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Notes from the ARMI Project Manager

This edition of the newsletter is a little later than scheduled, following an extremely busy summer field season. As per the last couple of years, it looks as though 2017 could be another record breaker for the number of ARMI workshops held and new volunteer monitors trained. This, along with the continuing establishment of new ARMI hubs, demonstrates both the increasing effectiveness of the initiative, and the ongoing commitment from those organisations and individuals participating in the Riverfly Partnership. On behalf of myself and the Riverfly Partnership, I would like to extend sincerest thanks to every single one of you: trained volunteers, coordinators, tutors, partner organisations, ecology contacts within each UK statutory body, Salmon & Trout Conservation UK, FBA, the RP steering committee and RP executive. I also wish to extend special thanks to all rod licence buying anglers in England and to the Environment Agency for continuing to fund and support ARMI.



4th National Riverfly Partnership Conference reminder

Ticket sales for the 4th National Riverfly Conference 'Riverfly Monitoring and Beyond' are going steadily but spaces still remain currently so, if you have not already done so, I urge you to book your place before it's too late! The conference will take place in the Flett Theatre, Natural History Museum, London on Thursday 17th November 2016 and tickets can be purchased up until 10th November 2016, full details here: <http://www.riverflies.org/4th-national-riverfly-partnership-conference>.



Riverfly Partnership photo competition extended

There have been some excellent entries into the competition to date, though the summer holiday season has seen an obvious dip in new entries. As a result of this, and to encourage Riverfly images captured in Winter and Spring, the competition has now been extended up until the 31st July 2017, so don't forget to take a camera or smartphone when you visit the river! The competition is free to enter and the winner, to be judged after 31st July 2017 by Hugh Miles,



Paul Procter, Kevin Parr and Mike Hamling, will receive a prize of £500, kindly donated by Pro>Media. Full competition and entry details are available here:
<http://www.riverflies.org/riverfly-partnership-photography-competition-2016>.

Salmonid spawning and ARMI

Following a recent discussion about ARMI monitoring during salmonid spawning times, one angler and Riverfly monitor asked if I can clarify the position here, which I am happy to do.

On those rivers where salmonid (Atlantic salmon, sea trout, brown trout & grayling) spawning occurs, spawning and early development may take place between the months of October and April; actual spawning times vary according to species and locality. Under no circumstances should ARMI activity disturb salmonid spawning activity, indeed under the Salmon and Freshwater Fisheries Act 1975, Section 2(4) of the Act makes it an offence to willfully disturb any bed, bank or shallow where fish (salmon, trout, coarse fish, smelt or lamprey) might spawn; or to disturb any spawning fish or fish spawn.

The position for Riverfly groups and monitors is clear: though the ARMI methodology does incorporate a monthly monitoring regime, accurate and current information about known salmonid spawning activity and sites must be sought locally, from the Environment Agency* (England), SEPA* (Scotland), NRW* (Wales) and NIEA* (Northern Ireland), angling clubs/associations, Rivers Trusts, Wildlife Trusts, etc., prior to establishing whether year round monitoring is appropriate for each ARMI site. If local information confirms that year round monitoring is appropriate but subsequent field observations cast any doubt, do not proceed with sampling but record and report your observations (to your ARMI coordinator and EA ecology contact*), await feedback/further instruction, and revise your monitoring regime as appropriate.

ARMI data verification online, notice for ARMI coordinators

ARMI coordinators, please check whether you have records awaiting verification each time you log in to the the ARMI database. Records submitted by volunteer Riverfly monitors do appear as open data until they have been verified by the appropriate ARMI group or hub coordinator.

Currently there are significant numbers of records awaiting verification which is causing frustration amongst those monitors who are unable to review their own records. The data verification process is described in the ARMI database and GIS user guide. If you are a coordinator and either you don't have a copy of the guide, or, you have questions relating to the verification process, please email the ARMI Project Manager (ben@riverflies.org) stating your query.

In addition to verifying records where the ARMI score is equal to or above the site specific trigger level, ARMI coordinators may also need to update the status of confirmed alerts. If a monitor detects and confirms a trigger level breach they must verbally alert their group coordinator and/or the relevant statutory agency (either the ecology contact directly or the 24hr national incident reporting line 0800 807060) as per the established ARMI protocol. Once the statutory agency ecology contact has assessed an alert and taken appropriate action, feedback should be relayed to the appropriate ARMI coordinator who, in turn, should update the record online as per the user guide. This important information then becomes available as open data so that anybody can see how an alert has been classified.

Local funding for ARMI

Many new and existing ARMI groups and hubs have attracted funding locally to support the purchase of monitoring and analysis equipment, and, the delivery of training and ongoing support. In some cases, funding for local ARMI activity has been sourced as part of a wider project bid, whilst in others, grant funds, such as the Big Lottery Awards for All, have supported ARMI groups and hubs independently. In addition to supporting ARMI activity locally these grants can provide essential support to ARMI centrally, such to the ongoing maintenance and development of the online database, and many groups have enquired as to how they can contribute in this way. In response to such requests it is suggested that an amount equal to 5% of any total grant, applied for, for ARMI activity locally, be added to the grant application; to be transferred to the Riverfly Partnership subject to the application being successful. Alternatively, an organisation may choose to make single donation to the Riverfly Partnership each time an ARMI workshop is hosted and delivered by it. The suggested amount of such a donation is £50.00. For more information, including generic funding application template complete with ARMI details, please email Ben Fitch (details below).

