

# **‘StreamScapes Ulster Blackwater’**

**A Report on a River Ecology Training Project**

**Undertaken in cooperation with Monaghan County Council  
and the Dept. of Environment, Community & Local Government**



*The heart of the project: introducing participants to river ecology and the role of high-status water quality*

**Submitted by:**

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***“The workshops are designed to increase awareness on river corridor ecology and water quality; help reconnect communities with their river catchment, discuss best practice and promote community projects and initiatives such as the River Blackwater Catchment Trust.”***

- ***Bernie O’Flaherty, Environment Section, Monaghan County Council***

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### ~ Acknowledgements ~

Appreciation is expressed to Bernie O’Flaherty and Nial O’Connor of Monaghan County Council for background preparation, logistical support, and Project supervision; Donal Daly EPA for engagement and critical feedback; and all of the Schools, Teachers, Students, and Community Group participants who contributed to the project with immense enthusiasm.

## Introduction & Background

This is the Report of a pilot Catchment-based Aquatic Education initiative, in support of Water Framework Directive implementation, which was produced by Monaghan County Council and Coomhola Salmon Trust, Ltd., supported by the Department of Environment, Community and Local Government.

The Project focussed on communities within the Ulster Blackwater Catchment, chiefly in County Monaghan but with a degree of cross-border participation with the inclusion of a primary school in Middletown, County Armagh.

The Project delivery agent was Coomhola Salmon Trust, Ltd., a not-for-profit Environmental NGO based in Bantry, Co. Cork; producers of the 'StreamScapes' Aquatic & Biodiversity Education Programme. 'StreamScapes' has been utilised in the Republic and in Northern Ireland by Government Departments and Local Authorities within the context of wider efforts to raise awareness of Aquatic and Biodiversity issues with particular reference to the Water Framework Directive.

## Project Rationale and Methodology

The Water Framework Directive (2000/60/EC), in "establishing a framework for Community action in the field of water policy," indicates provision for "educational projects" (Annex VI, Part B, xv) to support the wider objectives of achieving good status ground and surface waters.

The rationale behind this provision is based on the fact that a community which has the benefit of an improved awareness of the water-cycle (and its capacity for supporting human socio-economy together with a wider biodiversity), together with knowledge of best-practice principles (to minimise anthropogenic impacts), will be in an enhanced position to assist in realising the objectives of the Water Framework Directive, both in terms of water quality as well as water conservation issues; the empowering of a community with these skills will achieve wide and manifold benefits across all sectors.

Innovative and compelling education methods are required to promote awareness of aquatic and biodiversity assets, as well as a sense of resource stewardship, amongst citizens. This Project utilised the **StreamScapes** method which combines classroom-based lessons with practical (instream) field experience, enabling participating students and adults to become familiar with the wonders of **local** aquatic and biodiversity assets, and how 'best-practice' can lessen our impacts upon them.

## Course Content

StreamScapes engagement with participants explores the following topics:

### 1. Theory Session

- Introduction to the Water Cycle
- Requirement for clean water; cost of provision of water & sewage treatment
- Introduction to the Catchment concept
- Consideration of the demographics and land-use of the Catchment
- The significance of aquatic flora and fauna
- Best practice in the home and garden; at work and recreation

### 2. Practical (Field) Session

- Wildlife observation: Discussion of Habitats & Species
- Aquatic Macro-invertebrate ID and water quality indication
- Participants' determination of local water quality ('Q values')
- What do we do that can impact on water quality? (Discussion)
- What can we do to conserve and enhance our Catchment's aquatic resource? (open)

## Project Publications

The following publications were distributed to Project Participants to augment the programme:

- 'StreamScapes Ulster Blackwater': a dedicated publication in support of the project containing aquatic invertebrate ID Key, as well as "Best-Practice" information (pdf file attached)
- 'StreamScapes Basic Teacher's Guide': for follow-up, post-project continuity work by the participating schools
- 'StreamScapes Advanced-A Stakeholder's Handbook': copies provided for adult participants
- 'StreamScapes Advanced Teacher's Guide': distributed to Community Group leaders for follow-up exercises

Project Participants/Schedule

**StreamScapes Ulster Blackwater Project Participants: (Mon 15 Sep – Fri 19 Sep 2014)**

**1. Schools**

Date	School Name	Contact name	Telephone	Email	Comments
Mon 15 <sup>th</sup>	Glaslough NS	Mark Macklin	047 88356	glasloughns@eircom.net	
Tue 16 <sup>th</sup>	Corracrin NS	Michael Boyce	047 87551	corracrinns@eircom.net	
Wed 17 <sup>th</sup>	Knockconan NS	Emer Brennan		emerbrennan@eircom.net	
Thu 18 <sup>th</sup>	St John's PS Middleton, Armagh	Mrs. A. Kelly	375 68462	akelly357@c2k.ni	

**2. Community Groups**

Date	Community Group	Venue	Meeting Point	Contact Details	Comments
Mon 15 <sup>th</sup>	Truagh Dev Association	Blackwater Centre Knockconan	Blackwater Centre	Bronagh Treanor bronaghtreanor@vodafone.ie	
Tue 16 <sup>th</sup>	Ballinode Community Centre	Ballinode Community Hall	Riverside park at Ballinode Bridge	Alice Daly ballinodenews@eircom.net	
Wed 17 <sup>th</sup>	Emy and District Anglers	Emyvale Leisure Centre	Emyvale Enterprise Centre	Enda Fields enda.fields@dkit.ie	
Fri 19 <sup>th</sup>	Monaghan Co Co Staff (from Planning/ Roads/ Water/Env Dept's)	Council Offices, Carrickmacross, Co. Monaghan	At stream across road from offices	Bernie O'Flaherty boflaher@monaghancoco.ie	

### General Notes on Schools' Projects

The workshops and subject material were well received in all of the schools, and in most schools this tied in with work that was already being done regarding wider environmental studies. However, all teachers commented on how the StreamScapes programme made the issues relevant to the children, and felt the presence of outside facilitators helped to capture the children's attention more. There were members of the farming community in all of the schools, with the children relating the water issues back to their own lives. All of the schools stated that they would welcome further workshops of this kind.

