

StreamScapes Public Engagement

On Water Quality Issues in Co. Monaghan June 2015



Bawn & Latton Community Group engaged beside their local River on water quality issues

A Report on a 2nd Phase River Ecology Training Project

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

Submitted by:

Coomhola Salmon Trust, Ltd.

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24 June 2015



"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 the Department of the Environment, Community, & Local Government; to Bernie O'Flaherty, Nial O'Connor and other staff members of Monaghan County Council for background preparation, logistical support, and Project supervision including Martina Smith, Aileen Owens, Fionnuala Murray, Collette Connolly and Sharon Finnegan; to Michaela Kirrane, IFI, for demonstrating electro fishing at Maghercloon; and to all the Schools' teachers and students and the Community Group participants who contributed to the project with immense enthusiasm.

Further appreciation is extended to Chris McCarney of the Blackwater Regional Partnership/ Mid-Ulster District Council and the (UK/NI) Heritage Lottery Fund for support in the production of the dedicated project booklet, 'StreamScapes Ulster Blackwater'; and to Dan Curley of the Blackwater Rivers Trust.

Photo Credits: Stephanie O'Toole, Bernie O'Flaherty, Aaron O'Sullivan, Mark Boyden

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1. Introduction & Background

This is the Report of a 2nd Phase 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. This second phase involved participants in the 3 County Monaghan hydrometric areas of the Rivers Erne, Blackwater, and Glyde.

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.

2. 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.

3. June 2015 Project Participants

Schools

Doohamlet National School
Carrickmacross Boys' National School
Corduff National School
Scoil Mhuire Latton National School

Adult (Community) Groups

Doohamlet Development Association & Local Community
Bawn/Latton Communities
Magheracloone Farm & Community Group
Glaslough Tidy Towns & Local Community



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***Map showing locations of StreamScapes Monaghan Engagement June 2015
(prepared by Monaghan County Council)***

4. Participating Schools' Reports

Participating Schools Overview

Schools and community groups, as micro-communities, make for 'ready-made' venues for engagement on water quality issues. Generally speaking, primary students are far and away the most enthusiastic participants as they particularly love the Field Trip aspect of the sessions and this creates a platform for deep, indelible learning which will assist in changing life-long behaviours and ameliorating potential impacts.

1. Doohamlet NS: Contact Andrea O'Connor. 30 pupils (5th&6th class)

The school has been very busy and we worked with the classes until 12.30. Before class we took samples from the nearby stream. People were unsure of the stream's name, one girl said it was something like the Bluebell stream or connected with the nearby church bells. The community garden it runs through is called Gairdin na Chloig (Bell Garden). The class were interested but fairly subdued (Monday morning). They responded well to examining the invertebrates. They behaved well at the river and some became very focused on getting a crayfish! The class are developing a slide show for end of year and that will be their project.

What we found:

Freshwater Crayfish	Freshwater snails
Trout Parr	Freshwater shrimp
Eel	Midge larvae
Mayfly nymphs, clinging and swimming	Pond skaters
Cased Caddis (4 species)	Freshwater limpets
Uncased Caddis	

2. Carrickmacross Boy's School; Contact: Paul Fitzgerald, Principal; 34 pupils

We took samples from the stream in front of the old workhouse (in Carrckmacross; now an attractive Community Centre) before going to school. We started the day with the Biodiversity film. We covered most of the slide show, focusing on local catchment in particular. We showed the children the samples and then went to the stream site. Because of the size of the group and the narrow access we divided the boys into 8 groups spaced along the stream.

The boys worked very well in groups and were very focused on finding invertebrates. Aaron and I worked with them by group using the ID key. Sharon from MCC came and helped with the sampling.

Back in the school we covered food webs , what we found, salmon life cycle, and looked at the catchment map in more detail and discussed it. We showed film of 'How Wolves Change Rivers' and had a discussion of how sheep change landscape. In conclusion we did an exercise on water usage, family use per day, per year. Then we found out volume of local swimming pool (612,500l) and got the boys to divide their family daily use into it, to see how long it would take each family to use a

pool of water. In the case of a family of 4 it would be 901 days.

Project : Each boy is going to write a card describing something he learned or found interesting today and they will be put together into a poster.

Water Quality: the students assessed the water quality as Q4.4.

