

# Something silver

How do you get primary seven interested in wildlife, when they are just beginning to get cool?

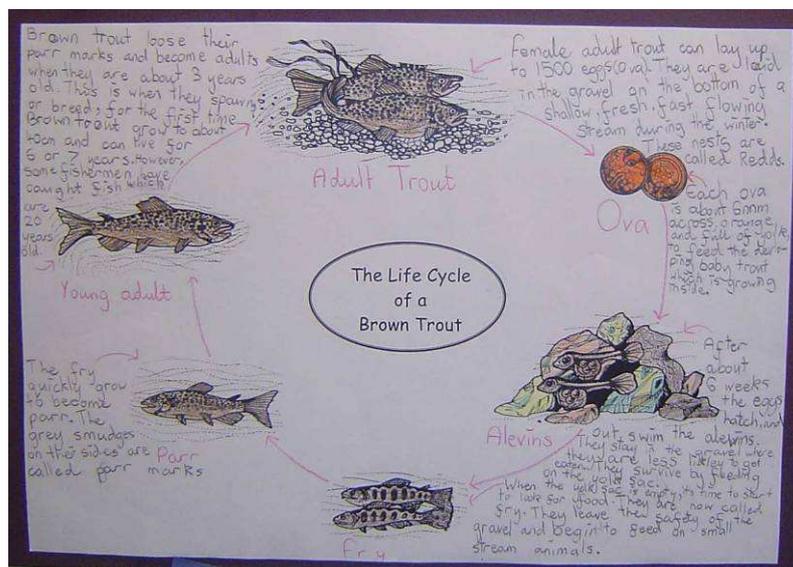
*Show them a big beautiful silver wild animal which lives in their own rivers, which is an icon of Scottish culture, and let them look after it.*

Alastair Stephen decided this was a good idea way back in 1991. Alastair was not an educationalist – he worked for the West Galloway Fisheries Trust – so he went to the council education advisors, to discuss how to take it forward. In retrospect this was a critical decision, and has underpinned much of the subsequent success of the idea. Alastair and the education advisors sat down with a group of primary head teachers and came up with some guidelines as to how to do it, linking in with the 5-14 curriculum.

Eventually the idea was taken forward by a partnership of Fisheries Trusts and District Salmon Boards, Scottish Natural Heritage, rangers, Local Education Authorities, Clyde River Foundation and a range of enthusiasts from individual teachers to parents and local business. Salmon in the Classroom has been going for fourteen years, and West Galloway Fisheries Trust – where it all started – is still doing it, is still enthusiastic. In Scotland as a whole, it is over-subscribed.

## What do they do?

In some cases the children see the big salmon or trout being stripped. Eggs are brought into the classroom for incubation. A ranger or local fisheries specialist explains what it is all about, and introduces them to the lifecycle of the salmon or trout. The children look after the eggs – check and record the temperature; remove any dead eggs, and watch them hatch. After a couple of weeks the ranger or fishery specialist returns and takes the class out to a local river or burn to release them. This is a chance to talk about the stream, the temperature, pollution - and the children can do some hands on measurements of temperature and pH. A few months later they return again – to do some electro-fishing – find out what is in the stream, and with luck catch some of their fish, and see how they have grown.

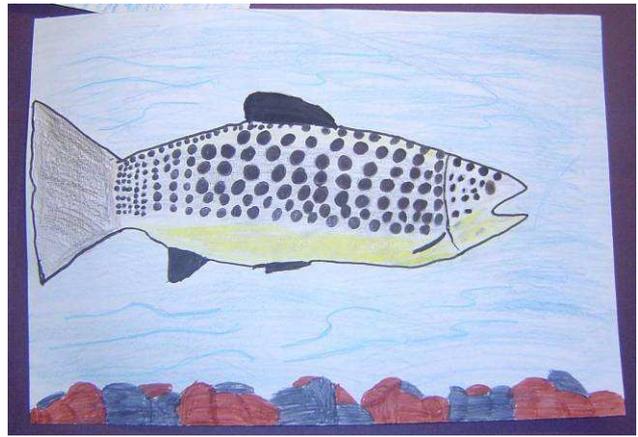


Rangers or Fishery Trust staff explain the life cycle of trout or salmon and the teachers reinforce with drawing and writing exercises

