



**3rd National Riverfly Conference
Thursday 10 March 2011
The Natural History Museum, London**

Your rivers – their future

The Riverfly Partnership brings together anglers, conservationists, entomologists, scientists, water quality managers and relevant statutory bodies to increase our knowledge of riverfly populations and actively conserve their habitats.
For further information visit www.riverflies.org



ABSTRACTS

Welcome to The Natural History Museum

Dr Andrew Polaszek
Keeper of Entomology, Natural History Museum

*Andrew is a researcher (currently Interim Keeper) in entomology at the Natural History Museum, London. Since completing his PhD at Imperial College, London, Andrew joined the Commonwealth Institute of Entomology, has been Principal Investigator in the Department of Entomology at Wageningen Agricultural University (The Netherlands) and Executive Secretary of the International Commission on Zoological Nomenclature (ICZN). He has authored more than 100 scientific publications, edited books including *Systema Naturae* (CRC Press, 2010) and has co-edited *Journal of Natural History* since 1995.*

The Natural History Museum's (NHM) collection of insects and other terrestrial arthropods comprises about 28 million specimens. It is the most comprehensive collection in the world and includes named representatives of about half of the more than one million described species. About 100 research, curatorial, support staff and postgraduate students work regularly in the department.

The Angela Marmont Center (AMC) at NHM is a hub for amateur naturalists, enthusiasts and other societies studying British wildlife. The AMC provides a free identification and advisory service, fully equipped visitor space, reference collections, workshop and meeting rooms.

www.nhm.ac.uk

*Conference introduction
& Chair first session*

Paul Knight
Chair of the Riverfly Partnership
Executive Director, Salmon and Trout Association

Paul Knight entered trout farming in 1976 and qualified with an Institute of Fisheries Management Diploma in 1981. Established a lake and river trout sport fishery in Wiltshire in 1984, and served as Chairman of the Association of Stillwater Game Fishery Managers from 1999-2002. Appointed Deputy Director of Salmon & Trout Association in 1994, Executive Director in January 2002 and Chief Executive when S&TA gained charitable status in 2008. The Association's charitable objectives empower it to address all issues affecting fish and the aquatic environment, including seeking to influence water quality and fly life issues by lobbying Government departments and agencies, supported by practical experience and sound scientific evidence.

The S&TA hosts the RP on behalf of the Partners as part of S&TA's active engagement in the management and conservation of the aquatic environment

www.salmon-trout.org

Keynote speech

Rt. Hon. Lord Smith of Finsbury (Chris Smith)
Chairman, Environment Agency

Chris was elected as MP for Islington South and Finsbury in 1983. He held a number of shadow cabinet roles including Shadow Secretary of State for Environmental Protection. From 1997 to 2001 he was Secretary of State for Culture, Media and Sport. In 2005 he was made a life peer and he currently sits on the crossbenches in the House of Lords.

Since 2007 he has been Chairman of the Advertising Standards Authority and in 2008 he became Chairman of the Environment Agency. He has led the development of its new Corporate Strategy and has emphasised its commitment to partnership working in order to achieve environmental objectives.

Securing a better future for our rivers

We've seen a lot of improvement in many of our rivers over recent years, but the pressures remain, and in some respects are increasing. Point source pollution has been robustly tackled (though more needs to be done), but diffuse pollution now needs to be actively addressed. And the anticipated effects of a changing climate will make our task much harder. We do, of course, face severe economic challenges in the immediate future. Fewer resources and a constrained public purse mean we must think of creative ways – together – to make our rivers an even better place. We have a shared vision of a better environment, cleaner rivers and enhanced ecological conditions for fish. To make that a reality, we need to commit ourselves – even more than before – to work together in partnership.

Film clip - Catching the impossible
Hugh Miles

Hugh Miles has been mad keen on wildlife since childhood and by his teenage years had become immersed in conservation. He has made over sixty wildlife films for all the major broadcasters in the world, most of the films attempting to carry messages about the future and the need to conserve habitats and biological diversity. He is just embarking on a film about our chalk streams and their rich and varied wildlife, both above and below the surface.