What we found:

Cased Caddis (4 species)	Worms
Mayfly nymphs (3 species)	Midge larvae
Uncased Caddis	Water Boatman
Freshwater Shrimp	
Freshwater Limpet	Visual: Trout and eel.
Beetles	Other comments: a lot of water crowfoot in
Beetle larvae	the stream
Mayfly eggs	

3. Corduff National School. Contact: Lorraine Lennon, Principal; 4th & 5th classes. 25 pupils

The school was very well prepared and knowledgeable about invertebrates. There is a butterfly farm in situ until the end of the week. We brought samples and showed children how to use the identification key. We covered the catchment, local threats, what living creatures need, water quality , invertebrate life cycles and a small amount on biodiversity. At the Field Trip site, children found the same species (listed above) as yesterday's group and they assessed the water as Q4.4. The children had been very well prepared for the trip and improved in sampling as they got used to it. Sharon from Monaghan County Council attended and was of great assistance to the session. The grandparents of 2 of the children turned up and were really interested in the invertebrates. 2 more council staff came and were interested in the process and the invertebrates

4. Scoil Mhuire Latton. Principal: Siobhan Lysaght. Teacher: Aoife McAdam; 40 pupils (4th& 5 class)

The classes were well prepared and attentive. We brought various samples including invertebrates and a crayfish for classroom presentation/discussion. After the presentation we showed the Biodiversity and Wolves Changing Rivers videos. The children were very attentive and retained lots of information from the films.

At the river we met Phil McCaul, who was involved with the church restoration and in the local community. He is a principal in a Dundalk school and took the day off to see what we do, as he is hoping to run events in the summer. The children did not have wellies but the site at Laragh church was accessible from the river bank. Aaron demonstrated kick sampling and then the children sampled from the sides. They got a number of crayfish including one filled with eggs. There was some spume at the river that looked as if it could be detergent based(?).

The children assessed the water quality at circa Q4.

Post-session we called to Phil McCaul's house to talk about the programme and share some resources in support of his own initiatives.

What we found

Crayfish - including one with eggs	Pondskaters
Mayfly nymphs (clinging)	Cased Caddis (2 species)
Mayfly eggs	Uncased Caddis
Freshwater shrimp	Midge larvae
Freshwater snails	Frog
Freshwater limpets	

5. Participating Adult Groups' Reports

General Notes on Participating Adult Groups

Four Community-based associations were engaged in the course of the 2nd phase of the StreamScapes Ulster Blackwater Project during June 2015. 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 potentially 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 provided presentation maps of the 3 hydrometric areas within the county and she, together with supporting Council staff, 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. Copies of the 'StreamScapes Ulster Blackwater' or 'StreamScapes Erne' Booklets (where relevant) together with 3 dedicated inserts focussing on Agriculture and Best-Practice themes were distributed to participants.

1. Doohamlet Community Group

Over 51 adults and children attended, meeting at the Field Trip venue at the Major Lough Stream aside the Doohamlet Community Centre. It was a lovely sunny evening and some of the morning's students (from Doohamlet National School) brought their parents. For a number of the children it was their third time at the river that day, such was their enthusiasm! (One parent told me that his son insisted that he came). Findings were similar to the morning, people were very interested in the life cycles; one man in particular commented that he was amazed that mayfly lived so long in the river. The group are very committed to their community and their development of the river garden and insect hotel is impressive.

2. Bawn & Latton Communities

42 people turned up at for the Field Trip session on the impressive Knappagh Water at the Billy Fox Memorial Park in a lovely wood. There were large numbers of mayfly dancing and laying. The river had a strong flow. Rocks were teeming with invertebrates. There was a good mix of ages at the river, including 3 generations of one family. People were very interested in the various invertebrates. There was a lot of interest in the discussion in the hall and the overall atmosphere was attentive and friendly.

What we found

Mayfly nymphs (5 species)	Freshwater Shrimp
Mayfly imago	Freshwater Limpet
Cased Caddis (5 species)	Freshwater Clam 2 species)
Uncased Caddis	Midge larvae
Caddis eggs	Freshwater Hoglice

Provisionally assessed water at Q4.5 - 4.6

3. Magheracloone Farming & Community Group

A large attendance converged by a bridge over the Magheracloone Stream adjacent the farm of Leslie Rowantree who graciously hosted the event. People were really interested in the samples, life cycles and the electro-fishing of Michaela Kirrane (IFI) which produced some trout parr for examination and discussion. A lot of animated discussion by the water was followed by further meeting at the community hall with a really friendly interested atmosphere. After the meeting people stayed a long time talking about related topics.

