



RIVER RESTORATION CENTRE 20TH ANNUAL NETWORK CONFERENCE

"River Restoration in Practice"

30th April and 1st May 2019 – Britannia Adelphi Hotel, Liverpool

PROGRAMME OF EVENTS

DAY 1:

--- TUESDAY 30TH APRIL ---

REGISTRATION at Reception

Opens at 08:30

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| 09:00 | NETWORKING & EARLY VIEWING POSTER SESSION in Room TBC | 60 mins |
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Session 1

Main Banqueting Room

CHAIR: *Martin Janes (River Restoration Centre)*

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| 10:00 | River Restoration Centre introduction & welcome <i>Martin Janes (the River Restoration Centre)</i> | 15 mins |
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| 10:15 | <u>A process-based approach to restoring depositional river valleys, an anastomosing channel network</u> <i>Johan Hogervorst & Paul Powers (US Forest Service)</i> | 15 mins |
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| 10:30 | River restoration in concrete channels <i>Jean-Noël Pansera (Rhin-Meuse Water Agency)</i> | 15 mins |
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| 10:45 | Discussion | 15 mins |
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| 11:00 | SHORT BREAK with coffee and tea | 35 mins |
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| 11:35 | <u>Innovation, technology and knowledge transfer to support the enhancement of water quality, instream habitat and riparian management</u> <i>Ruairí Ó Conchúir (Waters and Communities Office (Ireland) – LAWCO)</i> | 15 mins |
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| 11:50 | <u>Westcountry Rivers Trust: 25 Years of managing at a catchment scale</u> <i>Laurence Couldrick (Westcountry Rivers Trust)</i> | 15 mins |
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| 12:05 | <u>After the Mersey Basin Campaign, what happened next?</u> <i>Peter Batey (Mersey Rivers Trust & Nature Connected)</i> | 15 mins |
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| 12:20 | Discussion | 15 mins |
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| 12:35 | LUNCH in Room TBC | 60 mins |
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Session 2

Main Banqueting Room

Delivering Natural Flood Management

Kensington

Large-scale river engineering

Derby

Analysing the data

CHAIR: Ann Skinner (River Restoration Centre Board)

CHAIR: Jenny Wheeldon (Natural England)

CHAIR: Phil Boon (River Restoration Centre Board/Freshwater Biological Association)

Small scale Natural Flood Management interventions in Norfolk, Suffolk and Essex

13:35 Helen George (Environment Agency)

A14 – Delivering habitat improvements at a grand scale!

Kevin Skinner (Atkins, member of SNC-Lavalin Group/A14/River Restoration Centre Board)

A multiple catchment-scale analysis of historic upland river channel planform adjustments over the last 150 years: A case study in the Lake District, UK
Hannah Joyce (Durham University)

15 mins

Natural Flood Management in practice: overcoming challenges faced by practitioners in two Nottinghamshire catchments

13:50 Josh Wells and Alan Graham (Trent Rivers Trust)

Delivering major infrastructure, flood risk and biodiversity benefits through collaboration: the A120 Little Hadham bypass and Flood Alleviation Scheme

Nick Elbourne (Environment Agency)

Looking forward, looking back: a catchment-based approach to the changing Dorset Stour
Antony Firth (Fjordr Ltd.)

15 mins

14:05 **Discussion**

Discussion

Discussion

10 mins



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Session 2 – continued...

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|-------|--|--|--|---------|
| 14:15 | <u>Missenden Stream Natural Flood Management and Restoration</u> Alex Back (<i>Buckinghamshire County Council</i>) | "River Restoration in Practice" – Enhancement or just good design? A collaborative approach to river and wetland restoration James Maddison (<i>Jacobs</i>) | <u>Dataset overload - processing methods to support effective catchment planning and assessment</u> Rosanna Griffiths (<i>Stantec</i>) | 15 mins |
| 14:30 | <u>Floodplains – The sponges of our ecosystems: lessons learned from implementation</u> Hamish Moir (<i>cbec eco-engineering</i>) | Glenridding flood alleviation scheme: combining natural flood management with traditional engineering to deliver flood resilience in complex upstream environments Lyndon Baker (<i>Atkins, member of SNC-Lavalin Group</i>) | Investigating channel sensitivity to morphological changes and impact on future flooding Natasha Todd-Burley & Rebecca Ing (<i>JBA Consulting</i>) | 15 mins |
| 14:45 | Discussion | Discussion | Discussion | 10 mins |
| 14:55 | POSTER SESSION in Room TBC with tea and coffee <i>Vote for your favourite poster</i> | | | 45 mins |



