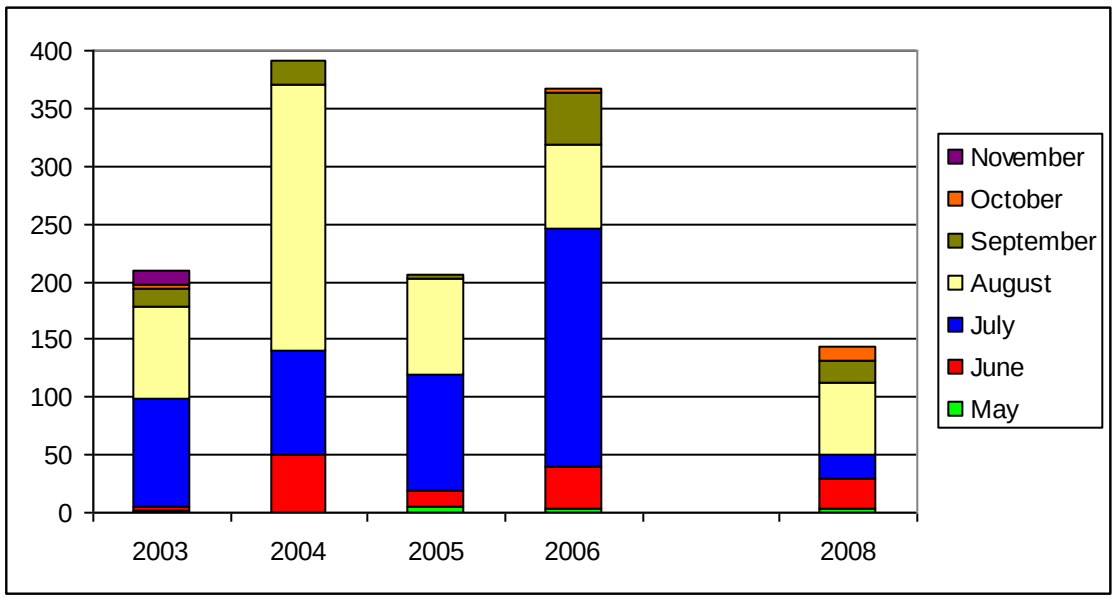


Figure 8. Net monthly upstream counts at Stronuich Dam, 2003 to 2008.

Stronuich Dam is situated on the headwaters of the River Lyon. It has a Borland lift fish pass to allow salmon access to about two miles of extra river up to the impassable Lubreoch Dam. Prior to 2007 the counter was situated on a gauging weir several hundred metres downstream from the dam and in theory not all fish counted would have actually ascended the Borland lift. In 2006 / 07 the lift was refurbished by Scottish and Southern Energy and the fish counter was reinstalled at the point where the fish exit into the reservoir upstream. Unfortunately no counts are available for 2007, but 2008 has been a much poorer year than normal, assuming most of the fish did normally ascend the pass. However, low counts in 2008 reflects poorer catches in the upper Lyon this year. Perhaps this has resulted from the low density of one year older salmon parr seen in the upper Lyon in 2005 which would be expected to have returned this summer (see page 34).

River Ericht

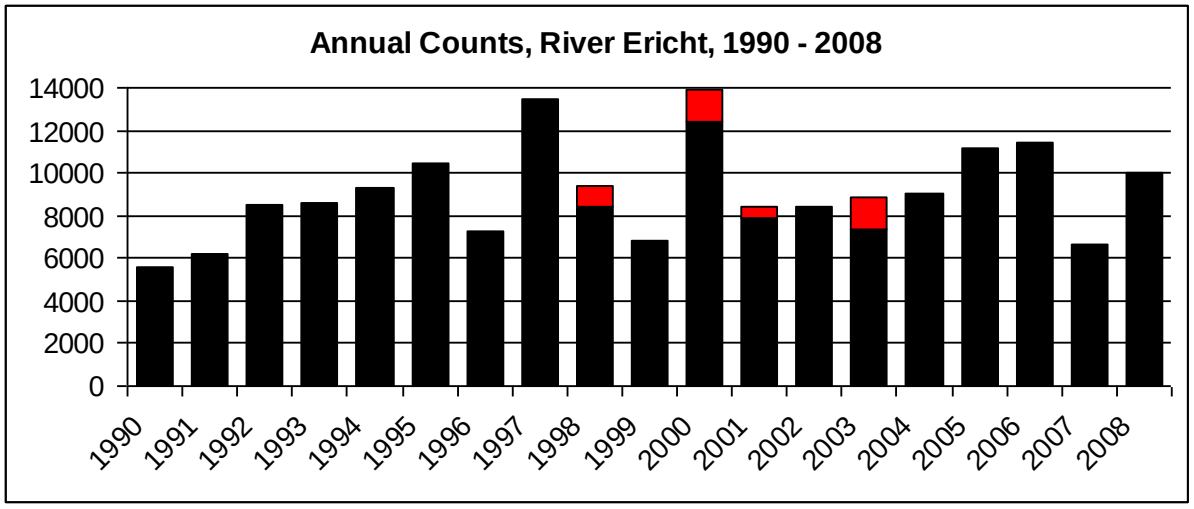


Figure 9. Annual upstream counts at the Blairgowrie fish counter, River Ericht 1990 – 2008. The red areas give indication of possible extra counts which might be added in years of malfunctions or when fish were trapped below the counter.

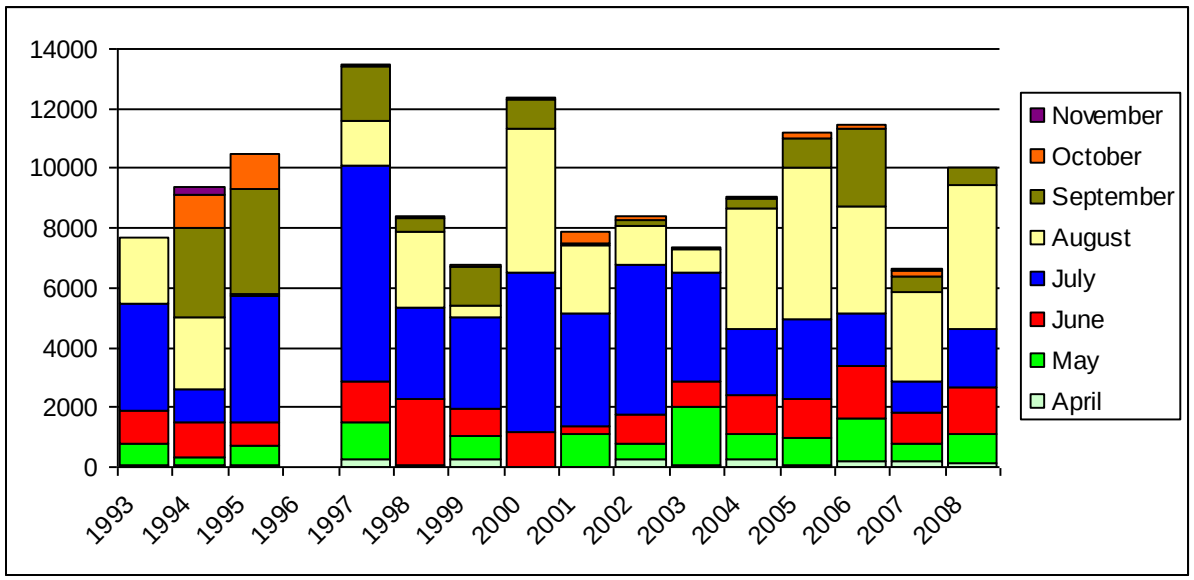


Figure 10. Monthly upstream counts at the Blairgowrie fish counter, River Ericht, 1993 to 2007. Note: data are not available for 1996 nor the springs of 1998 and 2000.

While the Tummel had a poorer year, 2008 was an above average year for the Ericht with the count just edging past 10,000. The count to the end of June, which should have included most of the spring salmon, was respectable but the main run again occurred in August. Given enough water the biggest grilse runs used to occur in July but since 2004/05 August has become the main month.

