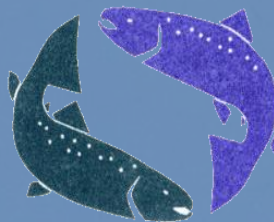


# Ayrshire Rivers Trust

## Biennial Report 2016 & 2017



### Mission Statement:

*"To preserve a valuable part of our natural heritage for the enjoyment of current and future generations, through the conservation, enhancement and development of our freshwater habitats and the fisheries they support"*





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## MEET THE TEAM

### Trust Manager & Senior Biologist - Stuart Brabbs

[stuart@ayrshirerivertrust.org](mailto:stuart@ayrshirerivertrust.org)

Born and bred in Ayrshire, Stuart lives in Mauchline with his 17 year old daughter. At the age of 40, he returned to full time education and in 2008 graduated with a BSc (Hons.) in Sustainable Environmental Management awarded by Edinburgh University. He volunteered with the Trust while studying before joining as a full time member of staff in 2008 and took over the senior role in 2012. Stuart is a lifelong salmon angler but ferox trout are his passion and he spends much of his spare time in search of these elusive fish.



### Biologist & Project Manager - Gillian McIntyre

[gillian@ayrshirerivertrust.org](mailto:gillian@ayrshirerivertrust.org)

In 2009 she graduated from Edinburgh Napier University with a BSc (Hons.) in Marine and Freshwater Biology. From Ayrshire originally, Gillian started with the Trust in June 2009, originally with a summer contract, which was then extended to a permanent post. Throughout her time at the Trust her role and responsibilities have increased, but Gillian loves nothing more than a challenge. Gillian is the project manager for the Trust's projects and is involved in all aspects of the Trust's work. Outside of work, she enjoys spending time with her young family and enjoys hobbies including pilates and kick boxing.



### Biologist - Muir Glendinning

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Muir has a BSc (Hons.) degree in Marine and Freshwater Biology and an MSc degree in Ecology and Evolutionary biology from the University of Glasgow. He spent three years in Cumbria with the Environment Agency assessing the ecological response of salmonids to flow and geomorphological changes made as a result of the Restoring Sustainable Abstraction Programme. He joined the Trust in April 2015 and is now involved in all aspects of fisheries science with a particular focus on monitoring, habitat restoration and barrier removal.



### Scientific Officer - Struan Candlish

[struan@ayrshirerivertrust.org](mailto:struan@ayrshirerivertrust.org)

Following a BSc (Hons.) degree in Countryside Management awarded by Glasgow University, Struan joined the Trust in June 2015. After a week's work experience with ART at the age of 13 he was hooked and began volunteering in his summer holidays. With this experience and growing up on the banks of the River Ayr it was somewhat inevitable that he would pursue a career in environmental management. Struan is involved in all aspects of the Trust's work with a focus on project development as well as monitoring and survey work. His interests are in the outdoors and when not working he can be found in the hills walking and trout fishing and he is an accomplished fly tier.



### Trust Assistant - Gordon Macdermid

[gordon@ayrshirerivertrust.org](mailto:gordon@ayrshirerivertrust.org)

Gordon Macdermid lives in Mauchline where he has lived for most of his life. Growing up on the River Ayr, he has a passion for salmon angling and all things river related. With this passion running through his veins, a background in outdoor leisure management and student finance, Gordon decided to pursue a career in fisheries management and is currently studying modules through the Institute of Fisheries Management (IFM) that will lead to a diploma. Gordon joined the Trust in May 2012 as the CIRB Invasives Project Officer but the job evolved and he is involved in most aspects of the Trust's work and has also taken over the role of administrator.





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## INTRODUCTION

### Chairman – William Stafford

Welcome to the Ayrshire Rivers Trusts' Thirteenth Report, this covers a two year period from 1 February 2015 until 31 January 2017.

I am extremely grateful for the support the Trust receives from the four District Salmon Fishery Boards (DSFBs), our many members, volunteers who provide regular assistance and everyone who contributes to the continuing success of the Trust. Without this support, be it financial or otherwise, the Trust simply could not continue to deliver the multi-faceted work across Ayrshire.

In the previous Biennial Report the Scottish Government were about to proceed with a consultation on the Reform of Wild Fisheries and introduce new legislation to effectively change the legislative and governance arrangements for fisheries and abolish DSFBs. Staff spent many hours responding to the consultation and, without warning, the Scottish Government decided to abort the Review in late 2016 and it would be remiss of me to mention the waste of Trust resources caused by this decision.

Our greatest resource is, of course, our staff and I am grateful for the advice and guidance that I receive from Stuart Brabbs, Trust Manager, and the rest of the team. Their professional and local knowledge is second to none and it is a pleasure to work with them for the benefit of the environment and fishing in Ayrshire. The staff work tirelessly to deliver high quality services and respond to the needs of the angling community across the county.

Like the majority of charitable organisations, we faced challenges over the past two years, not least financial due to funding streams coming to an end and the ongoing effects of the downturn in the economy. Our finances over the past two years have been underpinned by external consultancy work, mainly for renewable companies, which not only allows additional monitoring but also protects our rivers during construction work. At the time of writing Trustees are working on service plans to deliver a sustainable future for the Trust. This will ensure that it is based on a firm financial foundation with a sustainable budget, great staff and Trustees.

In conclusion I hope that you enjoy reading this report and that it will give you an insight into our work.

### Trust Manager - Stuart Brabbs

The Scottish Government's Wild Fisheries Reforms have led to uncertainty surrounding the future of fishery management, wild fisheries and fishing in Scotland.

The protracted process and numerous consultations that followed placed considerable strain on the Trust resources. Our local District Salmon Fishery Boards (DSFBs), Clubs and anglers relied on us to inform them of proposed and impending changes as they emerged. Understandably, there was considerable hostility over plans to abolish the DSFB's only to replace them with new Fishery Management Organisations. Thankfully, a last minute government U-turn saw the status quo prevail however, the 'sting in the tail' are the widely unpopular Conservation Measures, introduced to conserve wild salmon stocks on our rivers. There's no doubt our fish require protection but anglers feel penalised while little else has been done to address wider issues.

