



Powan in the classroom

Carolyn Bryce

Powan in the Classroom

Introduction

The Powan in the Classroom project is an education project that offers students within the Loch Lomond catchment area the opportunity to care for incubating Powan eggs and learn about the natural life history of Powan.

Project Aims

- School students within Loch Lomond have an understanding of the natural history of Powan, their habitats and the local environment.
- To create an understanding of the delicate balance within aquatic environments and how the impacts of humans can positively and negatively influence this balance.
- Encourage students to be part of a real-life environmental story, and to be instrumental in making things better for the Powan population.

Powan in the Classroom

Why Powan (*Coregonus lavaretus*)?

- *Coregonus lavaretus* is a nationally rare species.
- Only native to 7 locations.
- The Scottish form of *C. lavaretus* aka Powan is native only to Loch Eck and Loch Lomond.
- A local fish!
- The Loch Lomond population of Powan is thought to be in decline possibly due to the accidental introduction of a non-native species.



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Project History

- Developed by Jennifer Dodd and taken on by Andy Burrows at the Loch Lomond Fisheries Trust.
- Started in 2009.
- Small scale education project designed for Primary school students.
- A number of different schools within the catchment area have participated with the project.



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Project Structure

Primary schools:

- Primary 5-7 students.
- Luss Primary is an exception (Primary 2 - 7).
- 5 week project.
- Links in with the National Curriculum.
- Practical elements to the project.

PROJECT POWAN Curriculum for Excellence Experiences & Outcomes Overview

Literacy & English

LIT 2-14a
LIT 2-15a
LIT 2-16a
LIT 2-24a
LIT 2-25a
LIT 2-28a
LIT 2-02a
LIT 2-05a
LIT 2-06a
LIT 2-09a
LIT 2-10a