Professor Alan Hildrew
Professor of Ecology, Queen Mary, University of London

*Alan is Professor of Ecology at Queen Mary, University of London, where he has been for many years as Lecturer, Reader and Professor, apart from two years seconded to a Lectureship in Nairobi. Alan has worked mainly on populations and communities of stream invertebrates and, most intensively, on food webs and species interactions. In more applied fields he has published on the ecological assessments of river restoration schemes and been involved since 1988 in the UK's Acid Waters Monitoring Network. Alan is President of the Freshwater Biological Association, was previously Chairman for 10 years, and has edited the journal *Freshwater Biology* (Wiley-Blackwell) since 1982.*

The surprising science of English chalk streams

New science has revealed some surprises about the ecology of English chalk streams. In both the Rivers Lambourn and Frome there is a narrow zone of sediment, a few centimetres below the bed, with very low oxygen concentration. These sediments generate significant amounts of the greenhouse gases nitrous oxide and methane. In the Frome in spring and summer, methane is produced at a rate similar to that of peat bogs and appears to be due to organic matter eroded from surrounding fields (there have apparently been changes in land-use from permanent pasture to arable). Routine ecological assessments of sites on both the Lambourn and Frome, however, put almost all in the excellent or good quality classes, thus raising the issue of why an apparent 'pathology' in biogeochemical processes (do English chalk streams normally produce methane at such a rate?) was not matched by assessments based on community structure of the macroinvertebrates.

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ANGLERS' MONITORING INITIATIVE

The Riverfly Partnership Anglers' Monitoring Initiative (AMI) was launched in 2007. It is a simplified form of the routine monitoring method used by Environment Agency (EA), Scottish Environment Protection Agency (SEPA) and Northern Ireland EA (NIEA) and enables trained volunteer groups to monitor the biological water quality (fly life) of their local rivers. The groups produce robust and meaningful results that complement the work of the Agencies – and ensures their early responsive action if falls in quality are detected.

Chair

Callum Sinclair

Director, Rivers and Fisheries Trust Scotland (RAFTS)

Callum is responsible for the overall management and development of RAFTS, the umbrella membership organisation and the fisheries trust network in Scotland. This includes the promotion of the sector with private and public sector bodies and supporting members across a range of areas including fundraising, project development and training provision.

Since joining RAFTS in 2007 a number of major initiatives have been started and delivered with members including national programmes of fishery management and biosecurity planning; the delivery of a ground breaking national programme of Atlantic salmon genetic sampling and analysis; the development of the largest programme in Europe of American mink control in the North of Scotland, and the commencement of a wide range of practical fishery management and restoration and invasive non native species control projects achieving WFD and other objectives through European and a range of other funding programmes. RAFTS currently has 25 member trusts who cover some 90% of Scotland and for whom the term "herding cats" was invented.

Before RAFTS Callum spent 7 years in SEPA on WFD transposition and implementation and was responsible for the design and initiation of the river basin planning system in Scotland now delivered by the National and Area Advisory Groups. Prior to SEPA he worked with Galloway Fisheries Trust in the normal range of fishery trust activities: electro-fishing and habitat surveys, education scheme delivery, hatchery and stocking programmes, radio tracking, habitat restoration schemes and others now forgotten.

Callum enjoys spending his free time scuba diving, following the misadventures of Heart of Midlothian FC, occasionally shooting or fishing and doing whatever his wife and two boys tell him to do.

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William Tall
Senior Vice President of the Wandle Piscators & Local AMI Coordinator

William Tall has been fascinated by invertebrates and fish since he first peered into the depths of his parents' garden pond. He is a keen fisherman and lives a short walk from the banks of the River Wandle. The catastrophic pollution of the river in September 2007 and a strong urge to do something to improve the river's welfare whilst preserving his back from the rigors of the Wandle Trust's monthly clean-ups led William to found the Wandle chapter of the Anglers' Monitoring Initiative with volunteers from the Wandle Piscators.

The best and cleanest stream near London?