Moving forwards on a more positive note, the Trust continues to develop new projects to fulfil our fishery management aims and we achieve a good success rate when seeking funding for these priorities. Funding is however increasingly difficult to secure and there will be challenges ahead.

ART has grown as an organisation both in size and ability. We are reliant on a degree of commercial consultancy (where it meets our aims) to supplement staff costs and overheads however, we operate within strict rules dictated by the Charity regulator OSCR and are careful not to become overly dependent on this income stream.

The Trust is recognised and valued as an effective delivery mechanism for improvements within our river and freshwater habitats. We are an enthusiastic and tight knit team made up of multi-skilled individuals, each dedicated and committed to the ethos of the Trust. A handful of dedicated volunteers assist us in our activities and we are ever grateful to them.

However, a lack of investment in our sector by government, growing apathy amongst anglers, combined with declining salmon and sea trout stocks particularly on the west coast seems to leave ART vulnerable despite our excellent record of achievement. Consequently, we must identify and develop new opportunities wherever they arise and enable and encourage investment in our fisheries at all levels.





## CAAF AND PUNDEAVON RESERVOIRS FISH RESCUES

After more than a year and a half in the planning with Scottish Water, SEPA and Marine Scotland Science (MSS), ART undertook a fish rescue at Caaf Reservoir in 2015 with the aim to remove and relocate as many trout and other species as possible from the reservoir before the dam wall was breached and the surrounding land reinstated. This was a massive undertaking with substantial resource requirement. Galloway Fisheries Trust (GFT) and a host of



Sleet and snow in May!

enthusiastic volunteers assisted with the first phase of the rescue that took three long days to complete. For May, we were faced with unseasonably harsh conditions that included sleet and snow which added to the difficulty of the operation. It really became a challenge and test of physical endurance.

An estimated 1500—2000 healthy wild brown trout were recovered and restocked under license (from MSS) into four suitable locations. Sizes ranged up to around 14" but they were all lovely wild fish. The smallest fish escaped the net with few 1 or 2+ fish captured. Drawing a 100m long net by 4m deep net, over a silty and uneven bed was an arduous and challenging task and it required many bodies to do so. Despite frequent snags, working with 2 boats we continued until we felt we had



Casting the net via boat at Pundeavon Reservoir

captured most of the fish. It is on jobs like this that we rely on our network of volunteers. Whilst this type of activity is hard work, it is very interesting and rewarding. A great deal of satisfaction can be taken from it and volunteers seem to enjoy learning new skills and taking part as do the staff. It is



A selection of different sized brown trout caught

a welcome change from working on rivers.

A similar fish rescue was completed at the nearby Pundeavon Reservoir during autumn 2015. ART had undertaken gill net surveys the previous year which established the reservoir contained a fish population consisting mainly of small wild brown trout. It took two days to remove as many fish as was possible. Once again we were assisted by local volunteers who gave up their free time in challenging conditions. An estimated 1200 brown trout were safely caught and translocated to Kilbirnie Loch under license with the permission of Kilbirnie Angling Club, MSS and Scottish Natural Heritage.

Whilst activities like this are not part of the Trust's day to day activities we are well prepared and equipped to deal with specialist tasks such as these. Of course having staff and enthusiastic volunteers is crucial. Fish welfare is always a priority for ART and we were pleased to undertake both these rescues rather than see these fish left floundering at the mercy of predators in an ever decreasing muddy puddle.

ART would like to thank GFT and all those who volunteered with the rescue. Without their assistance, we would have struggled to save and relocate so many fish.



Pulling the net through thick, glutinous mud....a tough task!



## HABITAT RESTORATION PROJECTS

### Green Engineering Work

Green engineering is not a new concept when it comes to river bank restoration, but it is a technique which has been under utilised by the Trust in the past. In 2015 ART attended a workshop organised by The Wild Trout Trust in conjunction with Argyll Fisheries Trust. The workshop demonstrated green engineering techniques that could be used to alleviate excess sediment and silt entering our watercourses due to riverbank erosion and to improve the habitat for fish. Techniques included introducing large woody debris to create diverse flows and scour that would promote cleaner gravels for spawning. Demonstrations illustrated the range of watercourses that could be improved with these techniques and we are confident that across Ayrshire, we will be able to find many locations that would benefit from some attention using these methods.

Since the workshop, ART have hosted our own demonstration days for local angling clubs and members to show how natural restoration processes and techniques (as opposed to hard engineering) can be used to benefit watercourses and improve the fish habitat.



Weaving being constructed, April 2016

A demonstration site on the middle reaches of the River Girvan focused on a number of erosion points, one of which had previously been tackled by the local angling syndicate with encouraging results. ART installed willow spilling into a section to create a living structure that will root, trap sediments and provide bank stabilisation. In another section further upstream we used willow bundles staked into an existing hazel spilling which had done its job but needing some attention. Hundreds of individual willow cuttings were also planted into the bare bank face to

provide a root mass that hopefully will bind the soil together. After only six months the willow had rooted and a living structure was providing a multitude of benefits to the riverbank. ART will monitor this site over the coming years and assess its effectiveness.

ART also spent a day in spring 2016 on the River Doon at Waterside demonstrating how to install willow spilling to the local angling club. A good turnout from the locals enabled willow weaving on a 20m stretch of the river to be completed in only few hours. This type of work is laborious to install but when there is a large group helping out, many hands make light work, so to speak. Having bodies on hand harvesting the willow is also important as this takes up just as much time and is important to factor in when planning a project such as this. Furthermore, locating a local source of suitable willow material to harvest can be a sticking point and selecting the correct species of willow is key to achieving effective solutions that will stand the test of time. Planting willow for use in future green engineering projects is an approach we are actively taking here in Ayrshire.

Green engineering techniques are part of a larger strategy that the Trust endeavors to promote as a way of improving



Weaving post construction, August 2016

the quality of juvenile fish habitat in degraded areas. Providing quality juvenile habitat is recognised as one of the best ways to increase juvenile productivity and ultimately smolt output. It not only benefits salmon and trout and other species too.

As time goes on the Trust gains more experience of green engineering techniques and this will only benefit Ayrshire's rivers and fish populations. The Trust has a number of projects already planned for 2017 on several catchments.