There have been plenty of ups and downs since it began, but many of these illustrate the strength and scope of the idea, and especially the issue of water quality. To start with it was quite frightening for head teachers and children to have responsibility for live salmon, even if they were only eggs and alevins. And they sometimes died.

To begin with they had used running tap water – it was cool, steady low temperature, pure. Then the Drinking Water Directive came in, suddenly the water was chlorinated, and half a dozen schools lost all their eggs. It wasn't just that an awful lot of teachers and children were upset by the loss, it was that everyone suddenly realised they were drinking water which killed salmon. People wanted to know why. Alastair –

perhaps naively – suggested that the schools might write to the Head of Water and Sewage to find out why. He received around one hundred and fifty letters from teachers and children, and was forced to go round and explain all about water purity, the reasons for the Directive and chlorination. So they lost their salmon, but they learned an awful lot about water. They even staged plays about the loss of their little salmon.



Anyway, they had to adapt. Simple recirculation systems were developed using water from the burn in lieu of running tap water. The temperature then had to be controlled with ice cubes and placing the incubator in a cool spot with relatively steady temperature. This usually worked, but there were inevitably disasters – the shortage of ice cubes, the well meaning janitor who placed the incubator on the radiator to keep them warm overnight...

More recently this problem has been overcome rather neatly. The owner of Majestic Wines serves on one of the Fishery Boards, and they have just the thing: wine chiller cabinets. As purveyors of alcohol they can't sponsor, but they can help, and most schools now use these to keep the temperature steady and low.

### Does it work?

Everyone we asked said it does – from rangers to fisheries scientists to parents and teachers. Denise Reed of Scottish Natural Heritage quotes a friend of hers: *"It was best thing my kid has ever done at school"*. Lindsay Kettle, a teacher at Portmoak Primary said the kids had done nothing like this before, and they love it.

*"It (the incubator) was the first thing they looked at in the morning; they couldn't wait to read the temperature gauge, remove any dead eggs and change the water – very caring parents almost. And you could hear them talking about it around the school. It's been a great experience for them."*

Lindsay Kettle, teacher, Portmoak Primary

One of its great strengths is that it offers a flexible framework – and practical focus - for a whole range of educational activities. Responsibility, discipline and "nurture" are required to keep the eggs and alevins alive, along with simple practical skills: handling and drawing small living organisms. It's a practical introduction to science: measurements of temperature and pH are important (the eggs and alevins can die if these go outside acceptable range) and trends can be plotted graphically for all to see. When the fish are released the children are introduced to nature at a local level, but because the salmon is migratory and important commercially, a huge range of social, economic and environmental issues can be introduced.

Elspeth English, project officer was unequivocal: getting eggs to incubate and looking after the alevins is hands on care, and generates ownership of the health of local rivers and the fish in them. And as Portmoak teaching assistant Clare Gibbon said – you can guarantee that if that burn (where the alevins were released) is ever polluted and these kids are still around - there will be an outcry.

Alastair Stephen recalls that back in Galloway many of the parents were involved in agriculture or forestry – two occupations which have significant impact on river water quality. Following the SITC class presentations and discussions, children would ask their parents tough questions about these issues, and some of the dads would come along and ask Alastair some tough questions in return. The initiative got debate going about real practical environmental issues related to their daily lives.