WHAT DOES ELECTROFISHING TELL US ABOUT THE HEALTH OF SALMON STOCKS?

One of the most valuable tools available for assessing the status of salmon stocks is electrofishing. By using a specially designed machine to pass a current through the water young salmon can be drawn out of the cracks and crevices where they hide. The Board's electrofishing surveys have concentrated on upper parts of the catchment where spring salmon spawn, particularly in those areas where there are thought to be problems. Three tributaries which have been a focus for interest are the upper Dochart, the upper Lochay and the upper Lyon. For some sites we now have data for 10 years and these are beginning to allow us a better understanding of the processes which regulate salmon numbers in these areas. This article presents a summary of some of this information.

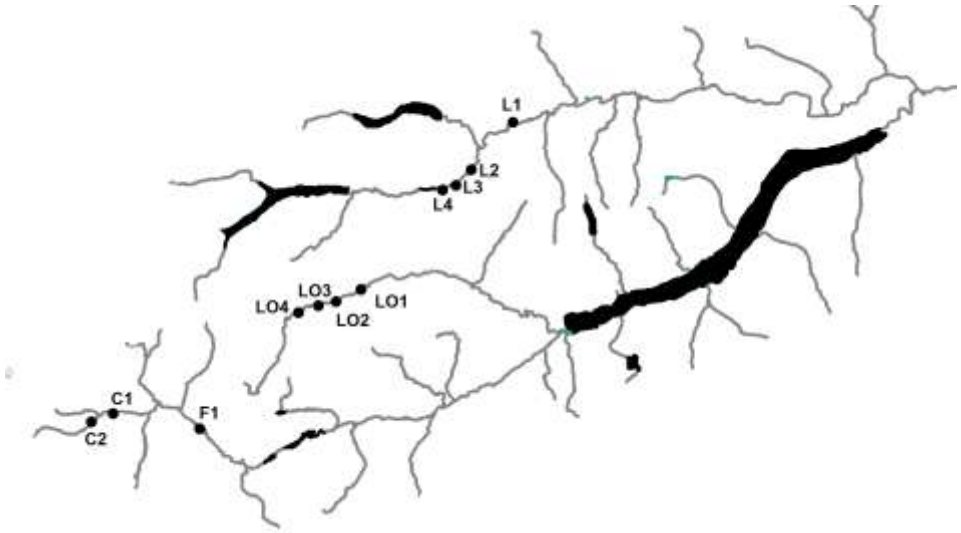


Figure 1. Electrofishing sites referred to. River Lyon: L1 – Meggernie, L2 – Kenknock, L3 – Stronuich Ford, L4 – Stronuich Dam. River Lochay: LO1 – Kenknock, LO2 – Island, LO3 – Badour, LO4 – Sheep Pen. Fillan: F1 – Kirkton. Cononish: C1 – Lower Cononish, C2 – Upper Cononish.

River Dochart

The main focus of interest in the Dochart catchment has been its upper reaches which are known as the Cononish, and the Fillan Water which the Cononish becomes known once it passes Tyndrum. This is because very low numbers of salmon have been found in the Cononish since at least the early 1990s the cause of which is still not entirely clear (see the 2006/07 *Annual Report*).

Electrofishing surveys have been conducted in autumn at three main sites on the Cononish / Fillan in recent years. In the Cononish these have been combined with stocking of unfed fry at a notional density of five per square metre which have been obtained from reconditioned kelts caught a few miles downstream in the Fillan Water.

The results show that the Fillan has consistently had a much higher density of fry than both Cononish sites (Fig. 2). There is not a long enough data set to comment on any trend in the Fillan fry data, except to say that the two higher density years coincided with drier summers. Prior to stocking almost no fry were found at the lower Cononish site but numbers have increased since stocking commenced. The upper Cononish site did not respond well to the first year's stocking but has done so in more recent years.

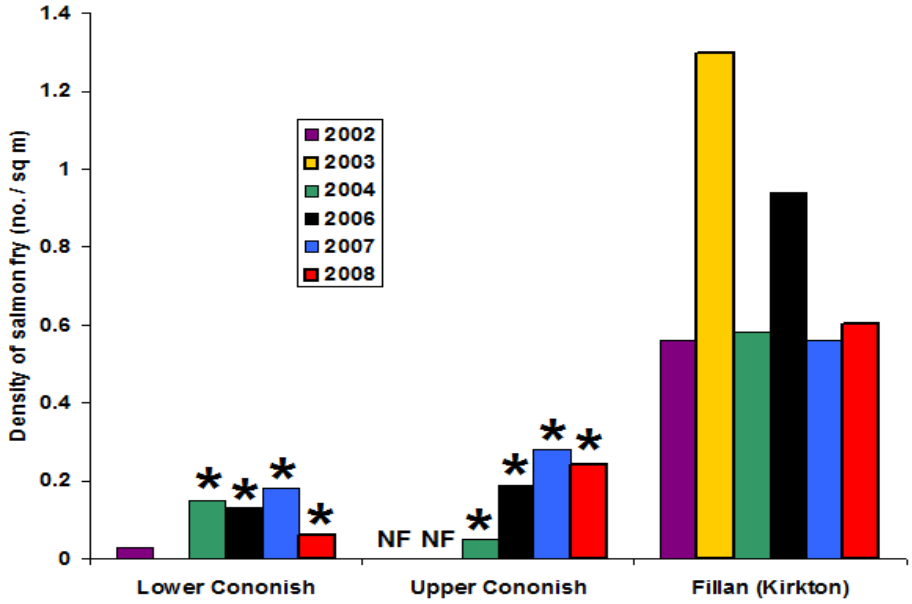


*Figure 2. Minimum densities of salmon fry caught in autumn at standard sites in the Cononish and Fillan, 2002 – 2008. (Note: there was no fishing in 2005. "NF" represents years when a particular site was not fished. *denotes years when the site was stocked with fry.)*

Densities of one year old parr also showed a marked improvement at the Cononish sites following stocking and have reached similar levels to the Fillan (Fig. 3). However, the Fillan site is shallow and is not ideal for salmon parr, so even the best parr densities in the Cononish are still lower than those found in some other rivers.

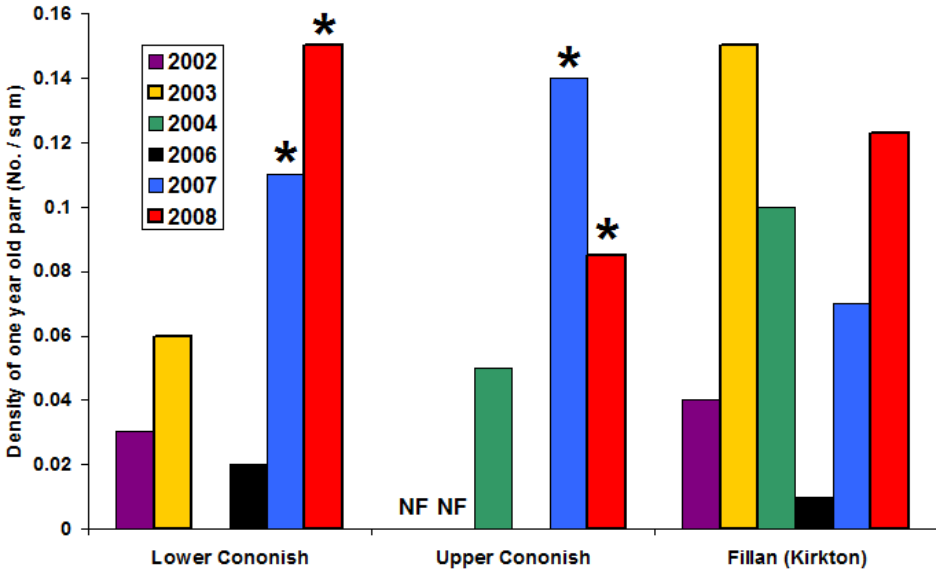


*Figure 3. Minimum densities of one year old salmon parr caught in autumn at standard sites in the Cononish and Fillan, 2002 – 2008. (Note: there was no fishing in 2005. "NF" represents years when a particular site was not fished. * years when stocked parr were present.)*

However, as stocking caused densities of fry and parr to rise in the Cononish their growth rates have decreased. This has been very marked at the upper site (Fig. 4). Prior to stocking the fry in the Cononish were exceptionally large for a highland stream reflecting a lack of competition but the smolt age will now have increased to three years from two. In contrast the naturally spawned Fillan fish have maintained a relatively high growth rate despite much higher densities and will smolt after only two years.