## Riparian Tree Planting

Riparian tree planting schemes have an important role in maintaining and improving the quality of the water environment. With careful thought and planning these schemes can provide many important benefits including habitat provision for many species. Trees and shrubs can also help reduce water temperatures in the hot summer months, provide a natural source of woody debris and leaf litter for aquatic macro-invertebrates and helps form buffers between agricultural areas and watercourses which in turn reduces diffuse pollution inputs. Once established tree roots can help bind river banks together, preventing erosion and reducing the amount of excessive silt entering the watercourse, which brings benefit for egg survival.

In some areas of Ayrshire, riparian trees and shrubs have been lost with many rivers now lacking any shade. The Trust, with support from particularly the Doon District Salmon Fishery Board (DSFB) and several funding partners, has been active in planting native broadleaf trees and shrubs along riverbanks and streams. Species such as alder, downy birch, silver birch, willow, rowan, hazel, aspen, hawthorn and blackthorn have been planted to give a varied shade profile. Consideration is always given to local conditions specifically stream orientation and the level of shading the trees will eventually provide.



Willow cuttings been plugged into an eroding bank on the upper River Ayr



A mix of native broadleaves planted on Culroy Burn

It is clear tree planting in riparian settings has multiple benefits for the aquatic and terrestrial habitats/species as well as the wider environment however it is important to be mindful of how the plants will develop, as 20 years post planting, the trees will look rather different. Achieving a balance of light and shade is necessary as dense woodlands allow little vegetative growth and may reduce productivity.

However it is a quicker management fix to carry out woodland thinning than it is to plant trees which may take 20+ years to create the desired effect. The thinnings can provide valuable material for use in further bank stabilisation. As with any management it is all about balance and for their limited cost trees provide excellent value for money.



Broadleaf trees being planted on the River Doon on the Holms beat





## Fencing

The Trust continues to work with landowners and DSFB's to exclude livestock from watercourses. SEPA and the agricultural grants schemes should also encourage this approach. Cattle and sheep with unrestricted access to watercourses can drive erosion and result in bare, badly collapsed banks that contribute fine sediments, smothering habitat and redds. Installing fencing allows

grants available. With landowners obligated to protect water margins under SEPA's General Binding Rules (19 & 20), it really is a carrot that should be enticing. The Doon is a priority catchment included in SEPA's diffuse pollution initiative and therefore was badly in need of improvement to meet and protect bathing water quality standards along the Clyde coast. Other local priority catchments include the Ayr, Irvine, Garnock and Girvan.



This photo was taken shortly after fencing had been erected on either side of the watercourse



A couple of months later: marginal and bankside habitat are recovering. Trees were planted the following winter.

the riparian zone to recover, protects young trees from damage and reduces nutrient inputs. The result is improved water quality and habitat. We have included before and after pictures of newly erected fencing illustrating the rapid recovery of vegetation once livestock are excluded.

It is not an easy task to secure agreements with farmers but its time well spent and the success we have had so far has allowed several kilometres of fencing to be installed in the last couple of years.

The Doon DSFB asked ART to arrange for fencing to be erected where it was most needed throughout the catchment and for the last two years we been working to deliver this. The Board agreed to fund up to 40% of the cost of the fencing making it perhaps the most attractive

We expect to continue this strategy in 2017. Landowners wishing our assistance should give the office a call and we will endeavour to help.



Before fencing on the Purclewan Burn upstream of Dalrymple.



3 years after fencing, exactly the same view but with a much improved habitat.



## LOCH DOON SMOLT PROJECT

Due to the decline in migratory species entering Loch Doon, we are concerned there may be several factors limiting recruitment within the upper Doon catchment, including upward and downward migration through the dam, low pH/acidic flushes from forestry, base poor geology, temperature and access to spawning habitat.

In 2016 we commenced our salmon smolt project at Loch Doon with the aim of better understanding smolt migration through the loch and dam. The tributaries in the upper catchment above Loch Doon dam were electrofished with parr large enough to undergo Passive Integrated Transponder (PIT) tag insertion. A small bespoke smolt trap was also installed in one of the tributaries to enable as many smolts to be captured and tagged as possible.

An antenna was installed into the fish ladder at the dam to record and log any PIT tagged fish either migrating downstream through the fish ladder as smolts or as adults returning from time spent at sea. This data will allow us to monitor the proportion of tagged fish that are successfully migrating downstream through the dam and returning as adults in future years. We should be able to tell exactly where these returning adults originated and which burns are most productive. This work will allow ART to monitor migration through the loch and dam and should allow us to make management recommendations to improve the success rate.

Each tagged fish was also scale sampled (aged), measured and adipose fin clipped to help anglers identify these fish easily when they return as adults either as grilse (one sea winter fish) or salmon (2 or more sea winter fish). These data are also supplied to Marine Scotland Science for the International Council for the Exploration of the Sea (ICES) Working Group on North Atlantic Salmon.



PIT tag antenna located in Loch Doon fish ladder

Only preliminary results from the tagging programme have been collected, with the data already showing some interesting trends. In addition, we are collecting pH data in the surrounding tributaries of Loch Doon which will be used to monitor the occurrence of acidic flushes which can be prevalent in conifer plantation and peatland habitats and be detrimental to fish populations. The Forestry Commission has several blanket bog restoration programs within the Loch Doon area which may alleviate some of the acidic conditions during high rainfall events. Our pH monitoring will hopefully give a better understanding into their effectiveness.



A PIT tagged salmon parr ready to be released.

This work will be repeated over the coming years and should provide evidence to inform management and mitigation in future years. It is essential that the decline in salmon production and migration is reversed quickly before the genetic integrity of the upper catchment salmon population is lost entirely. Having consulted widely with the stakeholders including Scottish Power, Forestry Commission, Scottish Natural Heritage (SNH) and SEPA, they unanimously agreed that this is a worthwhile project and will support these actions.





