

Chairman's Report

It gives me great pleasure to introduce our second Annual Report which covers a year when we really got under way in achieving our objectives which so many of you supported. Without that support, the dedication of our hard working Trustees and Biologist we could not have achieved so much in a relatively short time.

We appointed Alistair Duguid as our Biologist starting February 2002 and we have been lucky in our choice as he fully understood the tasks before him and set to it with great enthusiasm. He even found time to complete his Doctorate, which he achieved in the autumn.

Thus, the year to January 2003 was the one in which we added actual work on rivers in addition to our previous main task of raising funds to make this possible. It has become very apparent that the most difficult task is to raise core funding. There are many organisations in both the public and private sectors who are willing to help but only on a project basis. Without a biologist it was difficult to produce projects, now that we have one this area of funding has opened up to us. However, the need for core funding remains extremely important as we have to fund our office, equipment, motor vehicle and so on.

We have issued two newsletters over the past year, which have described some of the work we have done. These are also available on our new website, which also gives other trust news and sets out our aims. It can be found on the internet at <http://www.ayrshireriverstrust.org> We achieved the work with Alistair full time and an assistant, Andrew Harwood during the summer months when most of the electro fishing and habitat surveying is carried out.

As I have said above we are most grateful for the vital financial support that many of you give us. In addition we have been greatly helped by the Association of West Coast Fisheries Trusts, which, by the hard work of their fundraiser Andrew Whitehead, produced substantial funds, particularly from the Esmeé Fairbairn Trust, The Whitley Animal Protection Trust, the PF Charitable Trust and the Maurice Laing Foundation. We also appreciate project funding from Scottish Natural Heritage, South Ayrshire Council, the Scottish Executive, The Grayling Research Trust, BAE Systems and others coming forward in the current year.

Peter Kennedy

Biologist's Report

1 Introduction

The previous year has seen the trust carry out its first season of field work, which has mainly concentrated on investigating the status of local fish stocks, and assessing the quality of the freshwater habitats they depend on. Collecting this information is the key to understanding the pressures affecting our local fish stocks; addressing these problems is not a simple process, and if it is to be successful, it is vital that we first understand the local ecology of our rivers and lochs properly, and take long-term decisions to address the root causes behind declining fish stocks.

A considerable amount of time has also been taken up responding to planning consultations. The survey data we have collected has helped us to provide meaningful input into the planning process, and will continue to ensure that important fish stock and habitats are given the protection they need.

We have also been progressing our aims through educational work. We initiated a new primary school project in 2002, which we hope is giving the next generation a better appreciation of life in their local streams. We have also given best practice advice to a range of angling groups and land managers, and we hope to continue expanding this through increased partnership with other local organisations.

The following report gives brief summaries of some of the trusts projects over the last year. They are by no means exhaustive, but I hope they provide a flavour of the work we have been carrying out, and the aims we hope to achieve.

2 Freshwater fisheries surveys

A) Analysis of existing data

At the end of 2002, the Ayrshire Rivers Trust and other members of the Scottish Fisheries Coordination Centre (SFCC) were contracted by SEPA to analyse our electrofishing data on juvenile salmonids. The aims of the project were to use existing electrofishing records from the trust to provide information on the status of fish stocks, and assess the most likely causes behind any impacted populations. SEPA were also interested in finding out whether electrofishing data can be used to provide information on the ecological health of rivers and therefore monitor freshwaters as part of the Water Framework Directive.

The study showed that:

- Electrofishing data can be accurately used to assess freshwaters and provides a valuable indication of general ecological health.
- Many local salmonid stocks are severely impacted and all of the rivers in the trust area contain a higher proportion of impacted populations than the national average.
- There also appears to be a pattern within Ayrshire, with rivers becoming progressively more impacted to the north of the trust area.
- A range of pressures have impacted on local populations
- Agriculture is the major cause of impacted populations in the Stinchar, Girvan and Doon, particularly on smaller tributaries. Forestry is a pressure in the upper parts of these catchments.
- Mining is thought to be the most important factor on the River Ayr, which is also affected by impoundments, as the river contains several weirs which are thought to affect the free migration of fish at certain flows.