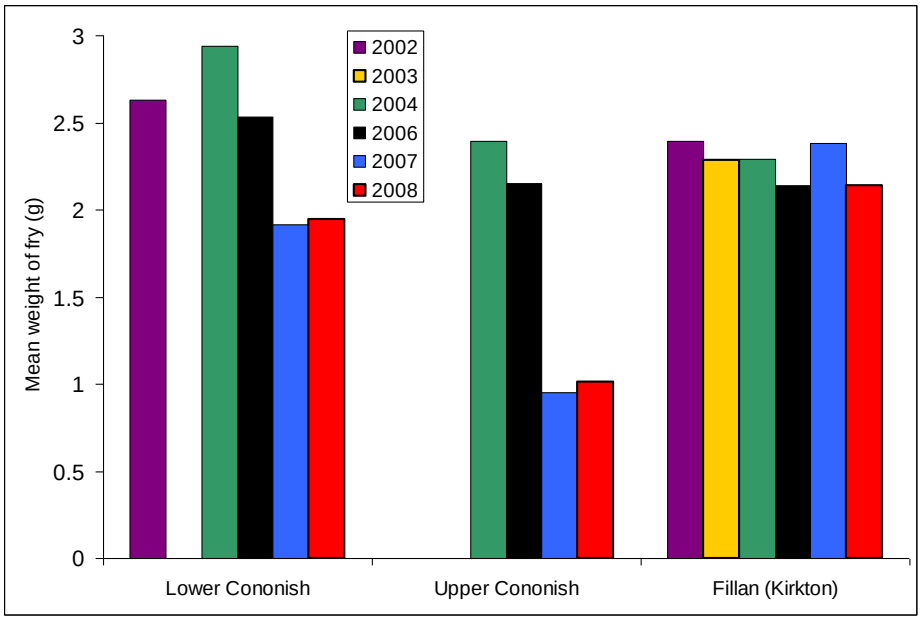


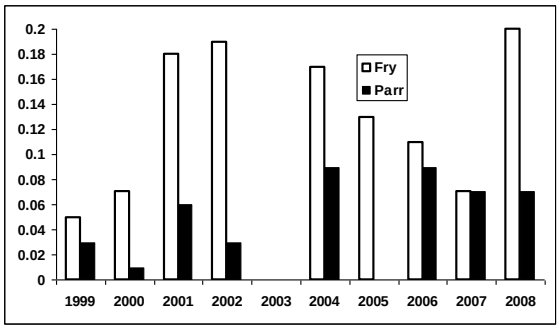
Figure 4. Average weight of salmon fry caught each year at electrofishing sites in the Cononish and Fillan.

In conclusion it is apparent that the Cononish has been chronically understocked in recent decades and it is not yet fully clear why. Artificial stocking has increased the population, but because growth rates declined markedly with even modest fish densities the inherent level of productivity of the Cononish is not high. The Fillan on the other hand appears to have a healthy salmon population and for an upland stream is particularly productive. Studies reported in last year's *Annual Report* showed the Fillan is richer and has more invertebrates than the Cononish. Ironically, inputs from Tyndrum sewage works may be important.

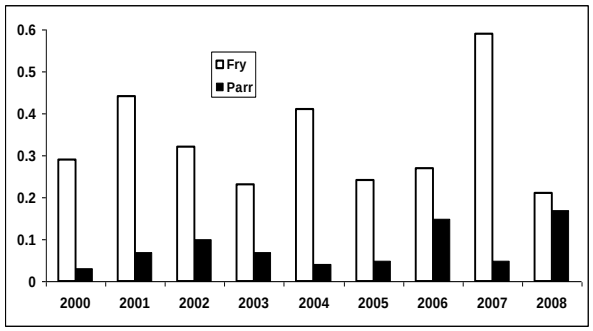
River Lyon

Four sites have been fished regularly on the upper Lyon since 1999 or 2000. Each year the full width of the mainstem of the river is fished using a standard electrofishing technique. The flow in the upper Lyon is regulated for hydro power and the uppermost site is situated about 100m downstream of Stronuich Dam, an area where there is little opportunity for salmon to spawn. The second, Stronuich Ford, is situated several hundred metres further downstream and represents the first and only real spawning ford within a kilometre or so of the Dam. The next site, Kenknock, is sited about a kilometre downstream in an area suitable for salmon parr but is largely devoid of spawning gravel. The last site is on a classic gravelly spawning ford a short way upstream of Meggernie Castle.

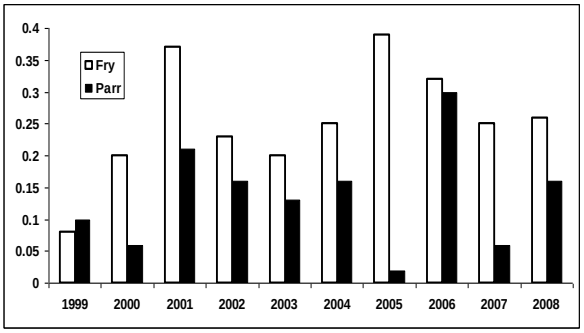
Salmon fry densities show some variability but no consistent trend, except perhaps at Meggernie where there has been some drop in recent years (Fig. 5). Densities of one year old parr also show some variation but with no trend (Fig. 5). In absolute terms the numbers of fish are lowest just at Stronuich Dam, as may be expected because of the lack of spawning there and are highest at Meggernie. One year old parr densities were particularly low in 2005 and this may have contributed to an apparently poor grilse run in the upper Lyon in 2008. The cause of this poor parr year is not known as fry numbers were good in 2004.



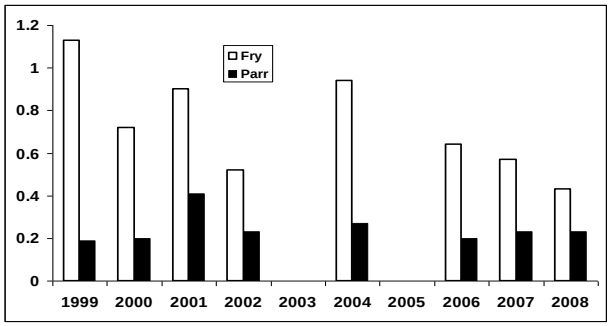
Stronuich Dam



Stronuich Ford



Kenknock



Meggernie

Figure 5. Minimum densities of salmon fry and one year old parr in the autumn at electrofishing sites in the Lyon. (No fishing was done at Stronuich Dam in 2003 or at Meggernie in 2003 or 2005.)

There is also some variation in the growth rate of salmon at the different Lyon sites. For ease of illustration the average length of salmon fry at each site has been plotted against the average density of both fry and one year old parr (Fig. 6). Despite the limited number of sites, it is apparent that higher fish densities are associated with smaller fry. Even though studies have shown that summer temperatures are colder and insect abundance is lower at Stronuich Dam salmon fry still grow faster there than at Meggernie because there are much fewer competing fish.