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## EDUCATION PROJECTS

### Carrick River and Tree Planting Education Project

In October 2016 we began The Carrick River and Tree Planting Education Project, which was delivered to ten schools in the Stinchar, Girvan and Doon catchments in South Ayrshire. The project focused on introducing primary school pupils to their local stretch of river. Funded by Carrick Futures, Hadyard Hill Community Benefit Fund Ltd. and South Ayrshire Waste Environment Trust (SAWET) the project gave pupils the opportunity to learn about the fish in their river, the invertebrates that the fish feed on and why riparian trees are important for aquatic ecosystem functioning.

The project was delivered over two visits, with the first visit introducing the pupils to their local river where an electrofishing demonstration was provided followed by fish identification and biology/ecology workshops. Pupils were then given the opportunity to participate in collecting and invertebrate sampling with staff and teachers supervising. After the pupils collected a range of invertebrate samples,



Pupils taking part in a fish ID/biology workshop

the group retreated to the classroom for the afternoon which turned into a laboratory with microscopes, magnifying glasses and identification keys.

On the second visit the pupils planted trees and created their own small woodland on their local watercourse, which they will be able to watch grow over the coming years. Each 'woodland' has a plaque marking the date, school and class that planted the trees. Hopefully one day the pupils may return with their own children and be able to say that "I planted those trees"!

The project was well received with the pupils enjoying both their time on the river and time in the classroom. For the staff it is very rewarding seeing the pupils responding and engaging so well with new projects. We hope that we may inspire a few pupils to follow in a similar direction to that of the Trust staff. These are citizen scientists in the making!



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*Ayrshire Rivers Trust, keep up the good work  
&  
"C'mon the fish!"*



## Rivers and Lochs in the Classroom

The 'Rivers and Lochs in the Classroom' project is a four year project being delivered to primary schools across the regions surrounding the Clyde Estuary by three Fishery Trusts/Foundations. Ayrshire Rivers Trust, the Clyde River Foundation and Loch Lomond Fisheries Trust are grateful for funding provided by the Greggs Foundation.

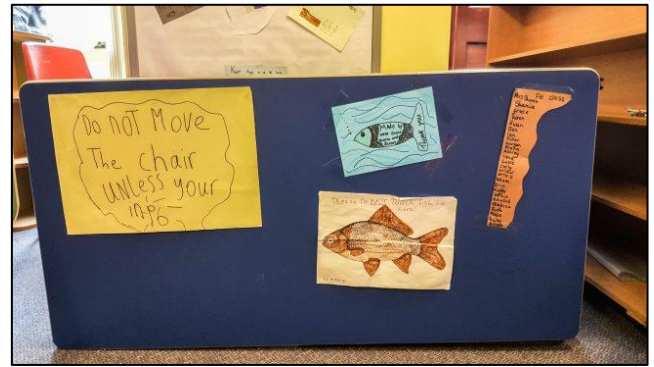
During 2016 ART hosted a 'meet your river' day for six primary schools across Ayrshire. This introduced pupils to their local river where we provided an electrofishing demonstration followed by a fish identification workshop. Pupils then had the opportunity to get into the water and take an invertebrate kick sample with staff and teachers supervising. This was followed by an invertebrate identification workshop on the river bank.



Triploid trout eggs ready to be taken to the participating classes

Over the next three years ART will continue the project by delivering interactive education to 36 schools across Ayrshire. This commenced in January 2017 with pupils from each school taking responsibility for a small classroom hatchery in which triploid brown trout eggs are incubated and hatched.

This project focuses on introducing primary school children from across Ayrshire to the lifecycle of salmon and trout. Once the class has successfully reared the eggs to alevin stages, the young trout are released into their local river.



Holmston Primary created a barcade to protect their aquarium and adorned it with fantastic posters.

This project is delivered over three sessions, with ART staff visiting each school for a 'launch day' where the children are given an interactive presentation around their local river, the species of fish that inhabit it, the pressures fish face and their survival strategies.

Keeping the project fun is essential so pupils get to play a large scale salmon migration floor game and try their hand at casting indoor practice fly rods. These games link directly to the morning's presentation and give the pupils a real appreciation for the difficulties Atlantic salmon face when migrating our rivers.



An example of a pupils drawing

We set up a classroom hatchery and discuss the process with classes before highlighting their responsibilities. The school then have the next couple of weeks to experiment with keeping the water in the correct temperature range for the eggs to develop.

Once they are able to maintain the hatchery at the required temperature, we supply each of the schools with 100 trout eggs for the pupils to raise to the alevin life stage. At that point, ART staff return to the school and pupils accompany us to the river to release their fish. The project is a fantastic way of introducing school pupils to the wonders of rivers and the salmon and trout lifecycle.



## ELECTROFISHING REPORT 2015/2016

The main aim of electrofishing is to assess juvenile fish stocks in our rivers but through this process we can identify where improvements may be made or where intervention is required. Understanding factors that limit juvenile productivity is essential before embarking on any action intended to reverse declines. Removing barriers to spawning areas where man made obstructions restrict or prevent access has long been identified as one of the most effective ways to increase productivity in rivers.

Similarly, reduced water quality limits productivity and actions that increase bank stability and prevent erosion may also improve juvenile production. Erosion mobilises silt within the catchment.

### Ayr

2015 saw the ART team survey 29 tributary sites and 16 timed sites, the results of which were broadly comparable to the previous year's surveys. During 2016 23 tributary sites were surveyed and 16 timed sites. The River Ayr fish population has many pressures affecting it. Issues include historic mine discharges in the upper catchments, intensive agriculture in the lower catchment and areas of degraded habitat and erosion throughout the river. The Trust are working with the Board and landowners to resolve issues where possible.

Ensuring well vegetated buffer zones are in place, reduces erosion and limits nutrients and enrichment.

With improvements in agriculture and restoration of



A trout, salmon and grayling

Silt and soil particles entering watercourses increase the nutrient loading and reduce water quality. Where nutrient loads are excessively high, reduced productivity is typically most obvious in lower river catchments. Mobilised silt drops out of suspension and deposits on spawning beds, leading to compaction of substrates poor oxygen transfer and reduced spawning success. These issues can be identified within the electrofishing results as trends appear.



Muir and Struan recording measurements after electrofishing

surface mines ongoing, we can hopefully look forwards to improved water quality being achieved in the years ahead.