What we found

Trout (from electro fishing)	Pond skaters
Trout Parr	Beetles
3-Spined Sticklebacks	Freshwater limpets
Stone fly nymphs	Freshwater Shrimp
Mayfly nymphs (3 species)	Uncased Caddis
Cased Caddis (4 species)	

4. Glaslough Tidy Towns & Local Community

A large number of children from Glaslough National School (who had participated in 1st Phase engagement in September 2014) attended which augmented a smaller number of adults (but those that came were really interested and motivated to learn about the bio-indicators and basis of water quality assessment etc.). Aileen from MCC had sampled from the river higher upstream so we were able to demonstrate the comparison in terms of water quality from higher up in the Mountain Water Stream and this site. Biodiversity was not as plentiful as during the September 2014 (school) visit. There is evidence of silt recruitment above the site. The community has a very active Tidy Towns group and have won a lot of awards. There are a number of water conservation measures in place in the village and they were motivated now to do more.

What we found

3-spined Stickleback (male)
Freshwater Shrimp (plentiful)
Cased Caddis (3 forms)
Mayfly (2 species)
Stonefly(less sensitive species)

The three of the above found in very small numbers
Freshwater limpets
Midge larvae

The group decided that the water quality at this site (at Glaslough Wetlands) is Q3, the lowest of the all of the sites visited during the 2nd Phase of the StreamScapes engagement project.



Photos above show Glaslough Tidy Towns group undertaking Field survey (left) and then meeting in the Community Centre (right) to discuss wider water quality issues

6. Project Photo Gallery



The gear is laid out; students receive intro talk, and then they get busy in their stream!



ID Keys assist participants in determining their stream's invertebrates and water quality.



The star of the show...a pollution-intolerant mayfly signifies that our stream has 'good' status!



"I've caught a trout! What does this mean?"



Corduff National School students survey the stream below old Laragh Church.



Doohamlet (above) and Bawn/Latton Community Groups (below) meet by the river before returning to Community Centres to further discuss and consider water quality issues.





In Magheracloone, Farming & Community representatives are riveted by the field trip...



...and then engage in discussion on how to achieve 'best practice' and assist in improving local water quality.

Appendix 1: 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)

Appendix 2: School/Community Group Feedback Forms



StreamScapes Monaghan Project Waters & Wildlife Workshops

Feedback form

School/Group name: DODHAMLET N.S. Catchment (Circle one) Blackwater/ Erne/Glyde

No. of pupils/participants attending workshops: 33

Contact name: ANDREA O CONNOR

School/Group Phone Number & email address: dohamletns@eircom.net

Dates of workshops: 8/6/15 042 9441498

Please comment on the workshops with regards to preparation, organisation, interaction, lessons, etc:

Preparation good, lots of samples to show children. Work on whiteboard (theory was very good).

Clear rules when they got to the river. Work in the river was excellent.

Any other comments:

Great for the children to explore their local environment/the River and to discover its potential by way of river and fish life

Many thanks for taking the time to complete this feedback form!

For further information please contact:

Coomhola Salmon Trust, Ltd., Bantry, Co. Cork
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StreamScapes Monaghan Project

Waters & Wildlife Workshops

Feedback form

School/Group name: St Joseph's B.N.S..... Catchment (Circle one) Blackwater/Erne/Glyde

No. of pupils/participants attending workshops: 36 + 2 teachers

Contact name: Kate Martin

School/Group Phone Number & email address: 042 9661134 stjcmx@gmail.com

Dates of workshops: 9/6/15

Please comment on the workshops with regards to preparation, organisation, interaction, lessons, etc:

Interesting, interactive workshop where
boys were busy and active throughout.
Boys engaged well and a nice mixture
of listening and activities.

Any other comments:

Many thanks for taking the time to complete this feedback form!

For further information please contact:

Coomhola Salmon Trust, Ltd., Bantry, Co. Cork
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StreamScapes Monaghan Project

Waters & Wildlife Workshops

Feedback form

School/Group name: Scoil Phádraig N.S. Catchment (Circle one) Blackwater/Erne/Glyde

No. of pupils/participants attending workshops: 34

Contact name: Lorraine Lannan

School/Group Phone Number & email address:

Dates of workshops: 10.16.15

Please comment on the workshops with regards to preparation, organisation, interaction, lessons, etc:

- children were informed very well before the trip on what insects to look out for and how to identify them.
- Therefore the children knew what to look for + were kept busy during the trip .

Any other comments:

Many thanks for taking the time to complete this feedback form!

For further information please contact:

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StreamScapes Monaghan Project
Waters & Wildlife Workshops

Feedback form

School/Group name: Scail Mhuire Latoon.....Catchment (Circle one) Blackwater/Erne/Glyde

No. of pupils/participants attending workshops: 37.....