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| Session 3 | | | | |
|--|---|---|---|---------|
| <u>Main Banqueting Room</u> | | <u>Kensington</u> | <u>Derby</u> | |
| Morphology & physical processes | | Exploring the potential benefits of Natural Flood Management | Involving stakeholders in catchment management | |
| CHAIR: <i>Oliver Lowe (Natural Resources Wales)</i> | | CHAIR: <i>Lydia Burgess-Gamble (Environment Agency)</i> | CHAIR: <i>Jo Cullis (Jacobs/River Restoration Centre Board)</i> | |
| 15:40 | The Stream Evolution Triangle: integrating the influences of geology, hydrology and biology <i>Janine Castro (US Fish and Wildlife Service)</i> | Modelling the effects of large woody dams on sedimentary processes <i>Matthew McParland (University of Liverpool)</i> | River Irwell: small streams, big WFD gains <i>Kimberley Jennings (JBA Consulting) and Katherine Causer (Environment Agency)</i> | 15 mins |
| 15:55 | <u>Dynamic waters full of life: letting rivers do the work</u> <i>Glenn Maas and Mark Diamond (Environment Agency)</i> | <u>Natural Flood Management in Upper Wharfedale: a collaborative and coordinated approach to creating a resilient landscape</u> <i>Marie Taylor (Yorkshire Dales Rivers Trust)</i> | <u>Taclo'r Tywi/Tackling the Tywi-working in partnership to restore an iconic river</u> <i>Ioan Williams (Natural Resources Wales)</i> | 15 mins |
| 16:10 | Discussion | Discussion | Discussion | 10 mins |



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Session 3 – continued...

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|-------|--|--|--|---------|
| 16:20 | The science and 'Art' of geomorphology – how fluvial geomorphology contributions are developing and maturing over time Katy Kemble (<i>Jacobs</i>) | <u>Evaluating NFM benefits : Keeping it simple</u> David Brown (<i>Environment Agency</i>) and Mike Norbury (<i>Mersey Forest</i>) | <u>Rivers and Wetlands Community Days - inspiring communities</u> Stuart Malaure and Dominic Martyn (<i>Environment Agency</i>) | 15 mins |
| 16:35 | <u>Designing for instability: process-form restoration across our rivers and floodplains</u> George Heritage (<i>AquaUoS</i>) | <u>Estimating effectiveness of Natural Flood Management: Keeping it simple</u> Marc Huband (<i>Atkins, member of SNC-Lavalin Group</i>) | Becoming impatiens with Balsam on our river banks Nicola Craven (<i>Lincolnshire Rivers Trust</i>) | 15 mins |
| 16:50 | Discussion | Discussion | Discussion | 10 mins |
| 17:00 | SHORT BREAK TO MOVE TO KEYNOTE SESSION | | | 10 mins |



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Session 4

Main Banqueting Room

CHAIR: *Fiona Bowles (River Restoration Centre Board)*

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| 17:10 | <u>Restoration in Practice: Rivers for the Future, Rivers for Everyone</u> Colin Thorne (<i>University of Nottingham</i>) | 25 mins |
| 17:35 | Questions and reflections | 20 mins |
| 17:55 | Poster competition prizes, final announcements and close Martin Janes (<i>the River Restoration Centre</i>) | 5 mins |
| 18:00 | END OF DAY 1 | |



19:00 FOR 19:30 – UK RIVER PRIZE AWARDS DINNER

Main Banqueting Room





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DAY 2:

--- WEDNESDAY 1ST MAY ---

Registration

Opens at 8:30 am

Session 5

9:00

CHOICE OF ONE SITE VISIT OR ONE WORKSHOP

3 h 30 min

Workshop A:

Future planning for a changing climate:
cities & catchments

Facilitator: David Hetherington & Sally German (*Arup*)

David Hetherington will lead on this workshop looking at the concepts from a new publication with IWA – [integrating cities and water](#). Three topics based around key issues will be discussed in a 'world café' format, including presentations on NFM for cities, and Green Infrastructure as an influencer of catchment processes. This workshop aims to look at how we can better connect cities and catchments.