### Doon

In 2015 ART surveyed 30 tributary sites as well as 8 timed sites. 2016 saw the team survey 25 tributary sites and 10 timed sites. ART and the Doon Board continue to work with landowners to promote and provide riparian margin fencing. This, complemented with tree planting should improve water quality and habitat over the coming years. The upper catchment continues to outperform the rest of the river, primarily as the spawning habitat is excellent and the channel unmodified. The Doon has a limited number of productive spawning tributaries and high flows over the 2014/2015 winter would have hampered fish spawning in the main river.



A bucket of salmon fry collected from timed electrofishing

Salmon numbers are declining and our priority has to be the restoration of spawning areas that have been degraded.





## Girvan

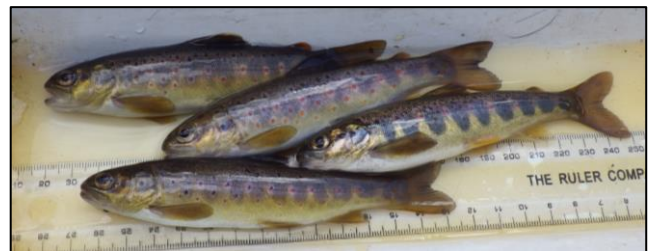
2015 saw the ART team survey 12 tributary sites and 10 timed sites, the results of which were broadly comparable to the previous year's surveys. During 2016 27 tributary sites were surveyed and 10 timed sites. The upper most timed site above Tairlaw Bridge changed considerably in 2015 due to a landslide and the Balbeg site was washed out by exceptionally high overwinter floods. These habitats are no longer as suitable for timed surveys having lost most of their fry habitat. Despite this, the remaining sites across the catchment continue to produce salmon fry in good (often excellent) numbers.



Timed site at Tairlaw Bridge

## Stinchar

In 2015, 30 tributary sites and 9 timed sites were surveyed. 2016 saw the team survey 17 tributary sites and 9 timed sites. Changes have been noted at many sites and we can assume substantial numbers of redds were lost as a result of the exceptionally high waters over winter and indeed reports were received that eggs were found washed onto the banks following the largest spate. (The largest spate peaked at just a few millimetres below the record level since recording began in the 50's). In 2015 no salmon fry were recorded on the Assel or many of the lower river tributaries. This was of great concern to the biologists and may indicate a lack of returning adults.



Three trout parr and one salmon parr

However, the 2016 surveys revealed excellent numbers of juvenile salmon once again and we have to hope that 2015 is not a sign of things to come.

## Irvine & Garnock

ART performed 2 mainstem surveys for Galston, Darvel and Hurlford Angling Clubs in 2015 and 5 tributary sites were also surveyed. Barriers to fish migration and habitat improvements should be a priority. Under instruction from the angling club, ART are willing to assist with this in any way possible and suggest that funds should be sourced through grant funding applications. Cost effective measures to improve stocks are available and volunteer effort from within angling clubs can deliver benefits at minimal cost.



Two trout parr and two salmon parr

## Looking Forward: 2017

ART have been carrying out detailed assessments of juvenile salmon and trout stocks since 2001. This information has given us a large data set and a deeper understanding of the productive and non-productive areas across the catchments. In 2017 more time will be spent visiting landowners to discuss problem areas and the most efficient methods of solving the issues.

Electrofishing is an irreplaceable survey method and monitoring tool however monitoring for the sake of monitoring is potentially a waste of time that could be better utilised elsewhere. As ever having a clear question that requires answering should be the driver behind survey work. And when we know what the issues are, then our priorities should be resolving these issues and not continually proving that they still exist.



## NORTH AMERICAN SIGNAL CRAYFISH

After receiving a report that a North American Signal Crayfish (NASC) had been sighted by an angler on the River Ayr catchment in 2015, the Trust quickly deployed traps to assess the situation (under license issued by SNH).

Unfortunately, after a single night's trapping we confirmed that ASC are present in Ayrshire. This, apart from being very disappointing may be potentially highly damaging to native fish populations in this river. To date, no effective control methods are available for rivers infested by these animals. It is illegal to trap these animals without a Scottish Government license and these are issued for scientific purposes only. Trapping isn't widely encouraged as it increases the risk that these animals will spread either inadvertently or deliberately. Catching and eating trap-caught crayfish in Scotland is illegal.

The local angling club are aware of our findings and are extremely concerned. How they got there is unknown and we will not speculate further at present but there is no doubt that this has been a deliberate and reckless act. Moving live NASC is illegal, a wildlife crime and highly irresponsible. They cause damage to fish and invertebrate populations, destroy habitat and will downgrade the SEPA classification of a system due to them being an invasive non-native species. Wherever possible, anyone caught introducing these invasive species will be prosecuted under the Wildlife and Natural Environment (Scotland) Act 2011.



Our specimen is pictured top left alongside a selection of crayfish from locations outside of Ayrshire. These have been preserved in alcohol hence their loss of pigmentation.



The NASC can be identified by the red underside of their claws

To prevent the accidental spread of these and other non-native species, anglers and river users are encouraged to follow a few simple biosecurity measures:

- Check – once you are ready to leave a fishing spot, always check your equipment for any non-native species (plant or animal). Pay particular attention to nets where crayfish could be trapped in the folds.
- Clean – before you leave the riverbank clean any equipment at the water's edge, removing mud and plant material from equipment and boots. Once at home, disinfect any equipment that's been in contact with the water using a proprietary product such as Virkon.
- Dry – following cleaning and drying, thoroughly dry all equipment before reuse. Most aquatic organisms won't survive long out of water so this is especially important.

### Be Vigilant

ART continue to monitor this situation however should anyone notice evidence of crayfish on any watercourse please contact the Trust.





## INVASIVE PLANT SPECIES CONTROL

Invasive non-native plant species (INNPS) have been described as the greatest threat to biodiversity worldwide, after habitat destruction. INNPS are species 'whose establishment and spread threaten ecosystems, habitats or species with economic and environmental harm'. They can suppress native vegetation, displace native animal species and can potentially devastate ecosystems, having already done so in some parts of the world. Our freshwater habitats are some of the most sensitive to the negative impacts associated with INNPS and in many cases require expensive management to mitigate against these negative impacts.

