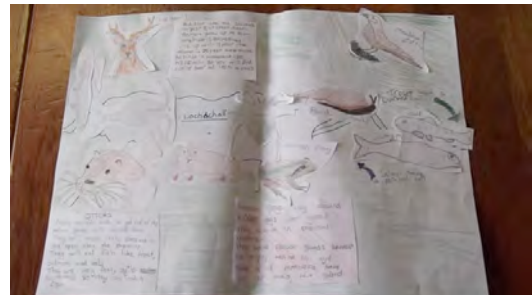




Wester Ross Fisheries Trust
Living Lochs Report
October 2011



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Background

Wester Ross Fisheries Trust biologists (WRFT) have been involved in educational projects with primary schools since 2004, firstly carrying out a project named "Salmon in the Classroom". This project used the life history of the Atlantic salmon to promote awareness of river ecology by providing schools with small classroom hatcheries and salmon eggs to hatch out. This project was well received and the Trust was encouraged to expand its environmental education programme. In 2006 and 2007 WRFT developed a project called Life in Lochs, exploring the local freshwater ecosystems, again with pupils from primary schools within the area. In early 2009 WRFT was approached by a secondary school (within the area) that wished to participate in a similar project. The primary schools project was adapted to provide suitable challenges for the secondary pupils and Living Lochs was created. This report provides the outcomes of the third year of this project, run with the Ullapool High School Science Department.

Project outline

It was hoped that the project would foster curiosity, awareness, interest and enjoyment of the local freshwater environment. The Fisheries Trust Biologist started the project by informing the pupils that Scottish Natural Heritage had requested that they carry out a local loch survey. The pupils were to imagine that a development such as a wind farm or hydroelectric scheme was taking place in the vicinity of the loch and they were to consider what species might be present and how rare or endangered the different animals and plants may be. The pupils were involved in developing the project from the planning stage, through the field trip and species identification to a final synopsis of habitat use by the different species found.



Planning was carried out by the pupils with the Biologist during an initial "brainstorming" session. This allowed the biologist to determine the level of previous knowledge and understanding about the local freshwater environment. The pupils were split into teams and created "mind-maps". On these all the animals they thought might live in or near the lochs radiated from a central loch, then branches extended from each animal to ideas of survey techniques.

After a discussion to verify which animals could potentially live in the loch, each team selected a target animal group and wrote their survey design sheet. The

teams then had the opportunity to present their survey design, including their health and safety considerations, and answer questions from the other pupils.



The pupils were to be responsible for taking the equipment for their specific target animal group and recording the data during the morning fieldtrip. However all teams also participated in all sampling techniques. Invertebrates were collected from different habitat types and taken back to the classroom for identification in an afternoon session.

The biologist returned to the school the following week and after a brief recap each team created a poster showing which species were found in each location and some information about each. During each of the three separate classroom sessions the biologist broke up the work with interactive activities, quizzes and games.

2011 Project Evaluation

In the past this project has taken place in the summer term, however the Ullapool High School pupils had a busy term planned and it was decided to postpone the project until the end of September.

The pre-field trip class planning session was very successful and each team worked hard to complete their mind-maps. As in previous years it was clear that there was some confusion amongst at least some of the pupils as to which species of fish lived in sea lochs or freshwater lochs. There was also speculation between pupils as to whether reptiles and/or amphibians relied on water for their live cycle.

We were very fortunate to have the help of Lindsey Duncan, the Highland Council Ranger and one parent volunteer which allowed the teams to split up and survey effectively at the loch.

Although fieldtrips have been successfully carried out at lochs near Gairloch High School and Plockton High School there is always some concern when visiting a new loch that the pupils will not discover enough species to hold their interest. We were very successful at Ullapool in finding many species including trout, salmon, adult and immature palmate newts, frogs, toads and many invertebrate species.



The major change to the project in 2011 was to include a 'hands on' component to each of the class sessions. This included a quiz with different objects to name or provide information on, much of which had already been discussed in the fieldtrip. The pupils clearly enjoyed the quiz and it will be included in future years.

As yet only one science teacher has been involved in the fieldwork, although the head of department was also involved at the planning stage. Feedback forms showed that the teachers thought the fieldtrip was of great value and the head of department asked if it would be possible to make the project an annual event. One teacher commented that the invertebrate sampling in class was a little repetitive and the pupils started to lose interest. The reason for moving them between the three different habitat trays was for them to see for themselves that different species live in different habitats. However there were less species in some of the trays, notably the loch shoreline one, and in the future the biologist will ensure there are extra activities for those who finish examining their trays first.

Pupil feedback was also very encouraging. Pupils were asked which part of the project they enjoyed the most and the answers varied - including

- using the microscope to look at invertebrates
- watching the electrofishing
- handling and measuring the live fish
- learning how otters skin toads.



Most pupils thought the project could not be improved but one or two suggested that they would like the loch trip to be a whole day instead of just the morning.

Acknowledgements.

Thank you also to the teachers who helped in the project. Thank you to Lindsey Duncan, the Highland Council Ranger for helping on the fieldtrip. The project was possible as a result of funding from the Nineveh Trust. Many thanks to Jenny Scobie of Rhiddoroch Estate for allowing us to carry the project out at Loch Achall.



Feedback forms.



Living Lochs
Pupil Feedback Form
School: Ullapool 2011

What did you like best and why?

designing the poster & electric fishing
designing poster-drawing was fun
electric fishing - just fun!

What did you like least and why?

dunno!

What did you learn that you didn't know before?

How to tell apart trout & salmon

Is there any way you think the project could be improved?

longer @ Loch!



Living Lochs
Pupil Feedback Form
School: Ullapool 2011

What did you like best and why?

fishing bugs / catching them and then bringing
them back and looking and put them through
the microscope

What did you like least and why?

liked all

What did you learn that you didn't know before?

Need licence to do electric fishing

Is there any way you think the project could be improved?

No



Living Lochs
Pupil Feedback Form
School: Ullapool 2011

What did you like best and why?

The electrofishing,
it was fun.

What did you like least and why?

spotting mammals,
because there weren't many.

What did you learn that you didn't know before?

A lot of things
~~about the lochs~~

Is there any way you think the project could be improved?

Ummm, no!!!

Project Components

Please tick a box: 1=dissatisfied; 5=completely satisfied

Component	1	2	3	4	5
Initial correspondence N/A	-	-	-	-	-
Risk assessment N/A	-	-	-	-	-
Initial brainstorming session					X
Loch trip					X
Mini-beast identification in class				X	
Follow-up session in class					X

Comments:

What did you like best and why?

I liked the seamless transience between the three aspects of the project. The second and third parts followed on naturally from the first and allowed the students to grasp, or at least experience, the idea of field-work and the follow up requirements within the laboratory.

What did you like least and why?

The mini-beast identification was a little repetitive and after sampling their own and perhaps one other group's finds, the students were beginning to lose concentration.

Would you participate in the project again, given the opportunity?

Yes.

How could the project be improved?

No opinion.

Please return to Lorna Brown, Wester Ross Fisheries Trust, Harbour Centre, Gairloch or email kn@lornabrown.plus.com