As field trip work provided live samples of the aquatic invertebrates for the children it created a platform for deep learning. The pupils were able to apply the knowledge gained in the beginning of the lesson by looking at/holding live samples collected from their nearby rivers. From an educational basis the presentation targeted the three learning domains of Cognitive, Psychomotor and Affective. The Affective aspect was fulfilled by allowing the pupils to openly discuss the impact of water pollution in their locality and also by how *they themselves could make an impact on preventing pollution and conserving water*. One of the main observations made was that the majority of the participating students across all four Schools could identify and justify each of the bio-monitors by the end of the lesson.

## Summary School Reports

[NB: please also see Appendix 1, Feedback Forms]

### St Mary's NS Glaslough, 41 pupils; 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> classes

Field trip to Glaslough Wetlands centre, Castle Leslie.

General awareness in the classroom was relatively good; most of the children knew the name of the local river and most knew where their drinking water came from.

Species found at the stream:

Gudgeon	Eggs
Predominance of freshwater shrimp	Flat worm
Cased caddis	Leeches
Swimming mayfly nymph	

### St Patricks, Corracrin NS, 26 pupils, 6<sup>th</sup> class

Field trip to Glaslough Wetlands centre, Castle Leslie.

50% of the children knew where their drinking water came from, 30% knew the single greatest use of water and some knew how their water was treated. A couple of pupils had heard of reed bed systems which was impressive! None of the children knew the source of the river but 4 knew where it went to sea.

The school are about to start working on their biodiversity flag, as well as the teacher being aware of the curriculum links, and so were very keen for follow up activities to build on the day.

Species found at the stream:

Gudgeon	Cased caddis fly
Fresh water shrimp	Flat worms
Crayfish	Leeches
Mayfly nymphs	Shrimp eggs

Knockconan NS, Emyvale; 22 pupils; 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> classes.

Field trip to Glaslough Wetlands centre, Castle Leslie.

A high proportion of the class knew which catchment their stream was a part of, as well as what their single greatest use of water was. Roughly half knew how their waste was treated but none of the class knew the source of the river or where it went out to sea.

This school is working towards its water flag for the Green Schools programme so will be carrying out lots of follow-up activities after this engagement.

Species found:

Pond skaters	Flatworms
Crayfish	Whirlygig beetle
2 x mayfly nymphs	Freshwater shrimp and eggs
3 x cased caddis	Stickleback
Leeches	Frogs

St John's PS Middleton, County Armagh; 18 pupils

Field trip to local stream adjacent to the school, tributary to the River Cor, which in turn is a tributary to the Blackwater.

There was a low level of general knowledge around the river, the catchment and water use in general. However they were an extremely receptive and interested class who took a lot onboard during the visit. The school are part of the (Northern Ireland) Eco-Schools scheme so are hoping to use some of the activities from today as a basis for their next medal.

Species found:

Small trout	Leeches
Mayfly nymph	Freshwater shrimp
Worms	Limpets
Flatworms	



## General Notes on Participating Adult Groups

Three Community associations and a further group consisting of a selection of Monaghan County Council staff drawn from Planning, Water, Housing, and Environmental Services were engaged in the course of the pilot StreamScapes Ulster Blackwater Project during September 2014.

Broadly speaking there was a high level of interest across all participants in engaging in the two strands of the seminars (field trip and round-table discussions).

The intent of the Field Trip aspect of the sessions is to promote awareness of the rich biodiversity which high-quality local waters support as well as provide opportunity for participants to understand the basis for local water quality assessment. 'Legacy' accounts by older participants are encouraged to provide benchmark relating to 'how things were' in terms of wildlife observation and to furthermore assist participants in visualising future objectives which attend upon restoration of water/habitat quality (reappearance of otter/kingfisher/dipper/salmon & trout and other indicator species).

In the round-table discussions, StreamScapes ethos and methodology ensures suspension of judgement (finger-pointing or blaming of given sectors) hence assisting to avoid polarisation of sectors represented and instilling a sense amongst participants that "we are all in this together". Wide discussion was promoted to consider the sources of wealth (livelihood) in a given sub-catchment, how all of these activities are necessary for sustainable rural social-economy but also how these activities overlap with the capacity to cause local aquatic and biodiversity degradation.

These themes then lead to a consideration of applying 'best-practice' in pursuit of livelihood, recreation, and domestic management and how this may assist in minimising anthropogenic impacts.

Bernie O'Flaherty Environmental Section Monaghan County Council had provided large (A1) maps of the Blackwater Catchment within the county and she provided background on local water quality trends including phosphorous and biology indicators.

Participants were invited to provide name and contact details for follow-up initiatives including the roll-out of the Blackwater Catchment Rivers Trust.

Copies of the 'StreamScapes Ulster Blackwater' leaflet together with 'StreamScapes Advanced' were distributed to participants.

(Also see Appendix 1, Feedback Forms).

## Photo Gallery



**Field trips for the three Co. Monaghan schools took place at the Glaslough/Castle Leslie Wetland Facility, which provided useful stream habitat as well as the further lesson of foul water treatment**





*School sessions provide innovative perspectives on aquatic & biodiversity issues to assist in making the lessons indelible and promoting life-long behavioural changes to minimise our impacts*





*Community Group engagement involved Field Trip and Round-Table discussions*