### Boy buttons

Denise Reed says, "its amazing the way the boys respond" and others have noted this too. Boys often under achieve relative to the

girls by the time they get to P7. But they love the fish. They love the river. They love the practical stuff. And of course they love to



Ranger Ian Montgomery with Wine Chiller incubation cabinet

mess around a bit by the river. These instincts can be built on – throw a ball in the river and time it over a measured distance and work out the river flow. Or the more practical work of electro-fishing (the final stage in the programme), counting and measuring the fish, checking growth, identifying other species.

And there are role models here: the ranger who knows the land and the water; the hatchery manager who strips giant silver fish for the abundant pink eggs. In some cases connections with fathers and grandfathers. The boys are literally in their element. And the cultural and social references are important. It provides a link through to traditional Scottish professions – fishing, the gillie, the gamekeeper, hatchery manager, stalker, forester – and perhaps increasingly – the local reserve manager. This is important for the boys and for the local community.

## Learning by doing

But perhaps there is another aspect which is even more basic. No-one learns much from listening to teachers or presenters – it is said that 70% is lost. It is well established that people learn, and remember, from doing. Getting kids out, relating what they learn to the physical world, works. Salmon in the classroom is just one – very good – example of this.

## Organisation

What about the organisation, the facilitation of this process. Where, when, how does it work? It is now based on partnership. In practice this does seem to work - in most areas – for several reasons. The river boards and trusts are keen to promote interest in what they see as one of Scotland's key iconic and historic resources; SNH realises that salmon conservation requires river conservation which in turn requires conservation of the wider environment – the watershed, the landscape, the ecosystem. This is a great educational example. The rangers like it because it offers them the opportunity for longer term engagement with a client group – it is a process, not an event. It gets them into the classroom - and the kids out into the field. The teachers like it because it is such a useful frame to hang all kinds of education on - local history and economics, geography and land use, natural history, basic science skills, graphs, drawing, writing. But perhaps most crucially, SNH funds a part time project officer - and the buses. She coordinates, coerces, facilitates and stimulates – something which every partnership needs. And crucially she engages the support of the council education advisors.

It is noteworthy that further North, where the project officer has not been operating, the council has failed to recognise the potential of SITC, and other partners – most notably a very enthusiastic fisheries board – have received little support. And this is the key – it only takes one link in the partnership chain to break the initiative. You need a troubleshooter, facilitator, coordinator – with clout. And you need funding.

## What do the kids think?

The ones I talked to were enthusiastic. Now it may be that they were just playing the game – that is what they thought they should say. But I was there when they put the fish in, and they were genuinely stimulated. They were enthusiastic to take measurements in the river. They *cheered* when the fish were released. They asked lots of good questions. I am quite sure they will remember that day far more intensely, and for much longer, than the average day in the classroom. And yes, they will probably look after that stream.

*“You should have seen their faces when we had all the big salmon gathered for the stripping”.*

Chairman of Wester Ross District salmon Board

## Getting out

There is no doubt in my mind that this is an excellent project, or rather, idea, approach. But over and above all its other strengths – and clearly flagged in the name - is the way it links the classroom with the local environment. It gets kids out and it brings creatures in, and in so doing it makes both the classroom and the environment more interesting.

## Can it be replicated or extended?

It has already been extended to trout. But these are still limited by proximity to a suitable water body. It could be further extended for course fish – especially in more urban areas close to canals although these fish are less “Scottish” and iconic. At a slightly less exotic level frogspawn can be (and probably already is) used. This may seem mundane, but if done really well, with sensible re-introductions to suitable habitat, many of the strengths of SITC can be replicated. Newts, toads, butterflies, beetles. There is plenty of material out there. All it requires is a little knowledge and imagination, and the willingness to get out. We could add habitat management as the second level of nurture – tied in with education about habitat needs and processes. The possibilities are endless.

See the video – teacher Lindsay kettle on her experiences

See the video – the great release

Link to canal story?

<http://www.snh.org.uk/Salmonintheclassroom/>

<http://www.gallowayfisheriestrust.org/salmonintheclassroom.htm>