ART have been controlling INNPS including Giant hogweed, Japanese knotweed and Himalayan balsam across Ayrshire since 2008. Giant hogweed is a highly invasive plant species that not only poses a significant threat to public health via its toxic sap but also threatens native biodiversity. Through funded projects ART have continued to control giant hogweed every year since 2008 and also extended this to Japanese knotweed and Himalayan balsam which also threaten native biodiversity and take over riverbanks and pathways.

ART continued to control INNPS during 2015 and 2016. The strategy was funded by South Ayrshire Council, SAWET,



Giant hogweed on the River Ayr Walk (Daldorch)

SEPA water environment fund, EB Scotland and the Rivers Ayr and Doon DFSB's. In kind contributions come from ART in the form of staff time and also from trained volunteers that help with control across Ayrshire.

This project aims to restore and protect riparian habitats across Ayrshire where invasive non-native plant species occur and we achieve this using our well publicised and effective control strategy that has been adopted by others around the country. The results we achieve are excellent however this is a long term approach and we must continue for some years to come.

Contractors were engaged to deliver Giant hogweed control along the length of the River Garnock, Irvine, Annick Water (including the Clerkland Burn), River Ayr including the Water of Fail, Lugar Water, Taiglum and Bogend Burns and the Water of Coyle. ART staff delivered control of this species on the River Doon and Coastal Burns including the Pow Burn, Ladykirk Burn and Hogston Burn. Trained volunteers helped with the control on the Annick Water and Himalayan control on the River Garnock, River Girvan and River Stinchar. Their contributions of time and effort is much appreciated.

Following the success of these control projects, ART will continue to deliver sustained control of INNPS as an integral part of an Ayrshire wide strategy for as long as funding is available. ART has a number of trained volunteers in Ayrshire that can be used to carry out the control strategy, however they need to be equipped and managed and will continue to complement the work carried out by contractors and staff.



After 3 years of giant hogweed control on the River Ayr Walk (Daldorch)





## PISCIVOROUS BIRD COUNTS

In April (2016), Stuart and Struan paddled the length of the River Doon surveying for fish eating birds which was timed to coincide with the smolt run as this is when predatory birds can inflict severe damage on shoaling smolts as they descend the rivers. It was the first time this method has been used in Ayrshire to perform bird counts and we concluded it was an effective technique worth repeating.



Paddling down the stretch between Smithston and Boreland Glen.

Not only did we count predatory birds but we gathered a wealth of information on other issues we came across. On the day we took over 500 photographs on our travels downstream. Everything from erosion issues to potential habitat improvement works was identified. This is a method we are eager to repeat regularly on all Ayrshire rivers in future.



This swan was somewhat shocked when we came around the corner.

The survey began at daybreak and finished shortly before darkness. Subsequent surveys have been quicker as we replaced our original craft with a two man kayak which is more suited to the task. We had to patch our dinghy as it sustained some damage from impact with rocks.

This survey revealed that goosanders, and mergansers are by far the most common predatory birds found on the river. Cormorants were present in the middle river in low numbers. We counted numerous herons and a pair of kingfishers too. The final count was given to the River Doon District Salmon Fishery Board and a second survey was carried out later in the year.

These journeys while informative, are also labour intensive, and a test of endurance. Paddling 40km from Ness Glen to the sea took fifteen hours.

## TEMPERATURE DATA LOGGERS

ART are taking part in a long term temperature study of the River Ayr catchment. To assist a PhD student in their research, we installed temperature data loggers in carefully chosen locations across the River Ayr catchment. Water temperatures are recorded remotely but we require to visit each site annually to download the data.

These loggers will be active for 20 years and already we are seeing interesting data emerging. Of course water temperatures rise and fall seasonally, but it is interesting to see the peak temperatures that occur, particularly where trees and shade are absent. Some results are concerning especially as predicted temperature increases over the next half century may see water temperatures rise



Downloading a temperature data logger on the Burnock Water (a tributary of the River Ayr)

to sub lethal levels. Perhaps an obvious solution may be to plant trees and shrubs now that will offer shade and cooling over the warmest spells for decades to come.



## EVENTS

### Charity Dinner

We held our charity fundraising dinner on Friday the 18th of November 2016. The event was attended by around 100 loyal supporters and friends of the Trust. The night was one of good food, drink and much mirth and with £2302 raised for the Trust the whole event was very worthwhile.

In spite of the cold, we enjoyed a three course meal followed by our speaker Mr Phil Differ. Phil told tales from his long career as a comedy writer with some funny moments from his past while working with the likes of Tony Roper, Gregor Fisher and Rikkie Fulton.



Charity dinner at Paddock Lawn Marquee, Ayr Racecourse

After a short break we held a raffle with some excellent prizes up for grabs including, football tickets, stadium tours, a banquet meal for four, Fishpal vouchers and much more.

Andrew Hunter Blair, a professional auctioneer, generously agreed to conduct the auction. There were many lots up for grabs including hotel accommodation, a round of golf for 4 at Royal Troon, rare malt whisky, signed rugby ball as well as the usual and much desired fishing lots. Andrew very skilfully and humorously managed to extract more than a few extra pound notes from the bidders as the evening drew to a close.

We would like to thank all those who attended and those that generously donated lots for the auction. Your support is much appreciated by all at the Trust. We are grateful to Sir Patrick Hunter Blair, our MC for the evening and Andrew for conducting the auction.

### Quiz Night

We had our annual quiz night at the Abbotsford Hotel in Ayr on the 11th of March 2016. This is always an enjoyable evening and as usual, our quiz master Wallace Milligan did not disappoint. The evening kicked off with the teams enjoying great banter with the quiz master whilst enjoying a few drinks. After the quiz was finished and the winning teams presented with their prizes we moved on to a raffle with some fantastic prizes up for grabs.

We would like to thank all those who participated and donated raffle prizes and congratulations to the winning team and runners up. A very enjoyable night and a few pounds raised for the Trust.