The River Wandle has a long and proud history and was once described as one of the finest chalk streams in England. The river's steep gradient brought industry to the valley and provided the energy to power more than 90 water mills along its nine mile length. The industrial revolution, the urbanisation of the Wandle Valley and the growth of Croydon killed the river and in the sixties it was designated an open sewer. The river began to recover in the 80s and despite the collapse of the local sewage works in the 90s the Wandle had a reputation as a fine coarse fishery.

In 2007 an incident at the Beddington Sewage Treatment Works released 1600 litres of bleach into the river killing tonnes of fish and sterilizing three miles of the river. Within weeks Thames Water gave the Wandle Piscators five years' funding to set up and run an AMI group. The group's regular presence on the river bank, at school fetes and at county fairs has helped engage local children with the river and had a positive influence on their parents. Without doubt, the regular monitoring is helping to restore the river to its former glory.

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Frances Attwood MSc IEEM
Environmental Monitoring Officer – Analysis and Reporting
Environment Agency Wales – SE Area

Frances is a freshwater ecologist in the Environment Agency's Analysis & Reporting Team in South East Wales. She has spent the last five years working closely with the pilot Rhydney AMI Group and, more recently, with the newly-formed AMI groups in SE Wales. She previously worked in the South West England region of the Environment Agency. She is also the Environment Agency's national lead contact for the white clawed crayfish.

Dai Roberts
Riverfly Partnership Volunteer Coordinator – Wales

As volunteer coordinator for the Rhymney AMI Group, Dai led the first full catchment pilot for the AMI. Dai is now part time RP Volunteer Coordinator for Wales – a post funded by Environment Wales. He is a Director of the SE Wales Rivers Trust and sits on a number of river related committees and groups in the SE Wales area and the Welsh Freshwater BAP Group.

Making the Polluter Pay

The Rhymney River Flylife Monitoring Group is a group of volunteers who have monitored invertebrate populations at 18 sites in the Rhymney catchment since July 2005. The group has identified a number of issues including one-off sewage and industrial inputs, as well as more chronic inputs from industrial sites.

Close collaboration between the group and the Environment Agency Wales has benefited the ecology of the River Rhymney through the prevention of pollution incidents and the identification and clean up of previously ongoing problems. Several prosecutions have resulted from this collaboration.

These successes in SE Wales helped underpin the AMI for national endorsement with the Environment Agency in England and Wales.

Dai, expanding on Frances's presentation, demonstrates how volunteers can extend the reach of the statutory body in protecting our rivers, and the importance of building a good working partnership.

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Mark Horton
Coordinator of New Projects
Ballinderry River Enhancement Association

Mark graduated with a BSc Geography degree with Honours from the University of Wales, Aberystwyth before undertaking a MSc at the University of Leeds in River Catchment Dynamics and Management. Since his appointment at the Ballinderry River Enhancement Association's Ballinderry Fish Hatchery Ltd, Mark has been responsible for delivering various river enhancement projects including WWF Northern Ireland's Ballinderry River Enhancement Project (2004-06) and the Ballinderry RIPPLE Project (2007-ongoing). He is also involved in the hatchery's breeding programmes for Atlantic salmon, Dollaghan, brown trout, the globally endangered Freshwater Pearl Mussel and he also set up the island of Ireland's first Ark Site for White-clawed Crayfish.

Establishing Anglers' Monitoring Initiative on the Ballinderry River, Co. Tyrone – Northern Ireland pilot

As a community-led river trust, the Ballinderry River Enhancement Association (BREA) immediately saw the benefits of establishing a water quality monitoring network, through the AMI, on the Ballinderry River, Co. Tyrone. After securing funding through the Lottery's Awards for All programme, BREA, with the help of The Riverfly Partnership, have been working closely with the Northern Ireland Environment Agency to establish a pilot project - Northern Ireland's first AMI project. Through partnership working, the Community and Government now have a dialogue which will result in a much greater understanding of the Ballinderry River and the pressures it faces. This presentation charts the progress made to date and looks at what the future holds for this and potential projects in Northern Ireland.