B) Freshwater fish survey of the River Ayr

The River Ayr is the largest river in Ayrshire and has an extremely important and productive salmon fishery. Historically, the river also supported healthy populations of sea trout and brown trout, but there has been an alarming downward trend in catches over recent years. The river has suffered from a lack of detailed scientific information and it was therefore a priority for the Trust to begin addressing this. Electrofishing surveys of juvenile fish were started in summer 2002 and are being completed over the 2003 field season to provide information on fish distribution and abundance throughout the catchment.

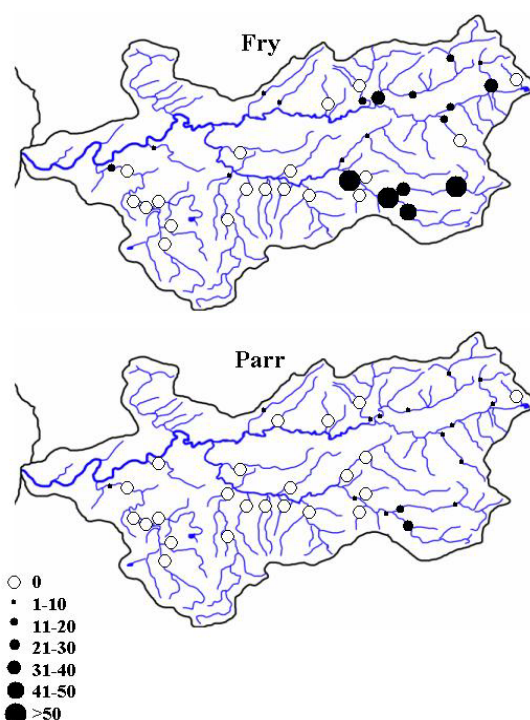


A healthy salmon parr from the River Ayr at Muirkirk.

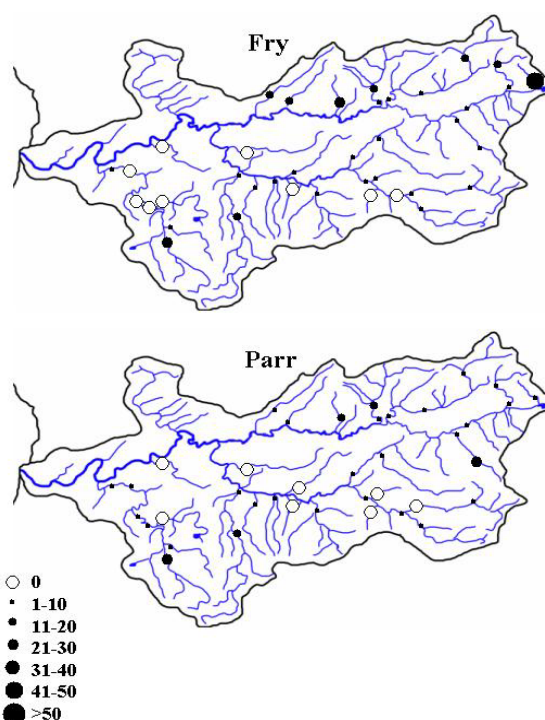
The results from this survey have shown that:

- Larger watercourses in the upper reaches of the Lugar and Ayr catchments are important for salmon production. These areas have the most pristine habitat, although in some cases, high numbers of salmon fry were even found in areas with degraded habitat.
- Many of the smaller streams throughout the catchment show evidence of serious problems. In several cases, salmonids were not present, or were found in extremely low numbers. At some sites, no fish species were found at all.
- These smaller watercourses are likely to have been particularly important for sea trout and brown trout spawning and juvenile production in the past, and the low numbers currently found are extremely concerning.
- In many of these smaller watercourses, habitat was clearly degraded due to bank erosion and trampling by farm animals. Poor water quality, particularly due to enrichment, also appears to be a common factor. In some cases, low salmonid densities appear to be due to water abstraction by open cast coalmining, and some sites were artificially dry at the time of survey.
- It is recommended that a full habitat survey be carried out as a priority to allow these problems to be properly assessed and addressed.