Contact name: Aoife Mc Adam

School/Group Phone Number & email address: aoifemcadam@hotmail.com

Dates of workshops: 10 June 2015.....

Please comment on the workshops with regards to preparation, organisation, interaction, lessons, etc:

Really well prepared - kids had been prepared well before arriving too

Any other comments:

Thanks!
We won't forget our wellies next time!

Many thanks for taking the time to complete this feedback form!

For further information please contact:

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StreamScapes Aquatic & Biodiversity Awareness Workshops

Schools' & Groups' Feedback Form

School/Group name: Doolin HAMLET & DISTRICT COMMUNITY DEVELOPMENT

No of pupils/participants attending workshops: 40

Teacher/Principal/Group Facilitator's names: PJ Harte,

Email: pj.harte.patrickjharte@eircom.net / contact ddcda@gmail.com

Phone number: 086 8552511

Date(s) of workshops: 8/6/15

Comments on workshops regarding preparation, organisation, interaction etc:

Excellent, very informative.
Great turnout - exceeded our expectations
Very interesting statistics from Mon Co.

Would you welcome a similar programme in the future? Yes,

Any other comments:

Great facilitators

Many thanks for taking the time to complete this feedback form!

If this form is not collected by StreamScapes Staff, please return to:

Coomhola Salmon Trust, Bantry, Co. Cork

e: streamscapes@eircom.net t: (353/0) 275 0453

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StreamScapes Monaghan Project

Waters & Wildlife Workshops

Feedback form

School/Group name: Bawn Community Coops Catchment (Circle one) Blackwater/Erne/Glyde

No. of pupils/participants attending workshops: 40

Contact name: Pearse Blaney

School/Group Phone Number & email address: Pearse.Blaney@Hotmail.com

Dates of workshops: 9/6/2015

Please comment on the workshops with regards to preparation, organisation, interaction, lessons, etc:

Very informative Very good.

*Everyone left the workshop with a clear
understanding of the life under the surface
of the water*

Any other comments:

Many thanks for taking the time to complete this feedback form!

For further information please contact:

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StreamScapes Monaghan Project
Waters & Wildlife Workshops

Feedback form

School/Group name: *Magheracloone County School*.....Catchment (Circle one) Blackwater/Erne/Glyde

No. of pupils/participants attending workshops:*45*.....

Contact name: *Ladie Roantree**087 3185284*.....

School/Group Phone Number & email address:*087 3185284*.....

Dates of workshops:*10th June 2008*.....

Please comment on the workshops with regards to preparation, organisation, interaction, lessons, etc:

Very informative Good interaction

*Good to see all of the life in the river
good effort by the staff in showing all that was in the river*

Any other comments:

Many thanks for taking the time to complete this feedback form!

For further information please contact:

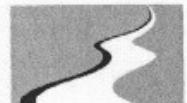
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Waters & Wildlife Workshops

Feedback form

School/Group name: Glaslough Tidy Towns Group..... Catchment (Circle one) Blackwater/Erne/Glyde

No. of pupils/participants attending workshops: 30

Contact name: Louise Duffy

School/Group Phone Number & email address: glasloughtidytowns@gmail.com

Dates of workshops: 11th June 2015

Please comment on the workshops with regards to preparation, organisation, interaction, lessons, etc:

Workshop was well organised by Glenagarr Candy Council (Bernie Flaherty & Niall O'Connor). We were furnished with leaflets, brochures & flyers before the event. The local school encouraged school children to attend. The hosts for the event were extremely knowledgeable & we found it very interesting. Everyone mixed well with each other & enjoyed looking at the samples.

Any other comments:

This workshop has helped raise awareness about the water quality in the Mourne River. Furthermore how there is room for improvement.

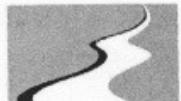
Many thanks for taking the time to complete this feedback form!