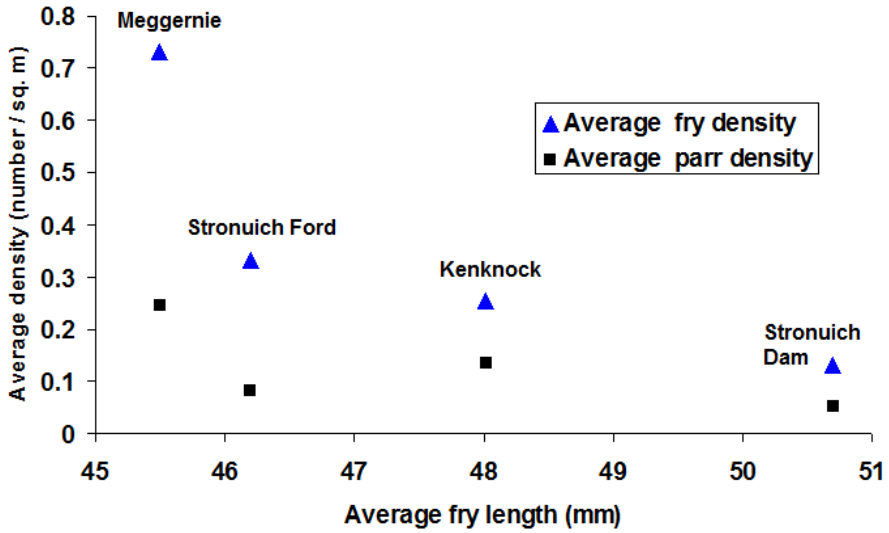


Figure 6. Average length of salmon fry in the autumn over the period 1999 – 2008 from four electrofishing sites on the Lyon versus the average density of salmon fry and the average density of one year old parr over the same period.

Compared to the Fillan, where the average fry length is about 60 mm despite a high density, or even the Cononish in its pre-stocking state, growth rates in the Lyon are poor. Smolting typically takes place after three years. As at most sites growth is clearly restricted by competition and that densities do not show any upward or downward trend over ten years, there does not seem to be any great surfeit of spare juvenile habitat in the upper Lyon despite current spawning stock levels.

River Lochay

The Board has been concerned for many years at the state of salmon stocks in the River Lochay. The numbers of adult salmon counted ascending the Lochay are much less than should be expected. A number of factors may have contributed to this, one of which may have been the accessibility of the upper Lochay. Due to hydro water abstraction flows are often low and several fish passes have to be negotiated. These passes were installed by the old Hydro Board at three waterfalls but they were falling into disrepair until 2006 / 07 when Scottish and Southern Energy refurbished them as part of the Conservation of Atlantic Salmon in Scotland EU LIFE project.

In 2001 two sites were fished upstream of Kenknock Falls, the uppermost of the fish passes. Naturally spawned fry and parr were caught at both sites, proving that some salmon were making it up that far, although the numbers were low (Figure 7). Therefore, in the spring of 2002 salmon fry were stocked two to three kilometres upstream of Kenknock Falls and two sites in that area (Island and Badour) were fished in autumn 2002. The density of fry at Badour increased markedly as a result of stocking and at the Island it was even higher. Owing to problems sourcing appropriate broodstock the upper Lochay stocking experiments were not resumed again until the spring of 2006 and again in spring 2007. As there are too few native Lochay fish to use as broodstock, reconditioned salmon eggs were used from fish which had been sourced in the neighbouring Fillan Water several years before. The Lochay was not fished in 2006 but, in 2007 the fry density reached the highest density recorded so far in the main stocking area, i.e. from the Island site to the Badour site. No fry were found at the Sheep Pen site which was upstream of the stocking area. One year old parr also increased markedly in 2007 at the Island and Badour sites (Fig 8) showing that the 2006 stocking had also been successful in increasing numbers.

After Scottish and Southern Energy refurbished the Lochay fish passes in 2006/07 the Board agreed with SSE and SNH to monitor the success of this work, i.e. to determine whether fish were ascending the passes and spawning naturally. Therefore no stocking was conducted upstream of Kenknock in the spring of 2008. But despite no stocking, more fry than ever were caught at the Kenknock site in autumn 2008 and there was a relatively good density at the Island site. However, numbers fell off markedly by Badour suggesting that in autumn 2007 salmon only spawned within a kilometre or two of Kenknock Falls.

2008 saw the highest densities of one year old parr yet found at all sites, even as far up as the Sheep Pen. These could of course have been the product of the 2007 stocking. That parr were also present at Sheep Pen suggests there had even been significant upstream dispersal.

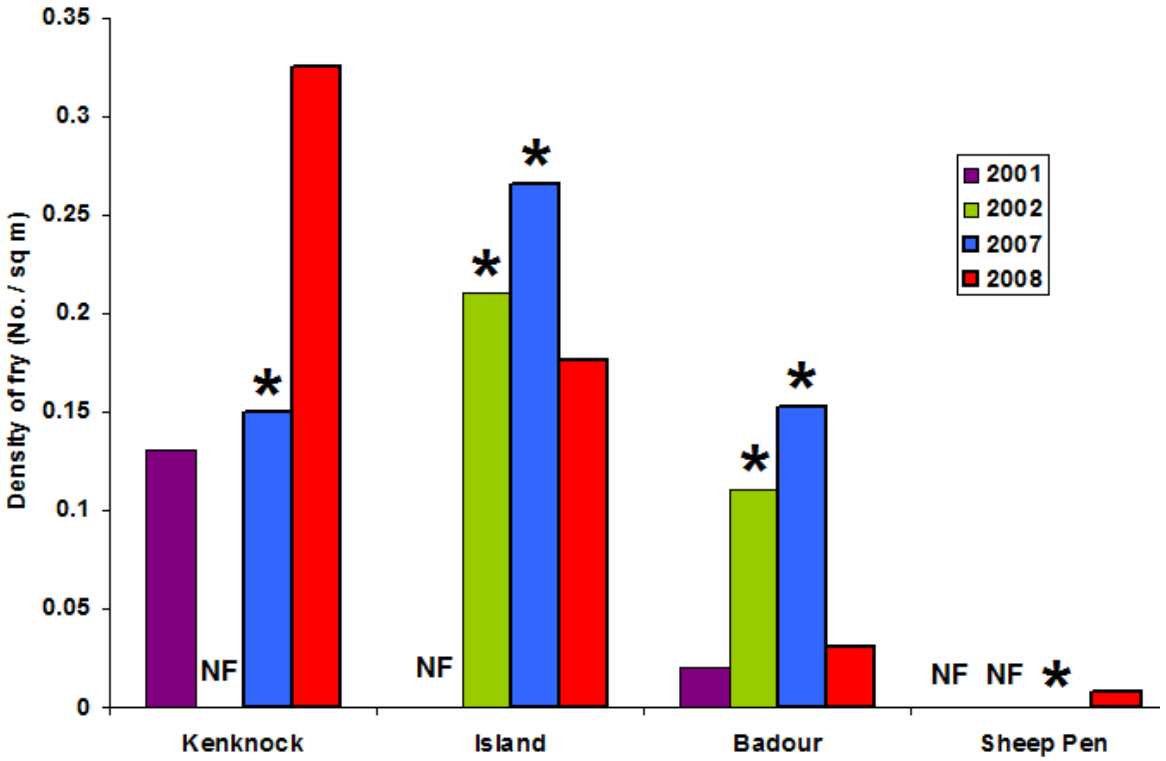


*Figure 7. Minimum densities of salmon fry caught in autumn at standard sites in the Lochay. (Note: there was no fishing in 2003, 04, 05 or 06. "NF" represents years when a particular site was not fished. *denotes years when fry stocking was conducted.)*