Minimum estimates of salmon densities, 2002-3



Minimum estimates of trout densities, 2002-3



3 Grayling in the River Ayr

Grayling are relatively rare in Scotland, and the River Ayr contains the only population in the ART area (the River Irvine also used to contain grayling, but these are now thought to be extinct). In response to a need for more information on non-migratory fish in Scotland, ART carried out an investigation into the grayling population and fishery on the River Ayr over the autumn and winter of 2002/3. This study aimed to assess the current size and distribution of the population, investigate the movement patterns and basic ecology of the fish and assess the current level of interest in grayling angling on the river.



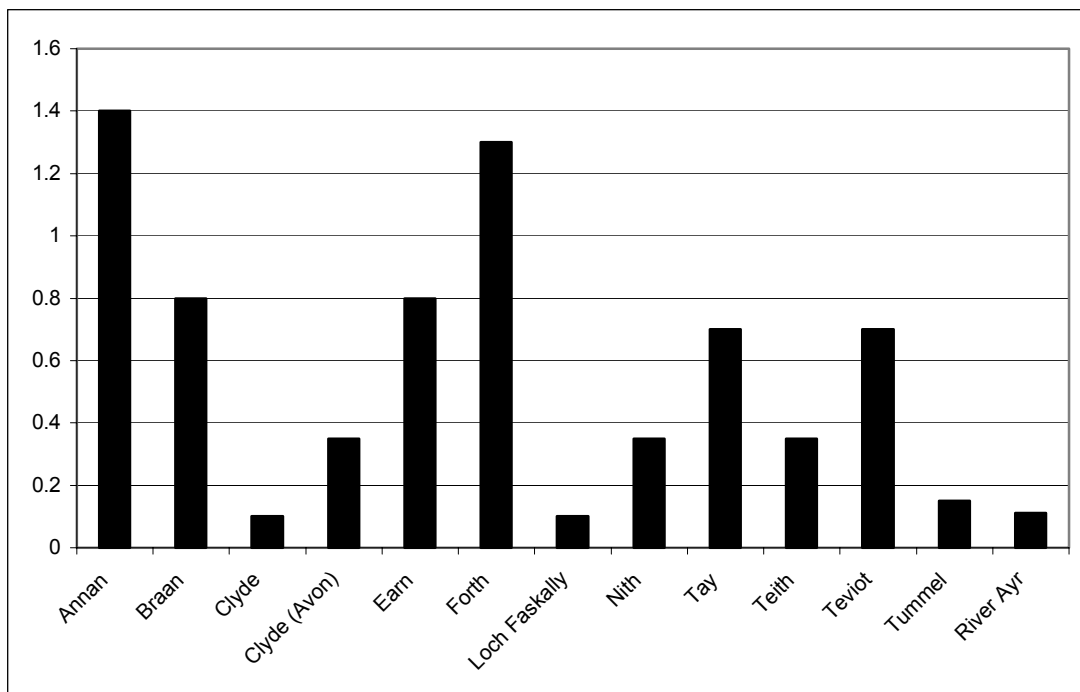
A River Ayr grayling. The yellow tag behind the eye is visible. Note the adipose fin, which will be removed in all tagged fish. Please report the time and place of capture of any tagged or finclipped fish and note the tag number.