Coordinator Home Page

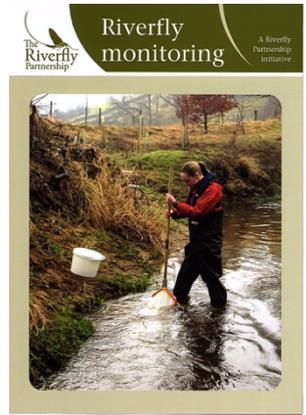
benfitchRMI's GIS options		Records pending confirmation					
Record	User	Site	River	RMI	Date		
16392	benfitchRMI	Ben ARMI Demo	Ben ARMI Demo	Ben ARMI Demo	08-09-2016		

Alerts awaiting feedback

Record	User	Site	River	Catchment	RMI	Date	Action
819	benfitchRMI	Ben ARMI Demo	Ben ARMI Demo	Ben ARMI Demo	Ben ARMI Demo	20-01-2015	
821	benfitchRMI	Ben ARMI Demo	Ben ARMI Demo	Ben ARMI Demo	Ben ARMI Demo	21-01-2015	

ARMI fold-out guide, notice for ARMI coordinators and tutors

It is essential that the current version of the 'Riverfly monitoring' fold-out guide is provided to all participants attending one-day ARMI workshops. This version includes updates to the previous, FSC branded, version, including: more identification images and detail, use of ARMI online database and GIS, and updated biosecurity information. If you are an ARMI coordinator or tutor and have any copies of the original guide remaining please contact the Ben Fitch, ARMI Project Manager with details. Ben's contact information can be found at the end of this newsletter.



Riverfly Plus – MoRPh

MoRPh is a tool developed by Queen Mary University of London and the Environment Agency, for citizen scientists to easily record information about local physical habitat conditions, at a scale that complements ARMI and similar river biological monitoring activities. It provides a means of monitoring and interpreting physical habitat of short lengths, or 'modules', of river (10m to 40m) through automatically generated indices whose changes can be tracked through time and across space.

The MoRPh field survey is a rapid recording method that requires no specialist equipment and can be carried out from the riverbank and the MoRPh web tool receives, stores, analyses and maps physical habitat information from MoRPh surveys. For further information about MoRPh and to register your interest please visit www.modularriversurvey.org.



Riverfly Plus – Scratching below the surface: monitoring functioning under the river bed

This project is a joint venture between Roehampton University and the Riverfly Partnership. 'Scratching below the surface' aims to collect data on the functioning of a very active, but neglected, zone that lies beneath the stream bed and to find out how this varies with key environmental factors.

- Below the surface of stream beds lies an area called the hyporheic zone. This zone is the interface between the stream sediment and the groundwater aquifer (at a depth of 10-50cm into the stream bed).
- Research carried out by Roehampton University has confirmed that there is an abundant and diverse community (microbes, microscopic invertebrates and macroinvertebrates) in this zone, that it functions as a 'nursery' for the early stages of both macroinvertebrates and salmon/ trout and as a refuge for surface organisms during disturbances such as floods and droughts. The hyporheic zone also has an important role in cleaning river water, for example by breaking down pollutants.
- The hyporheic zone is an important part of the river ecosystem; but it is not currently monitored locally or nationally and we have little idea how it's functioning, and so its ability to provide these services, differs across rivers and with environmental factors such as acidity, pollution and land use.

This project aims to close this gap in our understanding of rivers.

- We want to collect data on hyporheic zone functioning across as many rivers as possible by asking participants of the Anglers' Riverfly Monitoring Initiative (ARMI) to bury and then retrieve two assays measuring decomposition (the breakdown of organic material by microscopic organisms).
- The two assays are the Rotten Cotton Index and the Tea Bag Index (see Table). Information on temperature and sediment are also recorded before findings are uploaded onto an online platform.
- We will use this information to develop a baseline for hyporheic zone functioning and provide additional information on riverine water quality that complements that already collected by ARMI volunteers.
- In the future we hope that this data will help to develop a Hyporheic Zone Health Score that will add to ARMI.
- We are undertaking a small pilot study in late 2016 with some ARMI hubs (already selected). We will then run workshops to explain the project further and to train ARMI volunteers who might be interested in undertaking this work, details to be confirmed. For more information about the project contact Anne Robertson, Department of Life Sciences, Roehampton University: a.robertson@roehampton.ac.uk.



ROTTEN COTTON INDEX



Standardized strips of unbleached cotton are attached to nylon string



The strips are buried in the stream bed and retrieved after a period of time



The strips are dried and sent to Roehampton where a machine (tensiometer) measures tensile strength decomposition. More decomposition means higher function in the hyporheic zone.



Results are loaded onto an online platform.

TEA BAG INDEX



Paired tetrahedral bags of Green and Rooibos tea



The bags are buried in the stream bed and retrieved after a period of time



The bags are dried and weighed to determine how much tea has been broken down (decomposed). More decomposition means higher function in the hyporheic zone.



Results are loaded onto an online platform.

Contact us

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