Health & Wellbeing

HWB 2-12a

Science

SCN 2-01a
SCN 2-02a
SCN 2-05a
SCN 2-14a

Social Studies

SOC 2-07a
SOC 2-07b
SOC 2-08a
SOC 2-12a
SOC 2-14a

Numeracy & Maths

MNU 2-10a
MNU 2-11b
MNU 2-20a
MNU 2-20b
MNU 2-21a

Technology

TCH 2-02a
TCH 2-03b

Expressive Arts

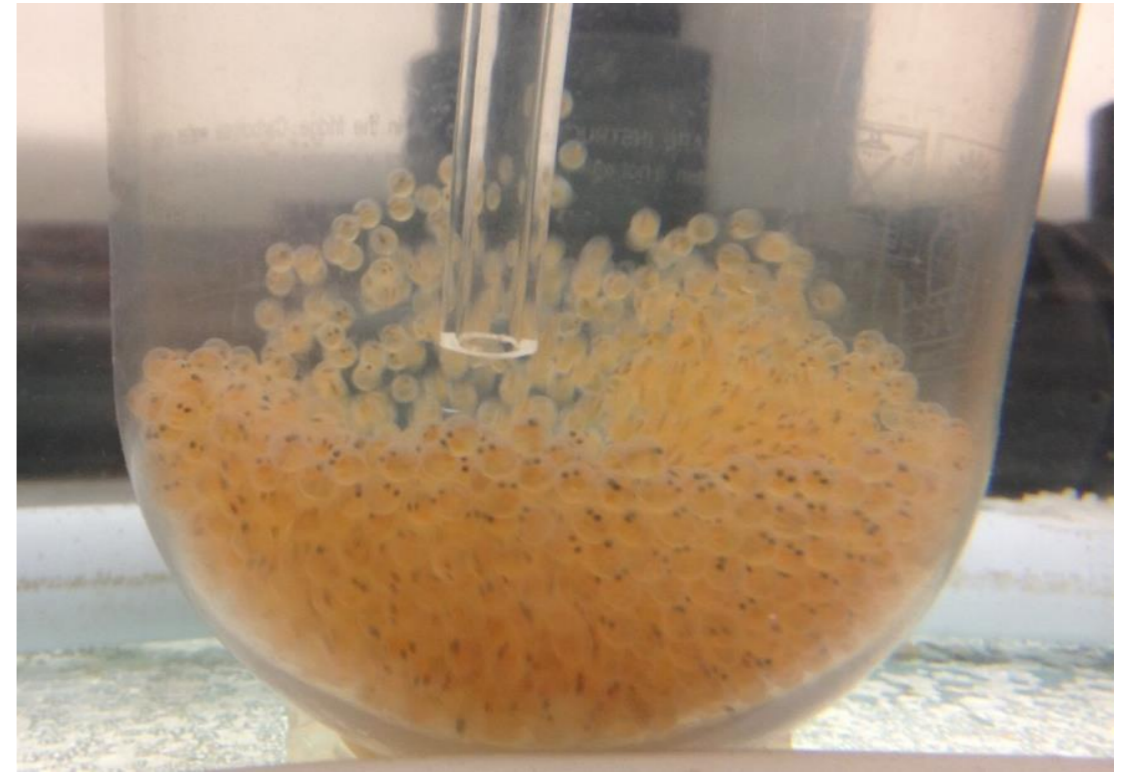
EXA 2-03a
EXA 2-04a

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Project Structure

Powan egg collection:

- Capture sexually mature Powan from Loch Lomond.
- Incubate eggs in SCENE laboratory.
- Deliver eggs to schools when they are 'eyed ova'.