Grayling were sampled by using electrofishing and seine netting methods at sites throughout the river catchment, and two angling days were also arranged with the help of the Grayling Society and the Mauchline and Ballochmyle Angling Club. All grayling were returned unharmed to the water, after information on diet, length, weight and age had been collected. Small VI (visible implant) tags were also put into most of the fish. These yellow tags are about the size of a grain of rice and have an individual code on them. Tagged fish can also be recognised by an adipose fin clip. To date, none of these fish have been re-captured, but we would be grateful if anyone who catches grayling could help with the study by continuing to look out for fin-clipped grayling, and reporting the tag number together with the time and place of capture to the Trust biologist. If a clipped fish is found with no tag, please also report this, as this indicates a missing tag and will allow us to calculate the percentage of lost tags in the sample. It would also help if any grayling anglers could keep a record of their catches in the free Environment Agency logbook, which is available on request from the biologist.

The results of the study show that:

- Electrofishing was not successful in sampling grayling in the River Ayr and it was not possible to obtain quantitative estimates of grayling abundance using this method.
- Seine netting and angling were more successful methods and showed that grayling are found throughout the main stem of the River Ayr.
- Catch-per-unit-effort from the angling returns suggests that grayling are found in similar densities to the River Clyde and the River Tummel, but are in lower numbers than in most other Scottish rivers.
- Juvenile and adult grayling use different parts of the river channel, with fry being found in marginal and transition zones towards the edge of the river, while adults were caught in the main channel.
- Seine netting tended to catch juvenile grayling, while angling caught larger adults

- Ayr grayling grow relatively quickly when compared to other rivers in the UK
- Grayling fry in the lower part of the river grow significantly faster than those in the upper part of the river. This is likely to be due to river size and temperature.
- Ayr grayling feed on a fairly typical range of items, although the level of terrestrial adults was found to be unusually high
- Juveniles and adults in the river feed differently, with fry tending to take a narrow range of smaller items, mainly from the upper part of the water column, while adults take a wider range of food, mostly from the river bed.
- The current level of exploitation is negligible, both because the level of grayling angling is currently very small, and also because all grayling angling is on a voluntary catch-and-release basis.
- Expansion of the fishery could be considered, as the resource is currently underused. There appears to be enthusiasm within most clubs for an increase in grayling angling, provided that conflict with other fisheries, particularly interference with spawning salmon, is minimised. Using close seasons, or working with the Grayling Society to ensure anglers are educated in the use of non-destructive methods could help achieve this.



Mean number of grayling caught per hour angling in various Scottish rivers

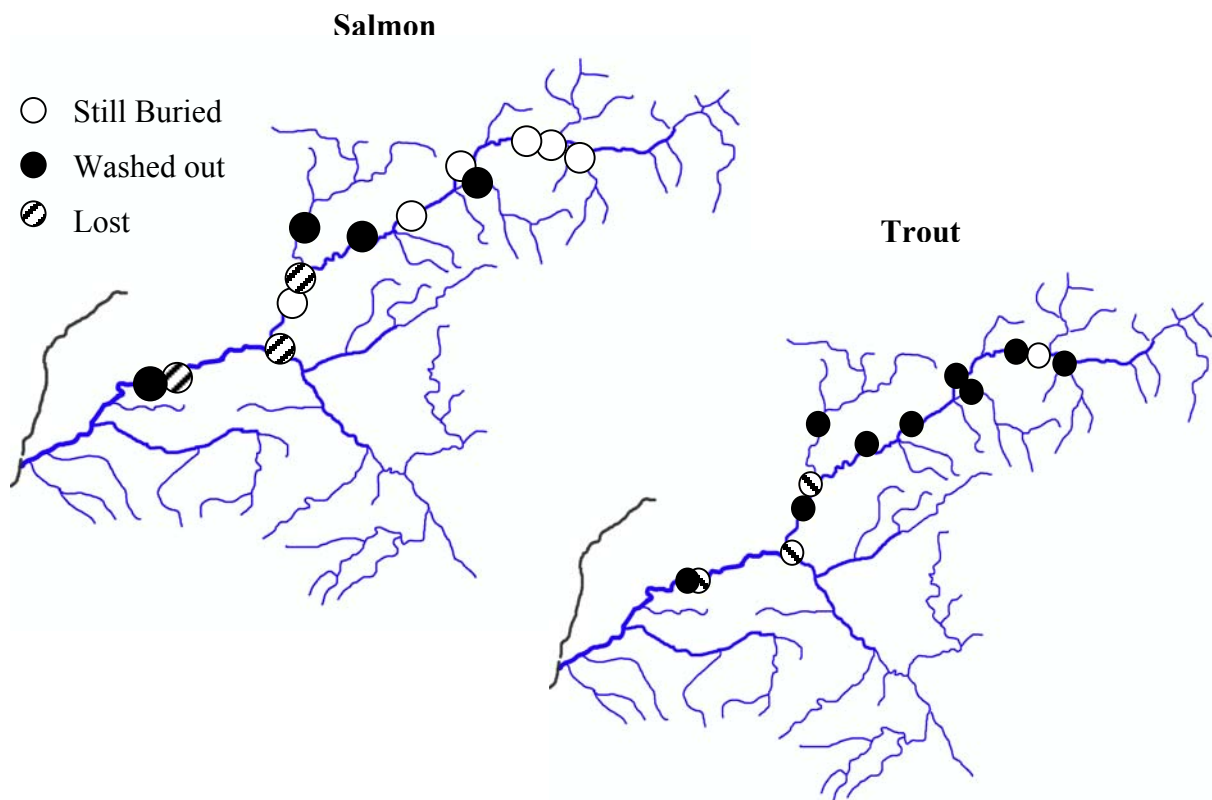
This project was supported by grants from the Grayling Research Trust and the Scottish Executive.

