

Green Recovery Dialogues

Willie Yeomans, Clyde River Foundation - Transcript

See the video at https://youtu.be/037N_07JDw0

SLIDE 1: Logo of the Clyde River Foundation with a black, red and blue fish, the words 'Participating and Glasgow's Green Recovery' and 'Dr Willie Yeomans'

I'm Dr Willie Yeomans and I run the Clyde River Foundation, based within the University of Glasgow. We're a group of scientists, and for the last 20 years or so we've maintained a large research interest in the River Clyde and all of its tributaries. And also we've - in order to generate interest in the river and hopefully generate better stewardship in the future - we've also maintained a very strong education portfolio. We're happy to be here, participating in Glasgow's Green Recovery discussions and we thought we would give perhaps a couple of examples of the work that we do and it may lead on to how we may participate in this going forward.

SLIDE 2: Photo of a basin containing small fish

There are a lot of good news stories associated with Glasgow's rivers particularly as they're now cleaning up. These are Clyde salmon. Of course, everybody knows there are three salmon on the coat of arms of Glasgow. This is how we usually see them; we see them as small juveniles in rivers. Now these were extinct for 100 years until the 1980s but now they're coming back in good numbers and, in some places - I mean, they're an outstanding indicator of water and habitat quality and also how good the riparian zone is - the part alongside of the river, the part of land.

SLIDE 3: Bar chart showing the juvenile salmon per 100 square metres in Lower Allander. The three highest bars are 2014 - 450+, 2011 - 400+, and 2006 - 400+.

We have now colossal numbers in some areas and this site here is basically 19 years' worth of data within from one site within the Glasgow city boundary. These, particularly the three very high bars on this chart, these numbers are very large. That's a density of about four juvenile salmon in the average area of a desk and that's quite high. So these are in good shape and it's a good news story and something that engages the public and engages school children.

SLIDE 4: Photo of a lot of dead fish in a skip

However we also have the other side of it where, intermittently, we have things like this happen which was a low oxygen event in the River Clyde, right at Glasgow Green and we lost about 15 of the entire run of salmon that year up the Clyde in this particular event, caused by a big storm and oxygen levels plummeting. So, we don't want to see this and we are not complacent about it. So hopefully the green recovery will include measures where we look after the river a little bit better perhaps than we have done recently. So that's one example.

SLIDE 5: Photo of a statue of the Chinese philosopher Confucius and the quote: "If your plan is for 1 year, plant rice. If your plan is for 10 years, plant trees. If your plan is for 100 years, educate children."

Our other example really is our education programme. Now, we have set out early knowing that this would take at least a generation to run through. And we've now been pursuing outdoor education and environmental education for 21 years.

SLIDE 6: Two approaches

- **Take the river to children, or**
- **Take children to the river**

Ideally do both, and invite their parents and communities too.

We have two approaches. We either take the river to children or take children to the river. That's how it works and that's only two ways that we can think of.

SLIDE 5: Close up photo of fish eggs

So, these are trout eggs and these are part of a project called Clyde in the Classroom which is our largest project which has been running for 21 years. We've had in about 1,300 different classes over that time. These are trout eggs - we give the children in the school trout eggs to hatch.

SLIDE 6: Photo of children looking at a basin with water in a classroom

They take care of them for five or six weeks. We put our scientists in front of the children every week so we have a good discussion about science and about how the rivers are doing and how the fish are doing.

SLIDE 7: Photo of a basin of small fish

And after five or six weeks they look like the fish on the right here.

SLIDE 8: Photo of children kneeling at the river

And we walk the children down to their local river to release *their* fish to *their* river and that is a very powerful thing to do. So Clyde in the Classroom is a really big deal for us and obviously it mixes fairly heavy duty science with a little bit of outdoor education at the end.

SLIDE 9: Screenshot of a tweet with photos of children doing a litter pick at the river

Sometimes the schools will take ownership of the project and go forward with it and St Vincent's, a few years ago, actually almost adopted a piece of riverbank and they did litter picks and various other things. This is an extension of Clyde in the Classroom and this is something we would like to see.