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Stuart Crofts

Stuart Crofts has over 30 years experience, working as a volunteer and campaigning for improvements on the River Don in South Yorkshire. As a passionate fly-fisherman he has represented England at International level in fly-fishing competitions on 17 occasions, twice as captain. Stuart is now a professional fly fishing guide, a tutor for the Riverfly Partnership AMI and the coordinator of the Adult Caddisfly Occurrence Scheme.

Where does the volunteer come from?

The River Don in South Yorkshire was known in the 1960's as one of the most polluted rivers in Europe and through the city of Sheffield the river was totally lifeless. Things started to change in the 1970's when a gentleman named Gerald Stocks, who was then the local South Yorkshire Branch Organiser of the Salmon & Trout Association, took an interest in the river. He had a great vision that with a lot of good will and hard work, this once majestic river could be reborn. He was the epitome of a volunteer: enthusiastic, dogged, determined and totally inspirational to those around him. There is no doubt he inspired me to be part of this vision and this presentation is just part of that amazing story. Volunteers are key to this story, without whom much of the hard work simply would not get done. However, volunteers not only need enthusiasm and drive, they also need something else. They need the help and support from the many and various statutory bodies that have to be involved in this complex world in which we live. It is from these interactions partnerships are created. The fashionable phrase for this is '*The Big Society*', well in the world of river restoration, this has been going on for years.

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RIVERS IN POLICY

Chair

Arlin Rickard

CEO, Association of Rivers Trusts

Arlin was the founding Director of Westcountry Rivers Trust in 1994 until 2004 when he moved across to lead the newly formed Association of Rivers Trusts, the umbrella body of the Rivers Trust Movement covering England, Wales and Ireland.

Arlin began his career in agriculture and has wide-ranging experience of land use, ecology, fisheries & wildlife, the charitable sector and community relations. A former Member of the IUCN (The World Conservation Union) Commission on Ecosystem Management, Arlin has spent many years working closely with community groups including farmers, land managers and riparian owners and developing new project initiatives adopting the Ecosystem Approach.

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Richard Aylard

CVO - External Affairs and Sustainability Director, Thames Water

Richard Aylard is External Affairs and Sustainability Director at Thames Water where he has worked since 2002. His brief centres on the key issues affecting corporate reputation, including environment and sustainability. He is the company's lead spokesperson in public and with the media.

From 1985 to 1996 Richard worked in the office of HRH The Prince of Wales, latterly as Private Secretary and Head of Household. Throughout this period he was the Prince's lead advisor on environmental issues, in which Richard has had a lifelong interest. He previously served in the Royal Navy, retiring in 1988 in the rank of Commander.

The water company perspective

Water companies need clean rivers. We abstract water from them and discharge treated effluent to them. These processes are highly regulated and meeting the standards set by the Environment Agency is essential. In the last four years at Thames Water we have seen a dramatic improvement in sewage treatment works compliance. Standards are set - for good reasons - in terms of volume and chemical composition. But biological processes are complex and we accept that chemical standards may not be telling the whole story. The work of the Anglers' Monitoring Initiative can provide valuable early warning of problems that may need to be investigated and we have been pleased to support the training programme.

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Challenges for the Anglers' Monitoring Initiative

Professor Steve Ormerod

Professor of Ecology, Cardiff School of Biosciences, Cardiff University

In addition to his academic post, Steve is a Trustee of the Rivers Trusts and South East Wales Rivers Trust, Chair of RSPB Wales, Expert Panel member of the Defra National Ecosystem Assessment and Past President of the Institute for Ecology and Environmental Management. His research interests span the effects of diffuse pollutants, habitat loss and climate change on river ecosystems, and he has been involved with the Riverfly Partnership since its inception.