For further information please contact:

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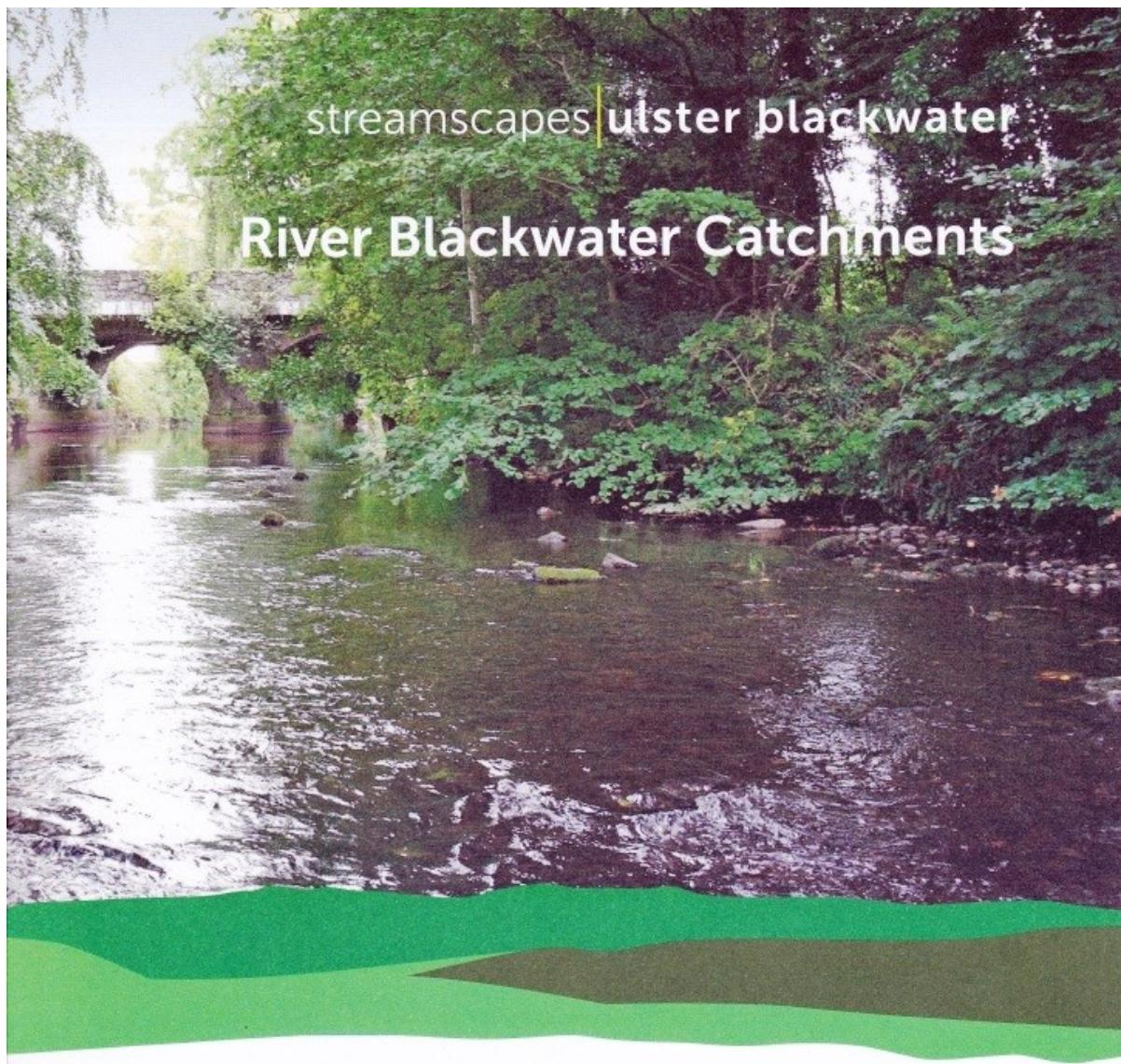


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Appendix 3: Project Publications

The following publications were distributed to Project Participants (according to their respective hydrometric areas) 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 (**nb: pdf file attached**)
- “[StreamScapes Erne](#)”: similar to the Blackwater booklet (above) but localised with Erne information
- 3 ‘catchment-specific’ (Erne/Glyde/Blackwater) booklet inserts, produced by Monaghan County Council, containing specific water quality ‘best-practice’ advice etc. with an especial focus upon agriculture



Tacaíonn Comhairle Chontae Mhuineacháin agus An Roinn Comhshaoil, Pobail agus Rialtais Altúil leis an dtionscnamh SruthLínte Abhainn Mhór Uladh. Is í aidhm an tionscnaimh ná feasacht agus baint an phobail a chur chun cinn maidir le huisce folláine a chaomhnú agus tacú le cur chuige nua don bhainistiú abhantrach.

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Cover of dedicated project booklet, 'StreamScapes Ulster Blackwater'; produced with the support of Monaghan County Council and Department of the Environment, Community, & Local Government in the Republic, and Blackwater Regional Partnership and the Heritage Lottery Fund in Northern Ireland