SLIDE 10: Screenshot of a tweet with photos of Coalburn P5 and P6 children wading in the river

So our other approach is to take the children to the rivers. A number of years ago when we were working in South Lanarkshire we realised that even in a rural place like Douglas approximately half the children that came out to see the river with us, and to see the animals and the fish, had never stepped in a river before. So our challenge then is obviously to get every child into the river when we can.

SLIDE 11: Photos of children standing on a bridge over the river watching adults in the river with machines and buckets to catch fish

Over the years we've done this hundreds of times now and we get the children out, show them how scientists can catch fish using these gadgets - and if you've never seen an electric fisher when you switch it on, the fish come to you, it's a pretty big deal - and the children are always amazed by that.

SLIDE 12: Photos of children crowding round to look at the fish; one child in particular looks amazed!

So we catch some fish and when you do that, the reactions you get from the children can be quite something. They're really quite humbling to see.

SLIDE 13: Photo of children crowding round to look at the fish and smiling, some with their hands over their mouths

I mean we see fish every day when we're working, but you cannot fake this.

SLIDE 14: Photo of children crowding round to look at the fish and smiling, some with their hands over their mouths

If you see a child looking at fish for the first time, and it's one that's come out from under a bridge in their part of town or in their village it can be very, very powerful.

SLIDE 15: Photos of children with a transparent box of water and fish. Plus a graphic with a smiling fish and the words 'Flying fish'.

SLIDE 16: Photos of children with a net and fish on the river bank so a child in wheelchair can see them.

We work with a lot of schools. We make it as inclusive as we possibly can. If we can't get the child into the river we will bring the river to the child on the riverbank. It really is science for all. It's a big deal for us very inclusive.

SLIDE 17: Photo of children in classroom showing their presentation poster.

We also, by the end of each Meet Your River Day or Flying Fish Day (we call it two different things), the children are telling us how healthy their local river is and, again, that is a big deal.

SLIDE 18: Map of the Clyde catchment area with dots indicating schools they have worked with.

Clyde catchment since 2001: worked with 75% of 568 Clyde Catchment Primary Schools, 33,807 children have looked after hatcheries in 1,300 classrooms, 4,413 children from 191 classes have stepped in rivers

So it's just since 2001 when we started. We've now worked with about 75 of all the catchment primary schools. Nearly 34,000 children have looked after hatcheries in 1,300 classrooms. And about four and a half thousand children from 191 classes have stepped into rivers. So it's a significant thing and the only issue we ever have with this project is there's never enough funding to keep it going. But if you see these children on the riverbank; it's quite a quite a day-maker.

SLIDE 19: "Future stewards"

- **Every child in participating CITC schools to see a trout**
- **Every children participating in MYR to step in a river**
- **Every school to adopt a riverbank**

We call them future stewards and our three sort of bullet points are. We want every child in a participating school to see the trout that are being reared there, if they're doing Clyde in the Classroom. Every child that comes to comes to the riverbank with us gets into the river. We have equipment to deal with all of that. And every school, we would really like - this is a bit more aspirational - we would like every school to adopt a riverbank.

SLIDE 20: Big messages....

- **The River Clyde is a recovering river that is vulnerable to human impact**
- **Education and engagement can inspire a beneficial change in behaviour.**
- **Making both local and global connections can strengthen the message.**
- **Hands-on involvement can promote a sense of ownership and stewardship.**
- **Aim for sustainable, long-term involvement at community level, driven by the community.**

And the big messages from our work is basically that the Clyde is a recovering river but it's still vulnerable to human impact. Education and engagement can inspire a beneficial change in behaviour. And, particularly, if you make both local and global connections. So, if you're in a river and you show a child a salmon and you say in a year's time that will be off to Greenland, this is a big deal. Or you catch an eel and you tell them that that's come from Bermuda, so Bermuda's linked to Glasgow by this animal, it's a critically endangered animal. So make these connections, strengthen the message, get them to do hands-on involvement to promote a sense of ownership. This is a big deal and 'future stewards' is what we call them. So we're aiming for sustainable long-term involvement at community level driven by the community.

SLIDE 21: Photo of happy children and adults outside

And if we get that, all of us will be in a much happier place we believe. Thank you for your attention.