4 Redd washout in the River Stinchar

Studies in spate rivers in North West Scotland and North America have shown that egg loss during winter spate floods can be a major bottleneck for salmonid productivity. Gravel movement in the River Stinchar is a major concern, and may be becoming more serious as spate flows have increased. This is thought to be due to the wetter climate and land use changes in the catchment, particularly the increase in improved grassland and forestry areas and corresponding loss of rough pasture and moorland. To assess whether redd washout is a problem in the Stinchar, and to begin quantifying the extent of any effect, the Trust initiated a project in winter 2002.

Bone beads were used to simulate salmon and trout eggs, as they are a similar density and size. The beads were threaded onto nylon line, attached to metal stakes and buried in artificial redds. The beads were buried at 15cm for trout, and 30cm for salmon, to simulate natural redd building depths. The artificial redds were then left in the river until spring when salmonid eggs in the river had hatched.

The proportion of beads which were still buried, and those which have been washed out are shown below. In several cases artificial redds could not be found, it is thought that this is likely to be due to accumulations of gravel above the stakes, but this could not be conclusively proven.



It can be seen that redd washout affected both salmon and trout redds, although the trout redds were washed out far more frequently. This is unsurprising, given that these eggs were buried at a much shallower depth. However, given that the vast majority of trout spawning takes place in smaller streams, trout eggs are likely to be better protected against spate flows than these results suggest. Overall, more than one third of the salmon redds were washed out, indicating that scouring is an important loss of salmon eggs in parts of the catchment, although this figure is considerably lower than many rivers examined in the north of Scotland. Most of the intact redds were found in the upper reaches of the river, suggesting that flows in the upper reaches are not strong enough to

destroy redds and that salmon in this part of the river are more likely to hatch successfully. It is also notable that the redds next to gravel traps previously constructed by the Galloway Fisheries Trust were both intact at the end of the survey, suggesting that these habitat improvements may have helped stabilise spawning gravel and directly improved production of juvenile salmon.



The River Stinchar near Minuntion. Gravel bars in this part of the river are clearly unstable, and both salmon and trout redds were washed out at this site

The majority of areas where redds were washed out were considered to be likely problem areas prior to the survey taking place, due to the presence of large unstable gravel bars and bank erosion (e.g. Minuntion and the Water of Assel), or high proportions of bedrock (Water of Gregg). Most problem areas should therefore be identified in the habitat survey currently being carried out on the Stinchar, which will help to prioritise future efforts to stabilise the river bed.