Land use change in response to climate change: outcomes for catchments from research for the Adaptation Sub Committee

Rachelle Ngai (*JBA Consulting*)

Workshop B:

Learning lessons from what goes wrong

Facilitator: Martijn Antheunisse (*Wessex Chalk Stream and Rivers Trust*), Brian Smith (*Environment Agency*) & Tim Martin (*Greenfix*)

One of the most valuable tools for improving is learning from what does not work out as expected. Understanding what went wrong, why and how you would do it differently is critical, especially with the high levels of uncertainty in working with natural systems. Lessons from fixing or overcoming a developing problem also provide valuable insight.

This workshop will:

- Use case studies and examples of projects that did not go to plan;
- Give the thoughts and insights from project managers and practitioners;
- Explore the why and how it happened;
- Discuss how we can reduce the risk of failure;
- Suggest how each participant in a restoration scheme could better reflect on and evaluate their previous projects.

12:30

LUNCH

65 mins



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Session 5

9:00 CHOICE OF ONE SITE VISIT OR ONE WORKSHOP continued... 3 h 30 min

Workshop C:

Protecting, managing and restoring small waterbodies: ponds and small lakes, headwaters, ditches, springs and flushes

Facilitator: Jeremy Biggs (*Freshwater Habitats Trust*) & Stewart Clarke (*National Trust*)

In this workshop we will review and discuss the importance of small waters for freshwater biodiversity and ecosystem services. The session will consider monitoring and assessment methods, practical measures for creating, protecting and restoring small waters, methods for enhancing ecosystem service delivery and opportunities for partnership. We will discuss the role of small waters in natural flood Management projects.

Assessing natural flood management opportunities and associated potential benefits in headwater catchment areas

Ryan Jennings & Steve Rose (*JBA Consulting*)

Workshop D:

Citizen science for impact

Facilitator: Stéfani Novoa (*Earthwatch Institute*), Laura Dal Pozzo (*Eastern Alps District (AAWA)*), & Luigi Ceccaroni (*Earthwatch Institute*)

This workshop will focus on the benefits and evidence of the inclusion of citizen science activities to enhance river restoration practices and its wider societal and economical aspects – how they provide a knowledge-base for the design, implementation and evaluation phase of river restoration practices and improve sustainability of restoration efforts through increased participation and accessibility of larger audiences.

We will highlight the potential of citizen science to contribute to the evidence base for well-grounded decision-making in policy through two short case-study presentations from the river monitoring realm. We will then discuss the experience of the audience on definitions, requirements and opportunities for participatory research approaches to complement or replace traditional research and evaluation procedures within river restoration.

[The River Starts Here! Collaboration between a Rivers Trust and the Environment Agency to monitor, analyse and improve water quality in an urban headwater](#)

Julie Wozniczka (*Trent Rivers Trust*) & Shelley Doe (*Environment Agency*)

Unlocking the Severn - for People and Wildlife

Jason Leach (*Canal & River Trust*) & Tim Thorpe (*Severn Rivers Trust*)

Extending beyond the reach: Engaging with evidence through citizen science

Lucy Shuker (*Thames 21*)

12:30

LUNCH

65 mins

Session 5

9:00 CHOICE OF ONE SITE VISIT OR ONE WORKSHOP continued... 3 h 30 min

Workshop E:

Reinstating channel-wetland-floodplain systems to pre-disturbance condition

Facilitators: Colin Thorne (*University of Nottingham*), Johan Hogervorst (*US Forest Service*), Paul Powers (*US Forest Service*) & Janine Castro (*US Fish and Wildlife Service*)

Stream restoration is often based on creation or re-creation of a single thread, meandering channel with a bankfull discharge return period of 1.5 or 2 years. The channel is designed to achieve 'sediment-balance', in which all the sediment supplied from upstream and locally is transported downstream. This is appropriate in 'sediment transport or transfer' reaches, but not in reaches with active floodplains, which are net sediment sinks. There is now overwhelming geologic, historical, empirical and theoretical evidence that natural, sediment sink reaches are characterised by multi-threaded channels that are fully connected to wetland-floodplain complexes.

This workshop introduces a new approach to restoring degraded streams – generally referred to as 'Stage Zero' - into connected channel-wetland/ meadow-floodplain systems that replicate pre-disturbance conditions.

Presentations will cover the theory, case study demonstrations, strengths and limitations, and strategies for managing risk. The presenters aim to inform restoration professionals and practitioners about the opportunities associated with restoring full channel-floodplain connectivity.