Alongside the formation of 'Buglife', the Anglers' Monitoring Initiative has driven a large upsurge of interest in the educational, 'citizen-science' and conservation value of river invertebrates. Drawing largely on the intuitive skills of anglers as natural observers, the scheme communicates just how critically fish populations depend on other river organisms. Alongside angling, it also illustrates widespread public scrutiny of the health of river environments. I argue, however, that the AMI should envision considerable further progress. Based on comparisons with statutory river monitoring and other investigations, I suggest that the AMI can aspire to i) collate and co-ordinate consistent data from local to larger extents; ii) develop more precise indicator value; and iii) expand expertise about factors affecting monitoring and assessment results.

http://www.cardiff.ac.uk/biosi/contactsandpeople/stafflist/m-p/ormerod-steve-prof-overview_new.html

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Geoff Bateman OBE BSc (hons) F.C.I.W.E.M CSci
Head of River Basin Management, Environment Agency

Geoff has considerable experience of fisheries and biodiversity and has been leading the development of the River Basin Management Plans, aimed at achieving the Water Framework Directive target of good ecological status in all waters by 2015. He started his career in Devon and developed his angling skills as a teenager on the rivers, lakes and coastline of the South West and his later fishery management skills on the Taw/Torridge, Exe and Dart. Geoff spent 2007 on secondment to Natural England assisting in building the new organisation and was previously Programme Executive for the Water Resources Change Programme in the Environment Agency, following twelve years as Devon Area General Manager leading flood risk, pollution control, integrated catchment management, ecological and fisheries teams and supporting local and Regional Fisheries Advisory Committees. In 2001 he led the Environment Agencies response to the Foot and Mouth outbreak.

Graduated from the University of Aston in Birmingham in 1977 after reading for an honours degree in "The biology of man and his environment".

Current chair of the United Kingdom Technical Advisory Group (UKTAG) and Past President of the Chartered Institution of Water and Environmental Management. A career interest in the environment has resulted in the presentation of papers and contribution to the work of the House of Commons Environment Committee, Royal Commission on Soil and Rural White Paper. Former chair of the Defra Agricultural Waste Stakeholders Forum R&D sub-group and Secretary of State appointee to Dartmoor National Park.

The future of our rivers

www.environment-agency.gov.uk

CONSERVATION AND MANAGEMENT

Chair

Dr Mike Dobson

Director, Freshwater Biological Association

Michael Dobson is a freshwater invertebrate ecologist. His main research interests relate to the ecology and management of upland streams, involving work in the United Kingdom (particularly the uplands of northern England), southern France and the highlands of Kenya. He is also interested in the invertebrate ecology of reed beds. He is the co-author of two undergraduate textbooks in aquatic ecology and is currently working on identification keys for general users. He joined the FBA as its Director in 2007 after 15 years teaching in the university sector. He is a Fellow of the Linnean Society and a member of the Riverfly Partnership Board.

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Craig Macadam

Conservation Officer, Buglife – The Invertebrate Conservation Trust

Craig Macadam is Conservation Officer with Buglife - The Invertebrate Conservation Trust and has over 20 years experience of sampling aquatic habitats and identifying freshwater invertebrates. Craig is the national co-ordinator of the Ephemeroptera (Mayfly) Recording Scheme and regularly collaborates with other leading researchers to promote the study and conservation of freshwater invertebrates and to deliver workshop on the identification of freshwater species. He also collaborates on a regular basis with Ephemeroptera workers in Europe and further afield. Craig is also a Tutor for the Riverfly Partnership AMI.

Conserving riverfly diversity

The Riverfly Partnership (RP) Species and Habitat Group was established in 2008 to bring together conservation interests on riverfly species and their habitats with the view to raising awareness, carrying out collaborative work with partner organisations and through projects and research.

RP secured funding through the Natural England's Countdown 2010 fund to undertake conservation work on the eight riverfly species identified as priorities by the government for protection. An update will be given on surveys and the delivery of conservation actions for these species. Details of this work are presented, together with a description of the next steps for the group.

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Dr Judy England
Environmental Monitoring Team Leader, Environment Agency

Judy has worked as an ecologist with the Environment Agency and its predecessor the National Rivers Authority. She completed her doctorate on the Ecological Appraisal of River Restoration Schemes and has been involved in the design and monitoring of numerous projects with the Environment Agency. She is currently the Environment Agency's Advisor to the River Restoration Centre for Ecology, Fisheries and Conservation. She also provides a link between the Riverfly Partnership and the River Restoration Centre to promote best practice to benefit riverflies and the monitoring and appraisal of the success of schemes.