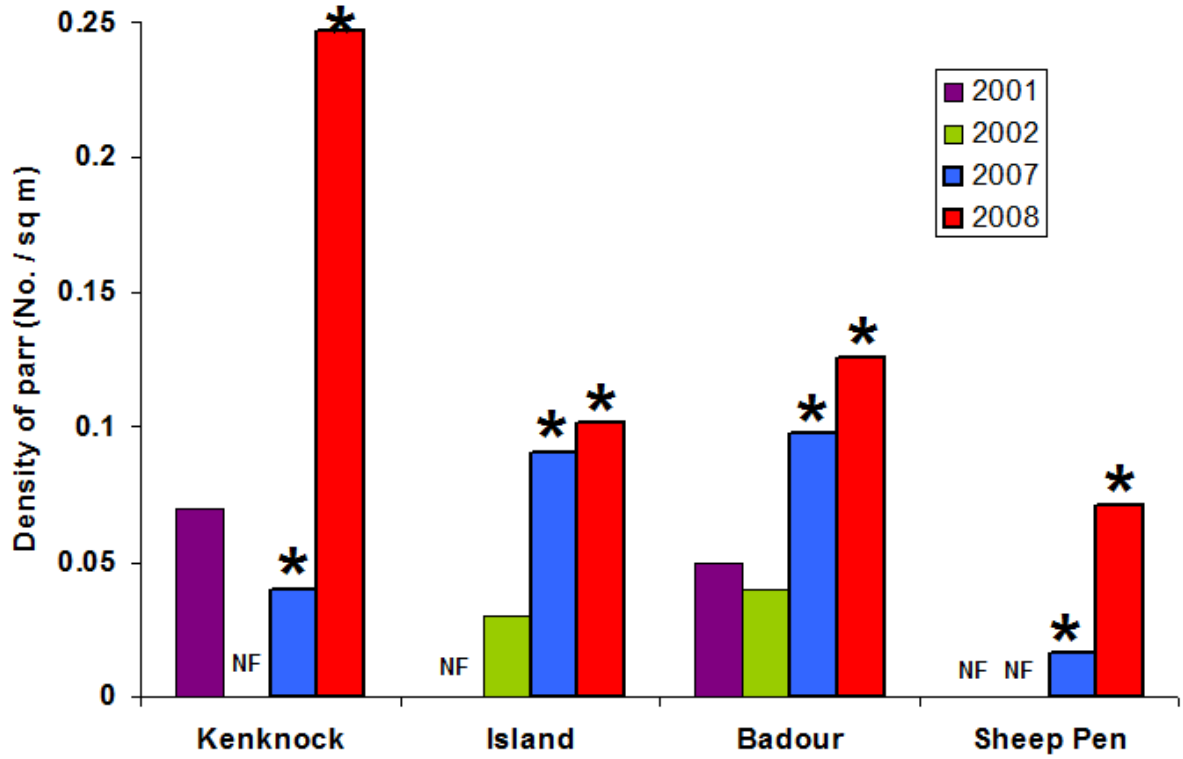


*Figure 8. Minimum densities of one year old salmon parr caught in autumn at standard sites in the Lochay. (Note: there was no fishing in 2003, 04, 05 or 06. "NF" represents years when a particular site was not fished. *denotes years when stocked parr were present.)*

The stocking experiments in the upper Lochay do appear to confirm that levels of natural spawning have been too low to fully populate this region, although in comparison with

some other rivers even the post-stocking densities are not particularly high. So could the Lochay hold even more fish?

Growth rates again provide further insights. Once more it is apparent even with very limited data that fry length is affected by fry density (Fig. 9). As in the Cononish and the Lyon, in those years when fry are more abundant they are smaller. Not only that, the trendlines for the different sites also follow an expected pattern. Fry at Kenknock, where the river is at a lower altitiude and likely to be slightly more fertile, are larger than those at Badour for an equivalent density. At the low spawning levels before stocking growth rates of fry in the upper Lochay were surprisingly high and they would reach smolt age in two years, but this has now increased to three years.

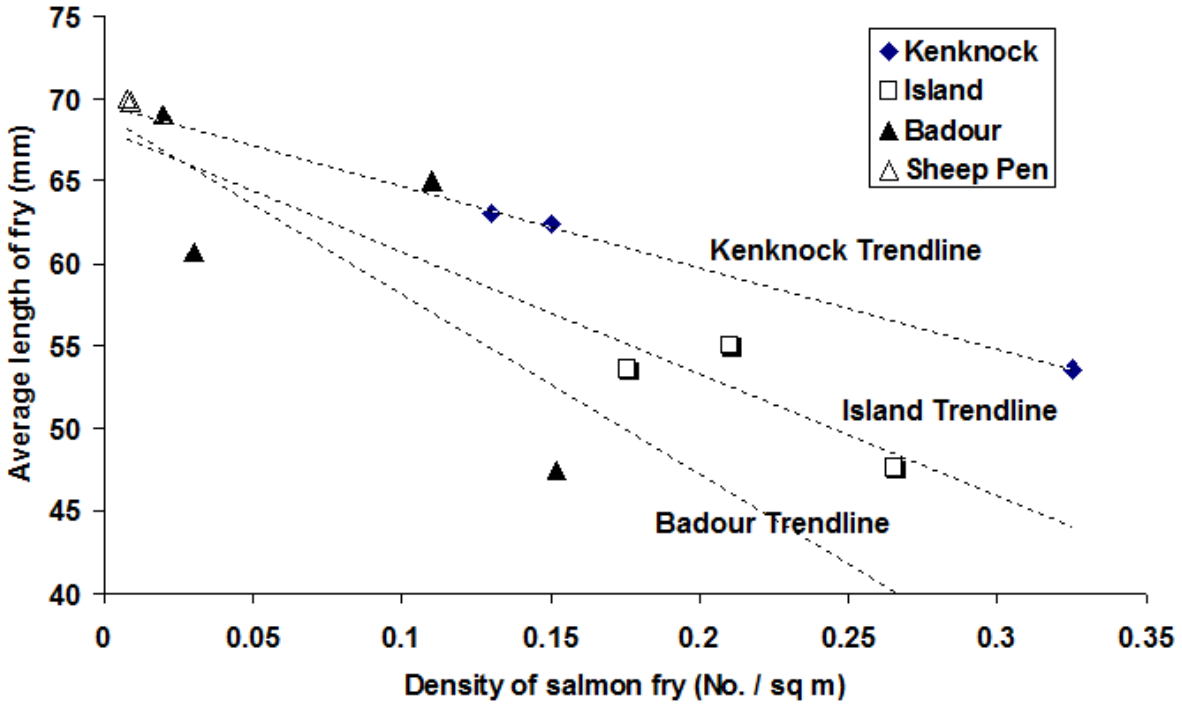


Figure 9. The density of salmon fry caught in each year (2001, 2002, 2007 and 2008) at Lochay sites versus the average length of those fry.

Again the fact that growth rates are significantly reduced as a result of stocking indicates that there is considerable competition between fish in the upper Lochay. In other words the upper Lochay was probably approaching its carrying capacity at the level of stocking undertaken. But for the full potential of the Lochay to be realised by natural spawning it is essential that more spawners must be encouraged up into this area.

Overall conclusions

The electrofishing surveys have provided a valuable insight into the health of salmon stocks in the Dochart, Lyon and Lochay, the value increasing as the number of years increase. While juvenile stocks seem relatively stable in the Fillan and Lyon, supplementary stocking from the hatchery has proved that the Cononish and upper Lochay were well understocked. Access for spawners may be a major factor in the Lochay but further investigations will be carried out in the Cononish. Until the causes are established, stocking with locally sourced broodstock will remain a valuable method of enhancing stocks in these two streams.

THE TAY WESTERN CATCHMENTS PROJECT

Victor Clements, Scottish Native Woods

The Tay Western Catchments Project (TWCP) is managed by Scottish Native Woods in Aberfeldy and is centred on the headwater rivers of the Lyon, Lochay and Dochart. Over the past year or so, Scottish Native Woods have been carrying out survey work over 1000 miles of watercourses in these three glens, from the main rivers right up to the top of each catchment, looking at a range of biodiversity and potential environmental problems. The objective of the work is to identify, quantify and cost a variety of potential projects at a range of different scales, that a number of groups can become involved with, including TDSFB, the Tay Ghillies Association, and the local freshwater angling clubs who have been very supportive of the concept. Although the TWCP is inspired by local fishing interests, and that remains the key focus, elements of the wider biodiversity are being targeted that should allow greater access to funding in future, a proportion of which could be used by TDSFB, for example, to directly or indirectly increase the resources usefully being deployed within Tayside to increase salmon stocks.

The project is being guided by landowner representatives from each of the three glens, the Tay Ghillies Association, the Tay Liason Committee and TDSFB. It is chaired by Judge Angus Stroyan from Boreland Estate in Glen Lochay. The £75,000 survey has been mostly privately funded, but there have also been inputs from charitable trusts, the TGA, the Heritage Lottery Fund and the Loch Lomond & Trossachs National Park. Local angling clubs have contributed, auctions of fishing tackle have been organized on the various salmon internet sites, and the artist Alistair Makinson has been selling limited edition prints of Dalguise, Newtyle, Murthly, Cargill and Islamouth in aid of the project.