Quiz night held at the Abbotsford Hotel



## WEBSITE AND SOCIAL MEDIA

The Trust understands the importance of keeping our members and the public up to date with all the work we carry out across Ayrshire. Our website contains everything you need to know about the Trust and our blog is kept up to date with the work that we are carrying out throughout the year.

Our Facebook page is updated on an almost daily basis about all the latest happenings across Ayrshire. Facebook allows anyone to share information, comment on posts

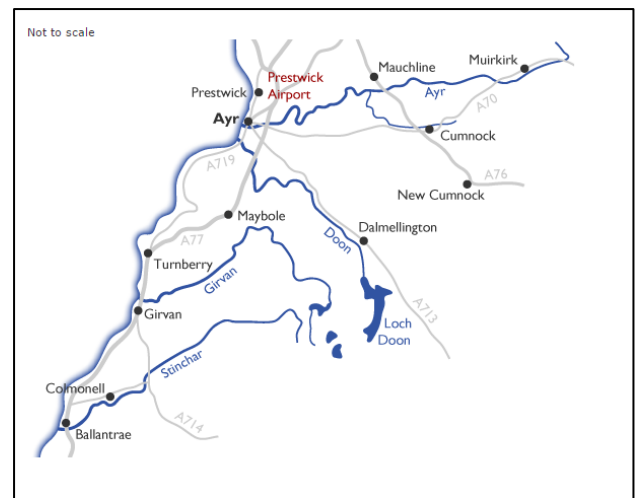
and get in touch with the Trust easily. Just search for "Ayrshire Rivers Trust". We are also on Twitter, please follow us @AyrshireRT.

The website also allows you to access our online shop, where all the Fisherman's Maps are available for purchase. Details of catch returns dating back to the 1950s are on our website for each of the main rivers. There are live feed river cameras on the Ayr, Doon, Girvan and Stinchar that can also be accessed through our website, so you never have to take a gamble with water levels again.

## FishAyrshire Website

The FishAyrshire franchise is managed by ART and available through Fishpal. The website provides up to date information regarding recent catches, current river levels and permit availability. An online booking system is also in place on some beats.

For a small fee each year, beats and clubs can advertise their fishings on the website. This provides them with a webpage through which they can sell permits and promote their fishing. FishAyrshire also has a Facebook page where anglers can share their experiences of fishing in Ayrshire. By reporting catches on FishAyrshire many clubs and beats have seen a rise in day ticket and annual membership sales.



The four Ayrshire rivers with District Salmon Fishery Boards

## Membership

The support of the public is key to the success of ART and contributions of any kind are always very welcome. Membership of the Trust is a way for you to contribute to the expansion of our research and improvement programmes. Membership also shows commitment to the Trust and to the work that the staff carry out.

Membership fees are as follows: Junior (under 18) £5.00/Ordinary £15.00/Corporate £60.00/Life £220.00

Becoming a member entitles you to a 10% discount at Gamesport of Ayr and the Ultimate Angler in Girvan. As well as these discounts you will receive the following free of charge:

- Free copy of our newsletters
- A free copy of our annual reports
- Easy access to social events hosted by the Trust

Membership can be bought through the Trust's website or drop in to the office for a cup of tea and a chat.





## CONSULTANCY

### Services

Ayrshire Rivers Trust provide an extensive range of environmental and biological consultancy services by drawing upon the extensive skills and experience of our staff. The Trust has many years' experience working with renewable, residential and commercial clients. The income raised through our consultancy services is used to further the protection and enhancement of the Ayrshire river catchments and the fish populations that they support.

Individually tailored services are offered at highly competitive rates.

#### Our core services include:

- Electrofishing fish population assessment (Scottish Fisheries Co-ordination Centre (SFCC) Team Leader accredited)
- Habitat surveys (SFCC accredited)
- Freshwater Pearl Mussel Surveys (SNH license holder)
- Fish rescues and translocation – still waters and rivers
- Invasive Non-Native Plant Species – surveys and strategic control programmes
- Macroinvertebrate surveys and monitoring
- North American Signal Crayfish surveys
- Environmental Impact Assessment (EIA) – Ecology Section
- Fishery audits and guidance for windfarm developments, utilities and road infrastructures.
- Fishery management plan creation
- Habitat restoration and enhancement
  - Green engineering – willow weaving, brash bundle installation, terraced revetments etc.
  - Tree planting.
- Fish barrier assessments (SNIFFER accredited)
- PIT tagging
- Salmonid Spawning/Redd Counting
- GIS Mapping
- Catch Data Analysis
- Water vole surveys
- Scale Reading and Interpretation
- Aerial photography and videography
- Environmental project management
- ART also work in an advisory capacity with many organisations



Freshwater pearl mussel survey using bathyscope



SFCC Habitat surveying

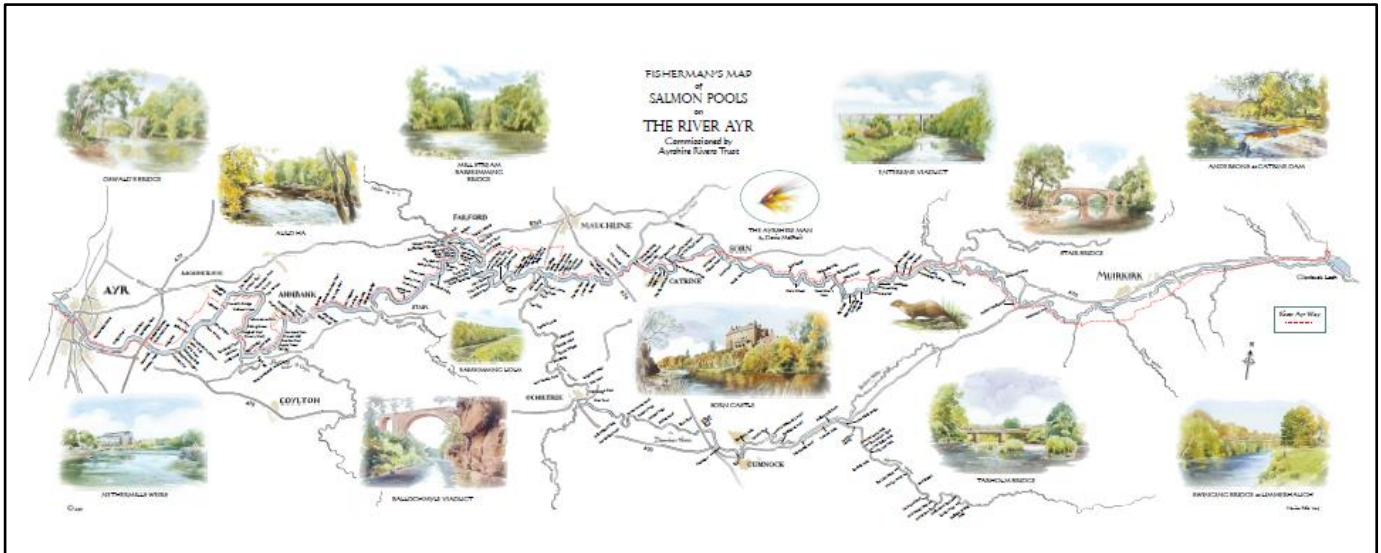
\* For further information call 01292 737300 or email [info@ayrshirerivertrust.org](mailto:info@ayrshirerivertrust.org) \*