5 Wild Salmon in the Classroom

In spring 2002 the trust ran its first Wild Salmon in the Classroom educational project in Dailly Primary School. This project is a modification of a scheme first developed by the Galloway Fisheries Trust and now run by many of the fishery trusts in Scotland.

The scheme involved donating specially designed mini hatcheries and approximately 100 salmon eggs from local broodstock to the primary 7 class. When the tanks were taken into the school, the ART biologist led a class discussion and brainstorming session to encourage the children to think about the requirements of the salmon eggs in the wild (i.e. a constant supply of cold, clean water, total darkness and a lack of disturbance) and how this might be achieved in the school environment. They were then shown the mini hatcheries and given a lesson in their operation. The importance of checking the temperature in the tank and removing any dead eggs was demonstrated, and the teacher



drew up a rota to ensure that the children carried this out responsibly. The biologist also pointed out features of the developing eggs, such as the eyes and spinal chord and encouraged the children to note any changes in these as the eggs developed.

Following the setting up of the tanks, the biologist then gave a lesson on the life cycle of the salmon, and the various needs and threats facing salmon throughout their life. A CD-ROM produced by Scottish Hydro-electric and videos produced by the Irish Central Fisheries Board and the Salmonid 21C programme were also used, and copies of these resources were left in the school to help aid teachers with further work.

The eggs hatched at the end of March, and the biologist then returned to the school and led a field trip with the children to release the fry. This gave them a chance to see the type of habitat that salmon fry and parr need in the wild at first hand. A second field trip then took place with some schools in June, when the biologist demonstrated electrofishing techniques and showed the children how much their fry have grown since being released. Salmon parr were also caught, along with several other fish species. The class also sampled invertebrates at the site to get an idea of the typical diet of young salmon and give them an impression of the diversity of life living in their local streams.

The project has been useful for both teachers and pupils alike, with many salmon-related art, science and geography projects taking place at the school. The keen input from the children showed that they had developed a good understanding of the issues involved and a heightened interest in their local environment. The teachers are now more knowledgeable about salmon biology and freshwater ecology and are better equipped to teach pupils about management and conservation of the freshwater environment.

The trust as received a grant from SNH to expand the project in 2003, and has visited several additional schools recently. We have also received a donation from BAE systems to continue the project in 2004. If you would like your school to get involved in the future, please contact the trust.

7 Habitat Restoration on the River Doon

The trust has been active in restoring degraded habitat in the River Doon over the spring, with instream projects continuing through the summer. The Doon DSFB provided £5000 towards this project, which was matched by funding from Scottish Natural Heritage. The first stage of the project began in February 2003 by erecting fencing and planting native broadleaved trees on the Cumnock and Chapleton burns. Sea trout and salmon use both of these burns for spawning and nursery areas, but overgrazing in these areas has led to siltation problems and a bare riparian zone. The Cumnock Burn is also becoming over-widened and shallow, which has led to a reduction in parr habitat.

The new fencing has already resulted in improved riparian vegetation, and banks have become more stable. Instream works are now needed on the Chapleton Burn to clear the beds of accumulated silt, and structures will be installed this summer to speed up the stream flow and keep the bed substrate clean.

This project was supported by grants from the River Doon District Salmon Fishery Board and Scottish Natural Heritage.

6 Water of Girvan Habitat Survey

The Trust surveyed over 100 kilometres of habitat in the Water of Girvan catchment in summer 2002, covering every major watercourse between the mouth of the river and Tairlaw falls below Loch Bradan. The survey has identified the major factors reducing fish production in the catchment and the report suggests appropriate actions to restore degraded areas.

Results show that good quality habitat is mainly concentrated in the upper reaches of the catchment above Straiton. This area is extremely important for local aquatic biodiversity, including salmonids, and it is vital that the diverse aquatic and riparian habitats here are conserved. Lower down the catchment, particularly in the middle reaches of the river, intense bankside grazing and canalisation of watercourses for drainage and flood prevention have resulted in severe habitat degradation, which is greatly reducing wildlife diversity. Many smaller watercourses also suffer from nutrient enrichment from diffuse agricultural pollution.