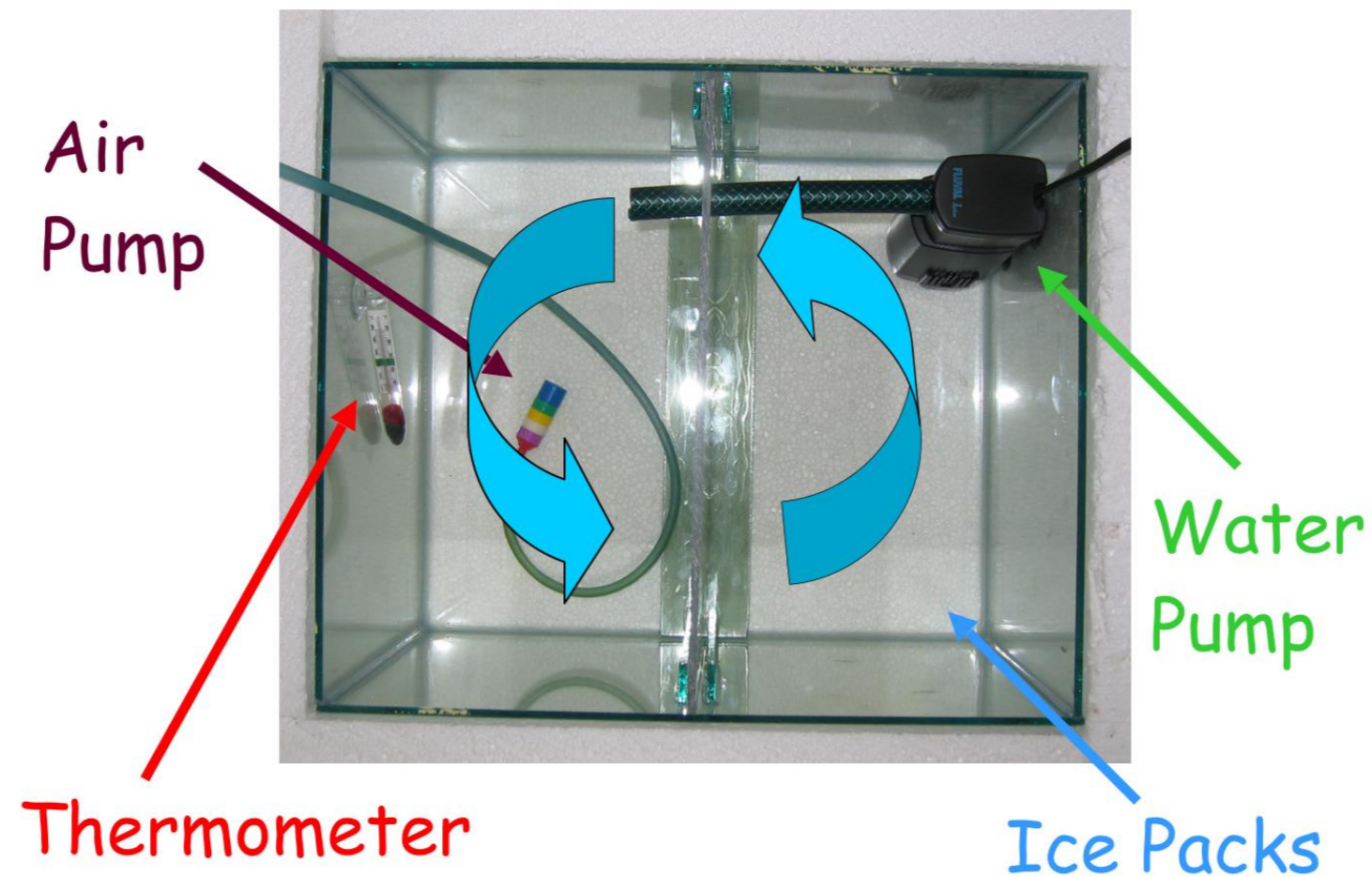


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Project Structure

Classroom Hatchery:

- Designed to replicate the environmental conditions of Loch Lomond.
- Classroom hatchery is made up of several components.
- Designed with students in mind.



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Project Structure

Classroom Hatchery:

- Students are asked to design a schedule to check the conditions within the hatchery.
- Students are also asked to record the daily water temperature, number of eggs removed and any changes to the water level or quality.
- Why? - Gauge success, monitor survival rates, provides an indication of hatching time and encourages consistency.



Powan in the Classroom - Check List



Week beginning:

	Monday	Tuesday	Wednesday	Thursday	Friday
Check plugs					
Check air pump & tubing					
Check filter					
Check & record temperature					
Replace ice packs					
Remove dead eggs					
Check water level					



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Project Structure

School visits:

- Staff visit schools weekly.
- Check equipment and provide replacement parts if necessary.
- Answer any questions.
- Deliver class presentations.

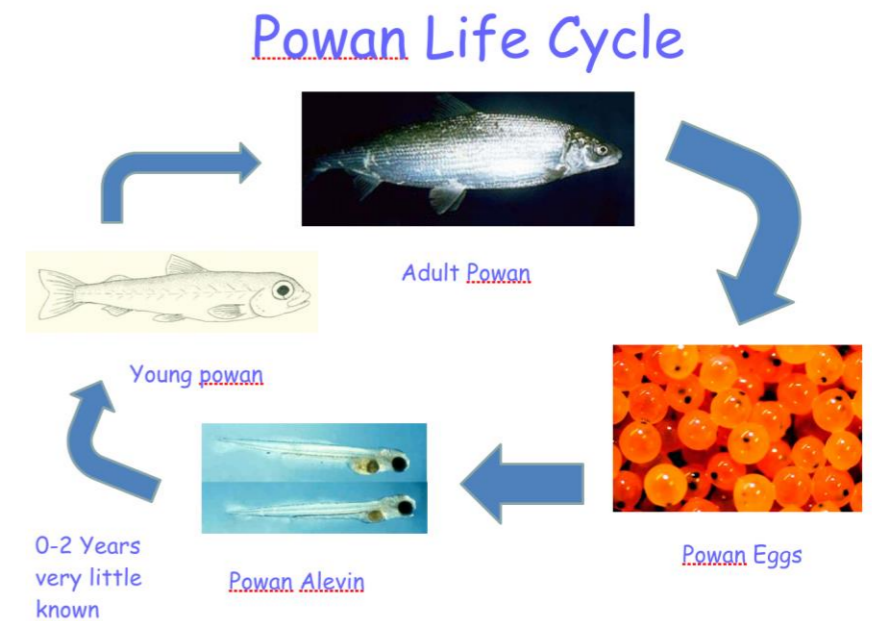


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Project Structure

Presentation content:

- Introduction to Powan
- Hatchery maintenance - husbandry
- Species, genus and family
- Life cycle and life stages
- Food webs - diet, competition and predation
- Habitat and environmental conditions
- Pressures and threats to Powan
- Conservation and Biosecurity



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Project Structure

Powan release:

- Release newly hatched Powan back into Loch Lomond.
- Day trip to Loch Lomond.
- Feeling of accomplishment.
- Conclusion to the practical element of the project.

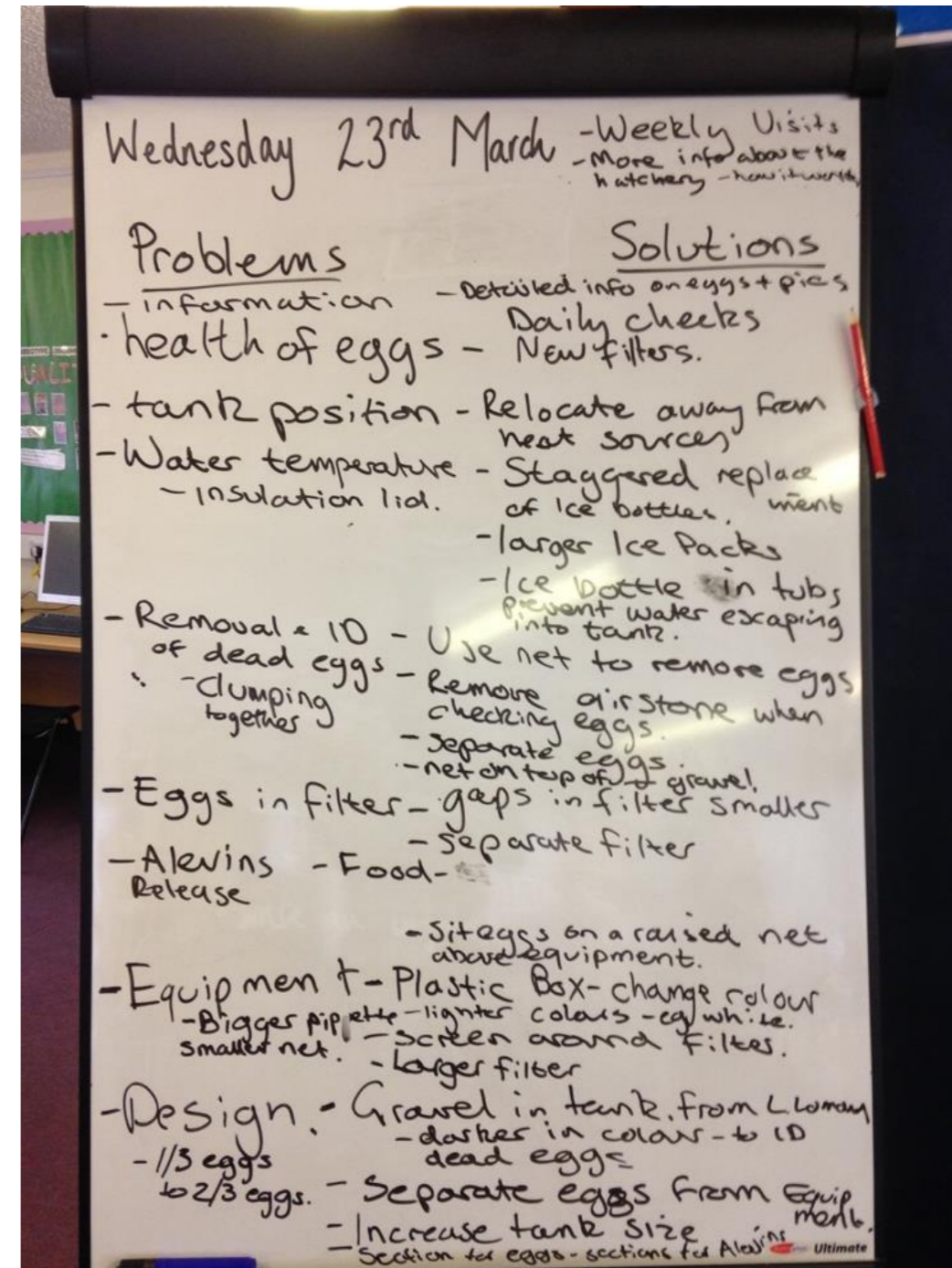


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Project Structure

Feedback session

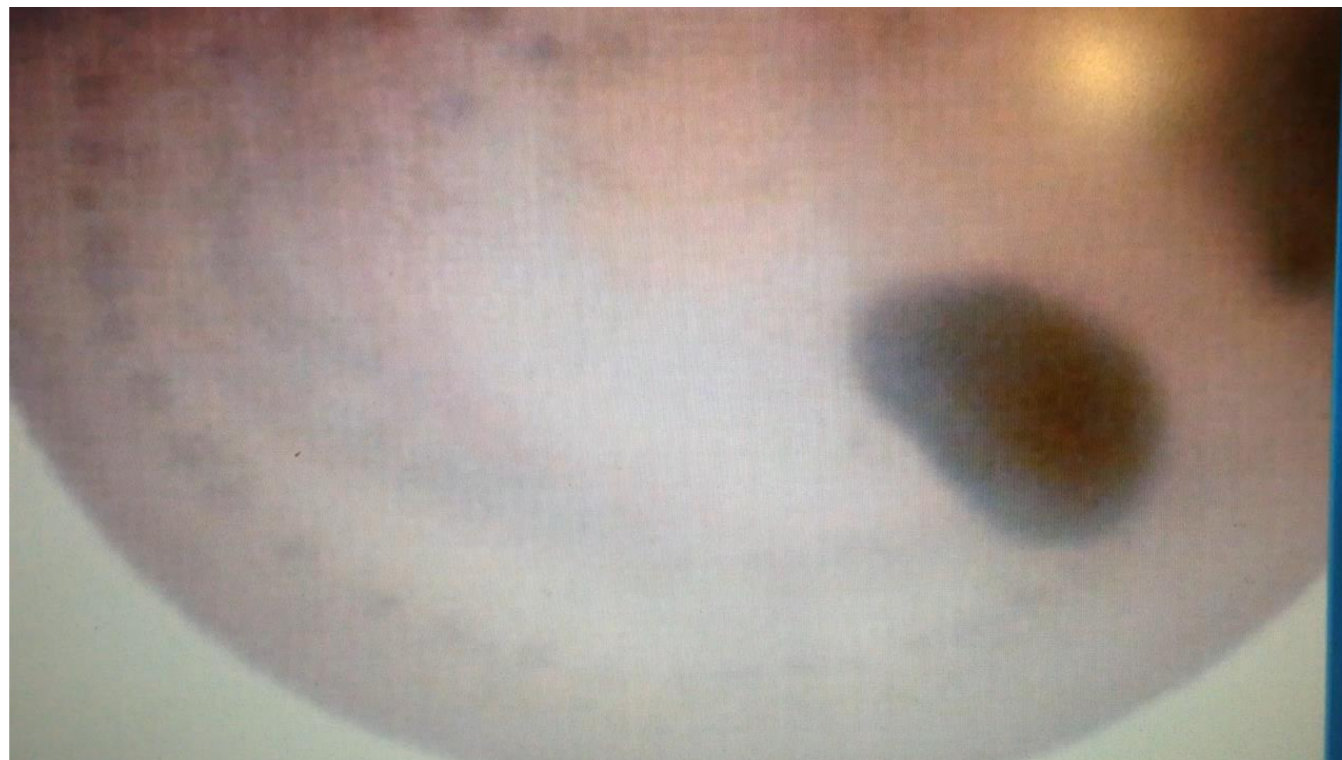
- Brainstorming session - look at issues and come up with solutions.
- Design the project with the school, the students and the teachers in mind e.g tailor to the needs of the school.
- Encourage teacher feedback.
- Continually developing project.