Survey work was completed in November. The data collected (and there is a lot of it) will be collated and analysed over the course of the winter, and a draft final report will be ready by March 2009. Subject to ratification by the project committee and TDSFB, that report will be widely consulted on through to the summer, with a final high profile 1000 mile report being published, hopefully September next year. It will include big strategic issues relating to hydro-abstraction as well as small individual projects that can be undertaken by community groups and angling clubs. It will help direct SRDP funding, for example, to what we believe the areas of priority really are. The glens concerned occupy most of the area between Scotland's two National Parks, and therefore have considerable strategic importance, acting as a potential buffer zone for each. For example, survey results suggest it should be possible to clear these areas of invasive species like mink. Personnel carrying out these functions can easily be charged with other tasks which will directly help the salmon interest, be it extra bailiffing input, help with broodstock collection or habitat work. The exact strategy, remit and co-ordination of such extra input will have to be carefully discussed and developed during 2009, but the intention will be to build on the survey findings to allow TDSFB, among others, to access greater resources to help them expand their existing workload. Any improvement of stocks in that area will off course help the many fisheries downstream as well.

In a wider context, projects developed in this area should help satisfy commitments under the Water Framework Directive and contribute to river basin planning. TDSFB are very pleased to support this project which has created a very positive dynamic in that area and which will hopefully, along with ongoing and planned initiatives in other areas, allow us to increase our investment in Tay salmon stocks. For more information, you can contact Victor Clements on 01887 829 220, e-mail victor.clements@scottishnativewoods.org.uk or view their catalogue of over 2000 photographs and videos at: http://taywesterncatchments.blogspot.com/

TAY DISTRICT SALMON FISHERIES BOARD

Minute of the Annual Meeting of the Proprietors within the Tay District held in terms of Section 44(1) of the Salmon & Freshwater Fisheries (Consolidation) (Scotland) Act 2003 held at the Birnam Institute, Birnam, Dunkeld at 11am on 3rd December, 2007.

Present: John Milligan (Chairman), Duncan Glass, John Young, Jim Tritton, Patrick Gordon, Ross Gardiner, Robert White, Christopher Dunphie, John Wood, William Lindsay, Murray Smith, Robert Rattray, R A Stroyan, A B M Stewart, C D Lowson, Ken Bell, David Taylor, Paul Philpot, Ian Marsden, R de Sales la Terriere, R D Finlay, Alastair Riddell, Peter MacDonald, Hugh Law, David Barwick, Jock Monteith, Simon Furniss, Alan Dunnet, John Tait, Wattie Barbour, Yvonne Learmonth, Charlotte Gifford, Andrew Gifford

In Attendance: Dr. David Summers, Dr. Kjersti Birkeland, Inspector Derek Gregor, Callum Towns, Clerk

Apologies: Patrick Steuart Fothringham, John Apthorp, Viscount Stormont, David Clarke, Andrew Mactaggart, Michael Smith, Lord Ridley, Lord Ogilvie, Major General C.A. Ramsay, Michael Campbell, Lady Jane Mercer-Nairne, Mark Russell, Andrew Coombs

Minutes of the Annual Meeting held on 4th December, 2006.

The Minutes of the 2006 Annual Meeting were taken as read and, on a proposal by William Lindsay and seconded by John Young, were approved.

Accounts for the Year Ended 31st December, 2006

The Accounts for the year ended 31st December, 2006 which were incorporated in the Annual Report had been circulated and were taken as read.

Andrew Gifford asked why the level of cash reserves were so high. The Chairman reported that it had been thought necessary to create a high level of reserves at the time when the North East nets were being bought out and the Hatchery was being built. However it now accepted that a sensible level of cash reserves should now be of the order of £100,000 and that by budgeting for deficits this would be achieved in due course.

On a proposal by William Lindsay and seconded by Duncan Glass, the Accounts were approved.

Annual Report 2006/7

The Board would seek to despatch the Annual Report in good time in future.

The Annual Report was taken as read and the Chairman asked for questions.

Alistair Riddell asked what was being done to address the issues raised in research on the River Lyon carried out by PhD student, Heather Jackson. David Summers answered that, under the Water Framework Directive, SEPA now had the power to act where hydro power was impacting on ecology. However there was such a high level of workload for SEPA that the Lyon situation did not currently have a high enough priority to be on its Agenda.

The Tay Western Catchment Project which was currently in progress involved a survey of the Lyon, Lochay and Dochart which would result in a report being produced proposing remedial action which could be taken to improve the fishing, including costs. The Board were already aware of the issues and would be happy to be involved and share results where possible. David Summers would be the Board's contact.

Colin Lowson asked if any explanation could be put forward for the reduction in catches and if the problem was solvable. David Summers answered that the percentage survival at sea had fallen from 40% to 10%. The situation will have improved with the reduction in netting in the Estuary and the coast and the sea North Sea but TDSFB had to concentrate on improving the river via removing obstructions and opening up habitat.

David Summers reported that the Hatchery concentrated on stocking for spring salmon and that eyed ova or unfed fry were returned to the river. There were logistical and costs problems of feeding on to smolt stage. Also the survival rate of hatchery-reared smolts was only of the order of 10% of that of wild.

On a proposal by Charlotte Gifford, seconded by Jock Monteith, the Annual Report was approved.

John Milligan thanked the Tay Ghillies Association for their major contribution to the Tay both in terms of projects and fundraising, John Apthorp for financing the purchase of 7 holding tanks, located throughout the District for the purpose of keeping broodstock where they were caught, Jock Monteith for the work he organised at the Inchewan Burn at Dunkeld and finally the Board members and staff for all their hard work during 2007.

The 2008 Catch & Release Code had been made available and the Chairman stressed the importance of it being adopted throughout the Tay.

The Ghillies lunch would be held on 7th January 2008 at the Royal Dunkeld Hotel at 10.30am where Charles Allan of the FRS would give a presentation on *Gyrodactylus*.

Presentation by Dr David Summers

Dr David Summers gave a presentation on the work of the Board and plans for 2008.

Any Other Business

31% of proprietors had, to date, responded positively to the Board's Conservation proposals.

David Summers advised the meeting that recent legislation gave the Board the power to request catch information from proprietors twice per year and that the Board would do this in 2008.

The meeting closed at 12.30pm.

Report of the Auditors to the proprietors of Salmon Fisheries in the Tay District

In accordance with the Salmon and Freshwater Fisheries (Consolidation)(Scotland) Act 2003, section 44, we have audited the financial statements on pages 42 to 46. These financial statements have been prepared in accordance with the Financial Reporting Standard for Smaller Entities (effective January 2005), under the historical cost convention and the accounting policies set out on page 44.

This report is made solely to the proprietors of Salmon Fisheries in the Tay District. Our audit work has been undertaken so that we might state to the proprietors those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the proprietors for our audit work, for this report, or for the opinions we have formed.

Respective responsibilities of duly elected and duly co-opted board members and auditors
Section 44 of the Salmon and Freshwater Fisheries (Consolidation)(Scotland) Act 2003 requires the Board to prepare a statement of accounts for each financial year which give a true and fair view of the state of affairs of the Board and of the surplus or deficit for that period. In preparing those accounts, the Board members are required to:

- select suitable accounting policies and apply them consistently;

- make judgments and estimates that are reasonable and prudent;

- prepare the accounts on the going concern basis unless it is inappropriate to presume that the Board will continue in operation.

The Board members are responsible for keeping proper accounting records which disclose with reasonable accuracy the financial position of the Board. They are also responsible for safeguarding the assets of the Board and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Our responsibility is to audit the financial statements in accordance with relevant legal and regulatory requirements and International Standards on Auditing (UK and Ireland). We report to you our opinion as to whether the financial statements give a true and fair view and are properly prepared in accordance with the Salmon and Freshwater Fisheries (Consolidation) (Scotland) Act 2003. We also report to you whether in our opinion the information given in the Annual Report is consistent with the financial statements

In addition, we report to you if, in our opinion, the company has not kept proper accounting records, if we have not received all the information and explanations we require for our audit, or if information specified by law is not disclosed.