Site visit 1:

Daylighting the River Alt

Facilitators: Helen Rawlinson (*Cass Foundation*), Janet Hooke (*University of Liverpool*) & Phil Putwain

This case study centres on the reclamation of 8.2ha of brownfield land, 'daylighting' the River Alt into a newly engineered 900m section of river, mosaic of habitats and publically accessible greenspace known as 'Alt Meadows'. The project led to the creation of an enhanced environment providing a catalyst for positive change and regeneration. The visit will look into the project's economic and environmental drivers, the importance of genuine collaboration between project partners, contractors, University of Liverpool and the local community. In addition, facilitators will provide information on the ecological and physical design and monitoring as background to discussion about the channel morphology, processes and ecological development.

Site visit 2:

Working with Natural Processes (WwNP):
Blackbrook Slow the Flow, [St Helens](#)

Facilitators: Mike Norbury (*Mersey Forest*) & David Brown (*Environment Agency*)

[Blackbrook in St Helens](#), Merseyside, experiences repeat flooding from a combination of main river and surface water sources. Blackbrook has a 5% chance of flooding in any given year and sits in a low-lying bowl at the confluence of 5 rapid response catchments whose upstream area is 21km². Capital solutions to reduce the flood risk are prohibitively expensive, as culvert enlarging would be required to reduce the flow constriction. This site visit will cover the NFM works that were undertaken upstream and will cover topics including the practical implementation, benefits, and the sediment and water quality implications.

12:30

LUNCH

65 mins



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| Session 6 | | | | |
|--|---|---|--|---------|
| Main Banqueting Room | | Kensington | Derby | |
| Best practice design | | Catchment planning & delivery | Fish passage & habitat restoration | |
| CHAIR: Will Bond (Alaska E.C. Limited/River Restoration Centre Board) | | CHAIR: Pam Nolan (Environment Agency) | CHAIR: Judy England (Environment Agency) | |
| 13:35 | <u>Investigating step-pool channels in the Highlands</u> Carolyn Cload (University of the Highlands and Islands) | <u>Riverlands. Partnership working - does the practice match the theory?</u> Antonia Scarr (Environment Agency) and Richard Higgs (National Trust) | <u>Highlights and low points from the five year saga to improve fish passage on the River Ehen</u> Jodie Mills (West Cumbria Rivers Trust) | 15 mins |
| 13:50 | <u>Engineered Wood Structures - practical experience of design, implementation and monitoring from process restoration to sustainable bank protection applications</u> Eric Gillies (cbec eco-engineering) | <u>Developing a strategy for delivery of catchment wide Natural Flood Management</u> Thea Wingfield (University of Liverpool) | <u>Greater Thames estuary fish migration roadmap: A platform for identifying habitat restoration and creation opportunities</u> Wanda Bodnar (Thames Estuary Partnership) | 15 mins |
| 14:05 | Discussion | Discussion | Discussion | 10 mins |



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Session 6 – continued...

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| 14:15 | Getting Down and Dirty with a Digger Di Hammond (<i>Affinity Water</i>) and David Holland (<i>Salix River and Wetland Services</i>) | <u>Delivering Integrated Catchment Management - the Littlestock Brook pilot study in the Thames Basin</u> Joanne Old (<i>Environment Agency</i>) | <u>Habitat restoration at Powick Weir - A case study in saving King Henry III's favourite fish</u> Peter Brunner (<i>Royal HaskoningDHV</i>) | 15 mins |
| 14:30 | <u>Construction Design for River and Floodplain Naturalisation</u> Seb Bentley (<i>AquaUoS</i>) | Strategic approach to river restoration planning Marc Naura (<i>River Restoration Centre</i>) | <u>Video monitoring of fish in rivers: research and management perspectives</u> Mickael Dubois (<i>Cranfield University</i>) | 15 mins |
| 14:45 | Discussion | Discussion | Discussion | 10 mins |
| 14:55 | MOVE TO GRAND FINALE! | | | 15 mins |



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Session 7

Long-term lessons for river management

Main Banqueting Room

CHAIR: Kevin Skinner (Atkins/River Restoration Centre Board)

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| 15:10 | <u>National assessment of the spatial distribution of river restoration projects in the UK: Monitoring, assessment and maintenance</u> Harriet Moore (University of Lincoln) | 15 mins |
| 15:25 | <u>International guidance and case studies on using Natural and Nature-Based Features to reduce flood risk and improve the environment</u> Lydia Burgess-Gamble (Environment Agency) | 15mins |
| 15:40 | Global challenges tackled through river basin restoration: A reappraisal of the importance of our work David Hetherington (Arup) | 15 mins |
| 15:55 | RRC talk? Questions, thoughts and parting insights | 20 mins |
| 16:30 | END OF CONFERENCE with tea and coffee | |