Restoring life to our rivers

The River Restoration Centre is a national information and advisory centre on all aspects of river restoration and enhancement, and sustainable river management

The Centre provides a focal point for the exchange of information and expertise relating to river restoration and enhancement in the UK. Its primary role is to disseminate information on river restoration and enhancement projects and to provide advice on site-specific technical issues through a network of experienced river restoration practitioners. RRC is a non-profit making organisation which aims to offer impartial advice to enable practitioners and clients to gain maximum benefit from current experiences in a variety of easily accessible ways.

The RRC is working with the Environment Agency and the Riverfly Partnership to promote restoration schemes and techniques that benefit the ecology of riverflies and the monitoring of their success. We have applied the AMI to a couple of restoration schemes to show how it may be used and would be interested in speaking to anyone who would be interested in monitoring any schemes they may be involved with.

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Mark Diamond
E&B Manager (Ecosystems), Environment Agency

*Mark has a PhD (Fisheries Ecology, Liverpool, 1983) and has been employed for the past 25 years in the Environment Agency and its predecessors in various roles including Regional Fisheries, Ecology and Recreation Manager for the North West Region and National Technical Manager for Conservation and Ecology. Recent work areas include Climate Change Adaptation, Invasive Species, River Habitat and the Water Framework Directive. He is a member of the Programme Board for the 'Invasive Non-native Species Framework Strategy for Great Britain' and Chair of the Scientific and Technical Advisory Group for *Dikerogammarus villosus*.*

Our response to the arrival of the invasive shrimp, *Dikerogammarus villosus*

The invasive shrimp, *Dikerogammarus villosus*, was first reported in the UK at Grafham Water on the 3rd September 2010. It has subsequently been discovered at two sites in South Wales. Studies of its invasion across western Europe indicate that it has a significant deleterious impact on native invertebrate communities.

In this presentation, I will give an overview of the measures that have been taken to help contain this shrimp at its known locations.

Information on biosecurity and identification for *Dikerogammarus villosus* can be found at <https://secure.fera.defra.gov.uk/nonnativespecies/alerts/index.cfm>

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Dr. Cyril Bennett
John Spedan Lewis Trust

Dr Cyril Bennett has been a fly fisherman for over 50 years during which time he has been fascinated by the fly life of rivers. He is a founder member of the Riverfly Partnership and Anglers' Monitoring Initiative and pioneered work of anglers detecting pollution incidents. His PhD with the University of London was on the ecology of mayflies and he is a Fellow of the Royal Entomological Society. Since the serious declines over the past 20 years, he has been passionate about trying to restore the fly life that has been lost on so many of our rivers.

Restoring the Blue Winged Olive

Over the past twenty years our riverflies have declined to such an extent that the large swarms of mayflies, once common on many of our rivers, have gone. This is particularly so with the Blue Winged Olive (*Serratella ignita*) which is (or was) one of our commonest mayflies. This iconic fly once provided the angler with good sport during the long summer evenings when huge numbers of duns emerged and egg laying spinners returned to the water.

This two year project aims to restore the Blue Winged Olive to sites where it has been lost or severely depleted; but to do this, large numbers of eggs are needed from a 'donor' site. Although these sites are becoming increasingly rare, the upper Wiltshire Avon still has a large population of BWO. This not only provides a suitable donor site but gives a rare opportunity to carry out a detailed study of a large natural BWO population and the first year of this project has highlighted a number of important issues.

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PANEL DISCUSSION

The future of our rivers – are they in peril? What is being done? What can be done?

Chair

Tom Fort

Freelance journalist

Tom is a former BBC journalist who has been a full time writer since 2000. Among his books are 'The far from compleat angler', 'The book of eels' and 'Downstream'. He is a member of the Piscatorial Society and fishes the Avon, Wylde, Test and Itchen but is just as happy legering a worm for a chub.

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