## RIVER MAPS FOR SALE

Our river maps remain a popular gift choice among anglers and anyone with an interest in the outdoors. The River Ayr is the third in the series of Ayrshire maps following the River Doon and River Stinchar maps, both of which are still available. Each map details

the river and major tributaries from its headwaters to sea, along the way major pools are named and exquisite water colour paintings of landmarks from around the catchment make this a fantastic way to brighten your office wall or indeed your home.

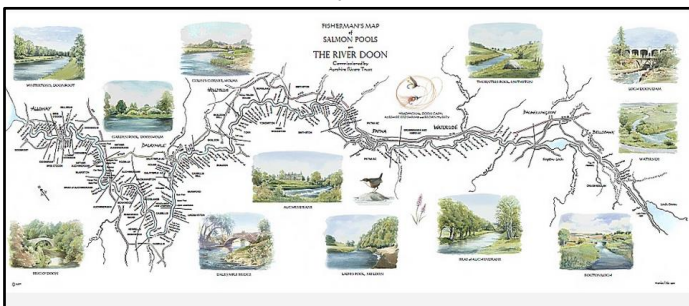


The Fisherman's Map of the River Ayr - £31.50

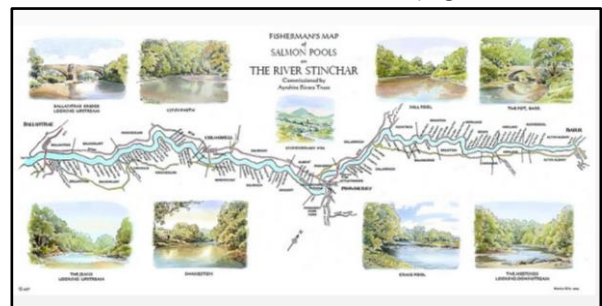
The River Ayr map costs only £31.50 plus £3.65 p&p. The dimensions are 78x33cms.

The River Doon map costs only £25.00 and its dimensions are 67x30cms. The Stinchar River map only costs £22.00 and has dimensions of 45x22cms. All make fantastic gifts for fisherman and walkers. Maps are available to

buy at [www.ayrshireriverstrust.org/river-map/](http://www.ayrshireriverstrust.org/river-map/) through PayPal. Or if you would rather pay by cheque please send us a cheque made payable to 'Ayrshire Rivers Trust' our address is on the reverse of the cover page.



The Fisherman's Map of the River Doon - £25.00



The Fisherman's Map of the River Stinchar - £22.00

Discounts are available when all 3 maps are purchased together: please phone the office for details on 01292 737300.



## ACCOUNTS

### INCOME AND EXPENDITURE FOR THE YEAR ENDED 31 JANUARY 2017

	Year to 31 January 2017		Year to 31 January 2016	
	£	£	£	£
<b>Income</b>				
<b>Fund raising (net of direct expenses)</b>				
Raffle	1,043		-	
Merchandising	722		1,546	
Annual report advertising	-		324	
Gift Aid tax reclaim	400		388	
Charity dinner	2,657		-	
Quiz night	190		145	
Fishpal contributions	<u>870</u>		<u>1,765</u>	
		5,882		4,168
<b>Membership</b>				
Ordinary	1,619		1,694	
Corporate	1,020		720	
Life	<u>340</u>		-	
		2,979		2,414
<b>Other income</b>				
Donations	2,431		1,647	
River Board subscriptions (Doon, Girvan, Ayr & Stinchar)	22,348		22,127	
Other River Board contributions	4,487		8,617	
Grants received	98,456		53,056	
Consultancy fees	73,547		64,743	
Sundry income	1,211		568	
Rent received	600		-	
Interest received	<u>1,050</u>		<u>1,087</u>	
		<u>204,130</u>		<u>151,845</u>
		212,991		158,427
<b>Expenses</b>				
Employment costs	142,167		112,408	
Grant expenses	57,329		39,501	
Printing, stationery and postage	1,982		1,769	
Professional fees	2,279		2,028	
Training fees	759		1,467	
Telephone	1,186		838	
Motor expenses	4,500		6,417	
Subscriptions	5,322		2,790	
Insurance	3,224		3,256	
Office rent	5,792		5,810	
General expenses	332		105	
Bad debts	590		-	
Events and fairs	20		20	
Depreciation	1,305		2,820	
Biologists' equipment	<u>3,683</u>		<u>3,768</u>	
		<u>(230,470)</u>		<u>(182,997)</u>
Net income/(expenses)		(17,479)		(24,570)
Add/Less: Movement in restricted funds		2,163		12,240
Other gains and losses on investments		<u>3,519</u>		<u>(888)</u>
Net deficit - unrestricted funds		<u>(11,797)</u>		<u>(13,218)</u>

This information is extracted from the Statement of Financial Activities and the Balance Sheet included in the financial statements. The statutory financial statements have been independently examined and the examiners' report was unqualified. Statutory financial statements can be obtained by writing to the charity at 1 Gibbs Yard, Auchincruive, Ayr, KA6 5HW.





Thanks to...