We read the Annual Report and consider the implications for our report if we become aware of any apparent misstatements within it.

Basis of Opinion
We conducted our audit in accordance with International Standards on Auditing (UK and Ireland) issued by the Auditing Practices Board. An audit includes examination, on a test basis, of evidence relevant to the amounts and disclosures in the financial statements. It also includes an assessment of the significant estimates and judgments made by the Board members in the preparation of the financial statements, and of whether the accounting policies are appropriate to the Board's circumstances, consistently applied and adequately disclosed.

We planned and performed our audit so as to obtain all the information and explanations which we considered necessary in order to provide us with sufficient evidence to give reasonable assurance that the accounts are free from material misstatement, whether caused by fraud or other irregularity or error. In forming our opinion we also evaluated the overall adequacy of the presentation of information in the financial statements.

Opinion
In our opinion:

- the financial statements give a true and fair view, in accordance with United Kingdom Generally Accepted Accounting Practice applicable to Smaller Entities of the state of the Board's affairs as at 31 December 2007, and of its deficit for the year then ended;
- the financial have been properly prepared in accordance with the Salmon and Freshwater Fisheries (Consolidation) (Scotland) Act 2003; and
- the information given in the Annual Report is consistent with the financial statements.

Campbell Dallas
Chartered Accountants and Registered Auditors
Perth
25 November 2008

TAY DISTRICT SALMON FISHERIES BOARD
INCOME AND EXPENDITURE ACCOUNT
FOR THE YEAR ENDED 31 DECEMBER 2007

	NOTES	£	2007 £	2006 £
INCOME				
Fishery assessments	2		335,048	344,492
Revaluation Appeals			(3,358)	(9,444)
Bad debts, changes to provision for doubtful debts etc			-	-
			331,690	335,048
Compensation Received (SSE)			5,432	5,201
Contributions from Tay Foundation			22,000	7,932
Contribution from Scottish Executive			-	5,000
Contribution from SNH			-	17,022
Conservation Dinner			1,945	877
Consultancy			9,835	343
			370,902	371,423
EXPENDITURE				
Salaries and National Insurance		229,311		205,587
Pension plus Death in Service- Board's contribution		7,728		6,949
Recruitment		-		607
Motor cars and boats running costs, incl insurance		29,607		32,359
Rent, rates and general insurance		16,734		16,383
Heat & light		4,065		3,326
Repairs&maintenance - General		2,617		3,445
Repairs&maintenance - Hatchery		9,983		5,060
Telephone & Communications		5,181		5,126
Printing, stationery and advertising		2,902		2,125
Annual report costs		814		617
Meetings and other statutory costs		2,377		1,907
Ghillies lunch and meeting		507		570
Clerk's remuneration and office expenses		-		1,586
Administration costs		17,320		16,320
Legal fees		940		-
Audit and accounts fees		2,262		2,312
Depreciation		25,766		31,987
Subscriptions and levies		8,886		8,080
I T costs		1,206		1,797
Health & Safety implementation incl clothing		8,499		7,658
SOAFD - Kelt reconditioning		15,000		15,000
Stock enhancement costs		1,950		1,570
Project Work(plus £27k of Salaries included above)		3,190		28,485
Fishtay Website		11,652		18,998
			408,497	417,854
			(37,595)	(46,431)
Gain on sale of fixed assets			3,400	-
			(34,195)	(46,431)
Interest received	3		9,805	9,396
			(24,390)	(37,035)
Transfers to reserves: NASF(UK)	7		-	(1,553)
(Deficit) for the year			(24,390)	(38,588)

The notes on pages 44 to 46 form part of these accounts.

TAY DISTRICT SALMON FISHERIES BOARD

BALANCE SHEET
AS AT 31 DECEMBER 2007

	NOTES	£	2007 £	2006 £
FIXED ASSETS				
Tangible assets	4		119,953	113,557
			119,953	113,557
CURRENT ASSETS				
Debtors & prepayments		18,099		26,658
Cash at Bank and in Hand		173,868		187,881
		191,967		214,539
CURRENT LIABILITIES				
Other creditors & accruals		53,753		45,539
Net current assets			138,214	169,000
NET ASSETS			258,167	282,557
Representing:				
Reserves	5		83,434	83,434
General Fund	6		174,733	199,123
			258,167	282,557

These accounts were approved on 12th June 2008

JOHN MILLIGAN
BOARD MEMBER

WILLIAM LINDSAY
BOARD MEMBER

The notes on pages 44 to 46 form part of these accounts.

TAY DISTRICT SALMON FISHERIES BOARD

NOTES TO THE ACCOUNTS
AT 31 DECEMBER 2007

1 ACCOUNTING POLICIES

The accounts have been prepared under the historical cost convention and are in accordance with applicable accounting standards. The following accounting policies have been applied:

Fixed assets and depreciation

The cost of fixed assets is stated at the net amount after deducting grants available. Donations relating to expenditure on fixed assets are credited to the Profit and Loss Account in the year of receipt, where there are no conditions attaching to the donation.
Depreciation is provided on all fixed assets, at rates calculated to write off the cost over the expected useful lives of the assets concerned as follows:

Hatchery	Over term of the lease
Motor vehicles	25% per annum straight line
Boats	25% per annum reducing balance
Plant and Equipment	25% per annum reducing balance
Computer equipment	33.3 % straight line

Taxation

No taxation is provided due to the fact that HM Revenue and Customs has agreed that the Board is not liable for corporation tax.

Death in service scheme

Contributions to the Board's scheme are charged to the Income and Expenditure account in the year in which they become payable.

2 FISHERY ASSESSMENTS

	2007		2006	
	Rateable Value	Assessment	Rateable Value	Assessment
	£	£	£	£
Upper proprietors	724,760	333,390	745,290	342,834
Lower proprietors	13,805	6,350	13,805	6,350
	738,565	339,740	759,095	349,184
Less River Shee		(138)		(138)
Estuarial netting stations		(4,554)		(4,554)
		335,048		344,492

The assessments are based on 46 % of Rateable Value (2006 - 46%)

3 INTEREST RECEIVED	2007	2006
	£	£
Bank interest	9,805	9,396
	9,805	9,396

TAY DISTRICT SALMON FISHERIES BOARD

NOTES TO THE ACCOUNTS (cont'd)
AT DECEMBER 31 2007

4 FIXED ASSETS

	Leasehold Property	Motor Vehicles & Boats	Equipment	Plant & Equipment	Office & Computer	Total
	£	£	£	£	£	£
Cost:						
At 1 January 2007	64,578	60,997	42,671	186,517	16,164	370,927
Additions	-	31,473	-	-	689	32,162
Disposals	-	(15,850)	-	-	-	(15,850)
At 31 December 2007	64,578	76,620	42,671	186,517	16,853	387,239
Depreciation:						
At 1 January 2007	13,704	52,526	40,235	135,351	15,554	257,370
Charge for year	3,392	8,436	609	12,795	534	25,766
Eliminated for disposals	-	(15,850)	-	-	-	(15,850)
At 31 December 2007	17,096	45,112	40,844	148,146	16,088	267,286
Net book amounts:						
At 31 December 2007	47,482	31,508	1,827	38,371	765	119,953
At 31 December 2006	50,874	8,471	2,436	51,166	610	113,557

5 RESERVES

	GENERAL	NASF(UK)	TOTAL
	£	£	£
At 1 January 2007	75,434	8,000	83,434
Provision in year	-	-	-
	75,434	8,000	83,434
Expenditure in year	-	-	-
Transfer from NASF(UK)	8,000	(8,000)	-
At 31 December 2007	83,434	-	83,434