Powan in the Classroom

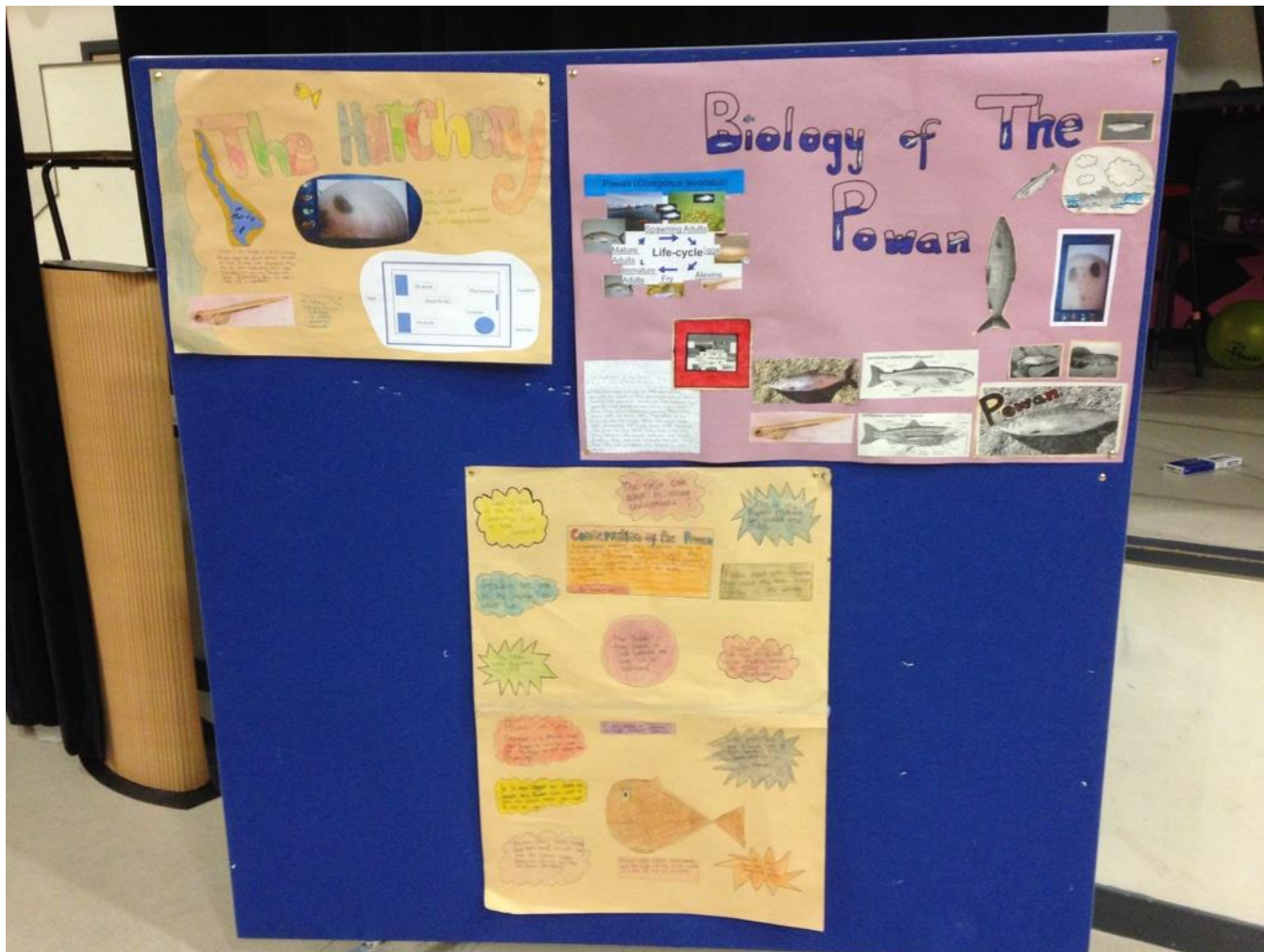
Vale of Leven Transition Project

- Pilot project between Vale of Leven Academy and a feeder Primary school Renton Primary School.
- Involved a second year biology class.
- More depth to the classroom material and presentations.
- Students were split into groups, each given a topic to research and present to Renton Primary School.
- Team work, management of time, presentation skills, present to target audience, encourages independent research, creative transfer of knowledge.



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Vale of Leven Transition Project



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Project Awards and Recognition

- 2009 - Luss Primary School - British Animal Honours
- 2011 - Luss Primary School - Total Green School Awards - Regional Winner

“Their efforts were recognised in a motion tabled at Holyrood last week after they won a top national environmental award. MSP Jackie Baillie tabled the motion which recognised the pupils’ efforts and the importance of environmental education.”

- 2014 - Renton Primary School - West Dumbartonshire Amazing Things Awards
- 2015 - Luss Primary - Total Green School Awards - Regional Winner.



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Project Awards and Recognition

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DUMBARTON AND VALE OF LEVEN REPORTER, Tuesday, March 31, 2015

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news Reporter www.dumbartonreporter.co.uk

www.facebook.com/dumbartonreporter Reporter news

Renton Primary fish release picture special



◆ BRAINS: Class teacher and special spawn watcher, Steven Philson



Pupils are prehistory makers



◆ DIFFERENT CLASS: Gemma Russell and Carolyn Bryce prepare to release the first hatchlings



◆ EGGCELLENT: Chloe McCrae, Natasha Boyle and Nickayla Ronald



◆ OFF TO A FLYER: Pupils with biologist Carolyn Bryce and Eddie Edmonstone who awarded the kids with a special special commemorative tly