The report recommends a programme of bankside fencing to allow regeneration of the riparian zone in these areas. This will stabilise banks, and provide a buffer zone to reduce the amount of nutrients entering the watercourse and thus improve water quality. In total, over 35 kilometres of fencing are required, with the highest priority areas found on the Dyrock and Barlewan sub catchments, and the main river between Dailly and Crosshill. Occasional tree planting and additional bank protection schemes are also required to reduce erosion in the worst affected areas.



Bank side trampling resulting in silt input on the lower Barlewan, Burn .



Canalisation has reduced habitat diversity in the main river above Dailly. The river here is too deep for juvenile salmon production and has no flow diversity.

Instream diversity has been particularly affected on the main river between Dailly and Crosshill, where the river is canalised for long stretches. This has resulted in many long, deep reaches with no flow diversity and a uniform bed substrate of silt, sand and small gravels. Most of the instream habitat in these reaches is very unsuitable for juvenile salmonids, and it is unlikely that they contribute significantly to salmon or trout production. In Ireland, similar degraded habitat has been greatly enhanced by raising the bed of the river over short, discrete sections, thus forming shallow riffle areas which are suitable for young salmon, and provide ideal habitat for invertebrates and plants. The habitat report recommends similar action to recreate habitat diversity and improve fish production in the Girvan.

This project was supported by grants from the South Ayrshire Council Rural Affairs Committee and the River Girvan District Salmon Fishery Board

Fund Raising

We continued with our main fund raising events. The Garden Fair at Doonholm in May was well attended and we were lucky with the weather, although we did have a shower of rain late in the day. Our plant stall and teas produced good results, as did the various games. We were supported by stalls from the Farmers Market, crafts and so on. Again it would not have been possible to raise £4000 without all our enthusiastic helpers. Thank you all.

This was followed by another excellent Dinner Auction organised by Jamie Hunter Blair and his team of helpers. Again, to achieve a magnificent sum of £14,000 would not have been possible without generous donations of lots to be auctioned from our supporters.

We instigated our first Fisherman's Supper in Ayr in October where we intended to make it affordable fun evening to promote awareness of the Trust. This was well organised by Robin Wilson and proved a great success with the diners being entertained by our guests including the 'Television Fisherman' Paul Young who kindly attended.

Alistair bravely decided to jump from an aeroplane (with a parachute) in the summer and raised £662. Also, again helped by generous donations of items, our raffle raised £918.

Membership

The number of ordinary members declined to 176 during the year, whereas Corporate and New Life Members held up.

We are trying to have all our membership renewals in February as this makes life easier administratively. So could I ask our loyal members to try and renew their subscriptions as near to February as possible?

It is vital for us to have a healthy membership, not only for the funds received but also as a means of telling everyone what we are doing. We are grateful for all members, but particularly Colmonell Fishing Club where every member has joined. **WE NEED MORE MEMBERS – PLEASE ENCOURAGE OTHERS TO JOIN.** Just get in touch with George Steel – Malleny, Alloway Village, Ayr. KA7 4PY (Tel: 01292 441688)

Grants and Other Income

Donations were well down which is to be expected as the previous year was concentrated on raising enough funds to get us started. However £2000 is very helpful and our thanks go to the donors.

We are grateful to the District Salmon Fishery Boards of the Doon, Girvan and Stinchar for continuing their support.

As mentioned earlier, grants form the lifeblood of funding our work in the field and we are most grateful to these mentioned in the introduction.