6 GENERAL FUND

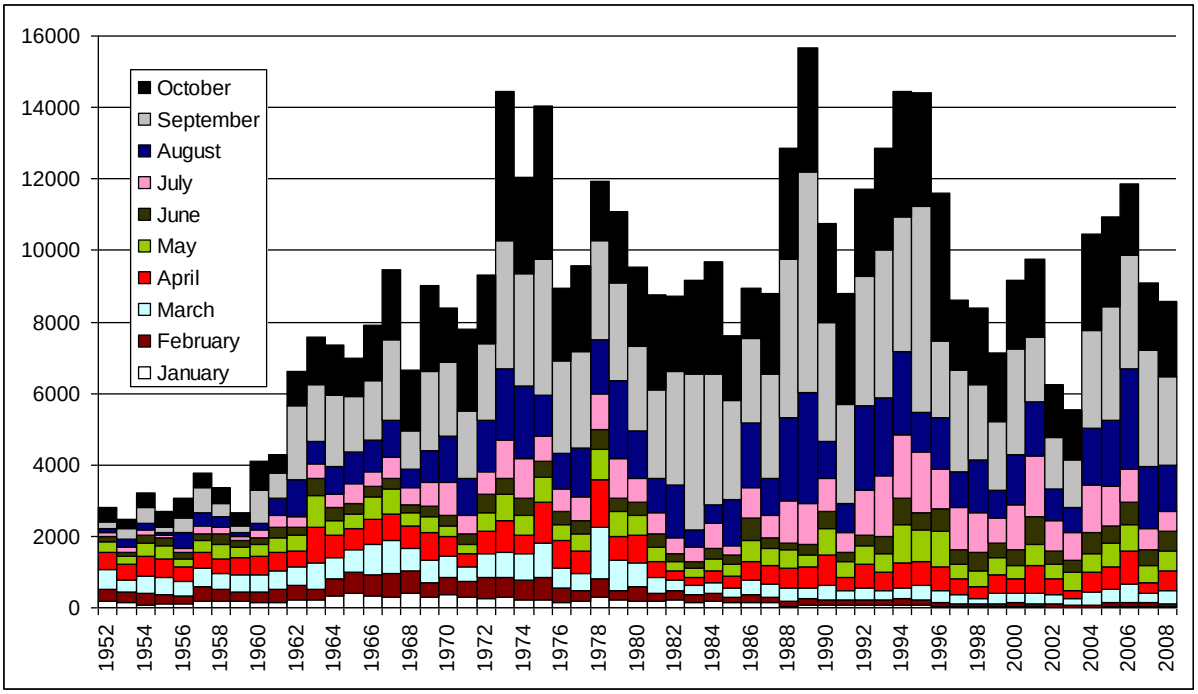
	2007	2006
	£	£
At 1 January 2007	199,123	237,711
(Deficit) for year	(24,390)	(38,588)
At 31 December 2007	174,733	199,123

7 NASF

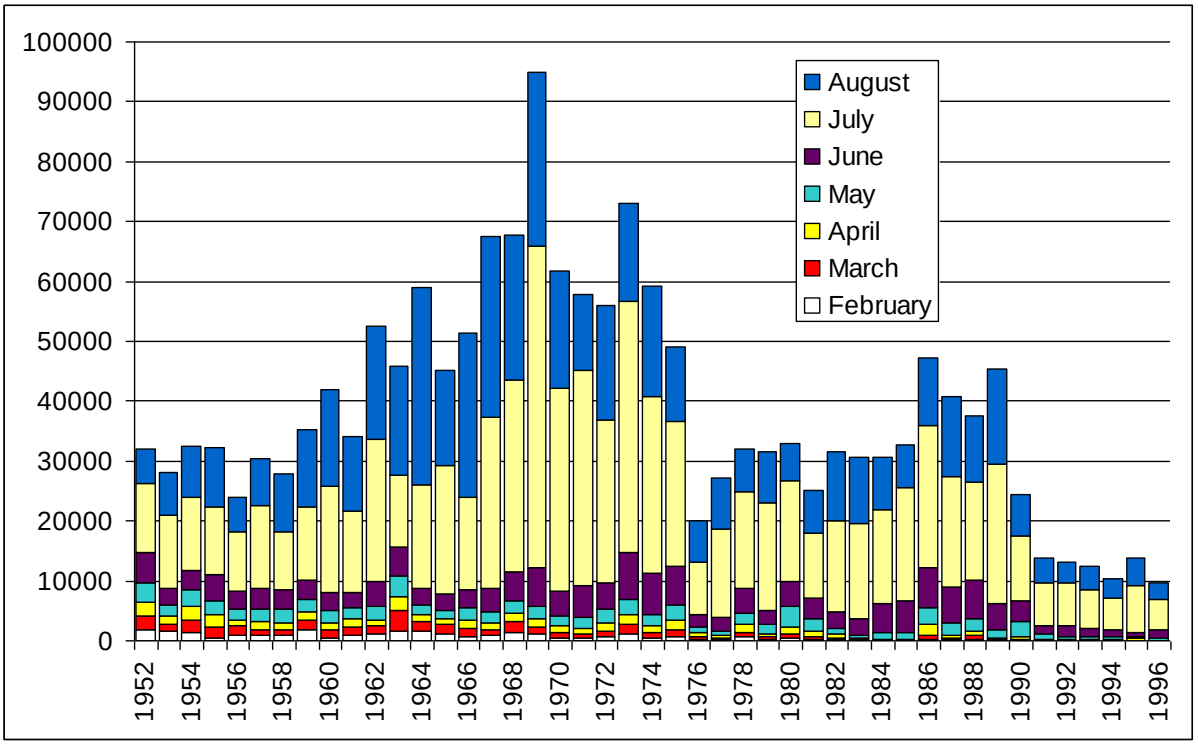
No donation was made to NASF during 2007 and it was thought unlikely that future payments would be made hence the balance had been transferred to General Reserves.

8 CAPITAL COMMITMENT

At the year end the Board had authorised the purchase of a van and computing equipment up to the value of £16,000 and £1,000 respectively.



Monthly angling catch for the Tay District 1952 – 2008 (including released fish) (1952 – 2007 data kindly supplied by Fisheries Research Services, 2008 is a preliminary estimate based on fishtay website analysis)



Monthly net and coble catch, Tay District 1952 – 1996 (netting largely ceased in 1996) (Data kindly supplied by Fisheries Research Services)

BOARD MEMBERS ATTENDANCE FOR 2007

	8 February	12 April	7 June	16 August	4 October	3 December
J. Milligan	X	X	X	X	X	X
J. Apthorp	-	X	X	X	X	-
D. Clarke	-	-	-	X	X	-
C.C. Dunphie	X	X	X	-	X	X
P. Fothringham	X	-	-	X	X	-
R. Gardiner	X	X	X	-	X	X
D. Glass	X	X	X	X	X	X
R.P.D. Gordon	X	X	X	X	X	X
W. Lindsay	-	X	-	-	X	X
A. MacTaggart	-	-	-	X	-	-
R. Rattray	X	-	X	-	X	X
J.M. Smith	X	X	-	X	X	X
M. Smith	Resigned					
Lord Stormont	X	X	X	-	-	-
J. Tritton	X	X	X	X	X	X
R. White	X	X	-	X	X	X
J. M. Wood	X	X	X	X	-	X
J. Young	X	-	X	X	X	X

X Present
- Apologised for non-attendance

ACKNOWLEDGEMENTS

The Tay District Salmon Fisheries Board wishes to acknowledge the following people, organisations and companies for their very kind assistance and support throughout 2007 and 2008.

All Proprietors within the Tay District
Callum Towns
Andrew Graham-Stewart
All honorary Bailiffs
All Ghillies and Boatmen
All Tay Board Bailiff staff
The Tay Ghillies Association
The Tay Foundation
Scottish Environmental Protection Agency
Mike Miles, Steve Keay and Jim Muir at the Freshwater Fisheries Laboratory, Almondbank
The staff of the Scottish Government Marine Directorate
Pentland House, Edinburgh
Freshwater Fisheries Laboratory, Pitlochry
Montrose Research Station
The Association of Salmon Fishery Boards
Scottish Natural Heritage
Scottish and Southern Energy plc