◆ HELPING HAND: Cameron House General Manager, Andy Roger with Gemma Russell, Morgan McKeegue, Cara Began, Andy King, Marc Auchinleck and Abby Priestley



◆ BUCKET LIST: Chloe McCrae, Natasha Boyle and Nickayla Ronald

by LAURA PATERSON
 lcpaterson@cfpress.co.uk
 Twitter - @dumbartreport

PUPILS from Renton Primary School gathered at Loch Lomond where the powan fish is native and the

The P7 pupils took part in a conservation project organised by the Loch Lomond Fisheries Trust to help boost the population of the ancient fish breed in the loch.

The loch is one of two in Scotland where the powan fish is native and the

sure from alien fish species such as the ruffe.

The class were given 120 powan eggs to rear in small hatcheries in their classroom and managed to successfully bring up 39 fish in the past two months.

were told to get any more than 15 to survive to the releasing stage is good so Renton Primary has done well.

"The main thing is it has taught the children is that we need to look after these prehistoric fish. They had a huge sense of responsibility after the first

Photographs by Joe Mulgrew

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Importance of Project

- Unique experience.
- Hands on learning.
- Encourages respect for local environment 'Their local heritage'.
- Introduces new important subjects such as biosecurity.
- Builds awareness about the Powan.
- Learn new skills, exposure to new equipment, visit new areas.

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Expansion

- Wish to develop the project.
- Increase the number of schools participating with the project.
- Use the feedback from the Vale of Leven Academy pilot project to potentially develop a Secondary school education programme.
- Currently sourcing funding and awaiting feedback from submitted applications.

Powan in the Classroom

Acknowledgements

- Loch Lomond and the Trossachs National Park.
- Friends of Loch Lomond.
- Scottish Centre for Ecology and the Natural Environment.