Expenditure and Balance Sheet

The notable items in the expenses were:-

1. Employment costs – this is our major cost as expected.
2. Printing, stationary and postage was well down as the first year included our launch literature.
3. Professional Fees were also down as again the costs of the previous year were associated with the start up of the Trust.
4. Training Fees, Telephone and Subsistence, Heat and Light were all related to employing a Biologist and providing services.
5. Motor Expenses. During the year we purchased a ‘Crew Cab’ pickup vehicle giving Alistair some wheels and a means of transporting equipment onto site. We took out a loan of £8000 to cover most of the cost.
6. Subscriptions included £1000 to the Scottish Fisheries Coordination Centre, which provides professional training and a central standard for co-ordinating scientific information.
7. Depreciation is mainly attributable to the motor vehicle.
8. Biologist’s equipment includes electro-fishing equipment.

I hope the Balance Sheet is self explanatory, however it is pleasing to see that our net funds increased by some £5000 over the year to leave us with £48,347 to start the current year.

Annual General Meeting

The AGM will take place on Monday 22nd September at 7.00 for 7.30pm at Auchendrane House, by Minishant, Ayr by kind permission of Mr and Mrs Peter Kennerly, to which all members and supporters are most welcome.

Conclusions

We had a successful first year as an operational trust and we are building on that in the current year when we are now employing two additional temporary Biologists. We are also looking at the longer-term development of the trust and aim to produce a 5-year plan by the end of the year. There is plenty of work still to be done!

I have thanked our supporters and helpers earlier in this report and if I have omitted anyone, then please consider yourself included. However none of this would be possible without the hard work of the Trustees, our administrator George Steel and Alistair Duguid and his assistants. It has been a rare honour to chair a Trust with such a dedicated band working in harmony.

A list of Trustees and various contact addresses are given inside the front cover of this report. Please help to keep the funds coming in.

Peter Kennedy
Chairman

Income and Expenditure

For the period 1 February 2002 to 31st January 2003

	2003		17/8/01-31/1/02 2002	
<u>Income</u>	£	£	£	£
Fundraising				
Dinner Auction	14,214		11,812	
Garden Fair	4,033		5,049	
Fisherman's Supper	702		-	
Raffle	918		1,806	
Parachute Jump Sponsorship	662		-	
		20,529		18,667
Membership				
Ordinary	1,760		4,394	
Corporate	800		800	
Life	1,000		6,600	
Donations	2,094		10,320	
River Board Subscriptions (Doon, Girvan and Stinchar)	4,400		5,275	
Grants Received (Net)	16,230		5,000	
Tax Reclaimed	455		2,373	
Interest Received	210		281	
		26,949		35,043
		47,478		53,710
Expenses				
Employment Costs	21,494		843	
Administrators Honorarium	1,000		1,500	
Printing, Stationary and Postage	1,618		5,277	
Professional Fees	973		2,065	
Bank Charges	135		246	
Training Fees	940		-	
Telephone	602		-	
Motor Expenses	4,332		-	
Subsistence	382		-	
Subscriptions	2,250		-	
Insurance	780		263	
Launch catering and hall hire	-		175	
Secretarial	-		150	
Heat and Light	383		-	
Loan interest	24		-	
General expenses	204		-	
Depreciation	5,349		-	
Biologists equipment	1,928		-	
		42,322		10,519
SURPLUS		<u>5,156</u>		<u>43,191</u>

Balance Sheet

As at 31st January 2003

17/8/01-31/1/02

	2003		2002	
	£	£	£	£
Fixed Assets				
Motor Vehicle		11,809		-
Equipment		<u>4,237</u>		<u>-</u>
		16,046		-
Current Assets				
Bank Current a/c's		6,851		5,101
High interest a/c		33,609		36,217
Prepayments		500		-
Tax recoverable		<u>497</u>		<u>2,373</u>
		41,457		43,691
Current Liabilities				
Bank loan for motor vehicle		7,537		-
Accrued charges		<u>1,619</u>		<u>500</u>
		9,156		500
		<u>48,347</u>		<u>43,191</u>
Represented By:				
Accumulated funds b/fwd		36,591		-
Surplus for year		4,156		36,591
Life membership fund				
B/fwd		6,600		-
Movement in year		<u>1,000</u>		<u>6,600</u>
C/fwd		7,600		6,600
		<u>48,347</u>		<u>43,191</u>