



KEEPING RIVERS COOL creating riparian shade



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What is this work about?

Welcome to the eighth edition of the Keeping Rivers Cool newsletter. Keeping Rivers Cool is an Environment Agency led climate change adaptation project (2012 – 2016) that aims to use shade from trees to keep small rivers cool. Predictions indicate that small streams will become increasingly inhospitable to young salmon and trout as temperatures increase over the coming decades; indeed, some trout and salmon populations are already under occasional stress with some rivers reaching temperatures above their lethal limit in recent hot, dry summers.

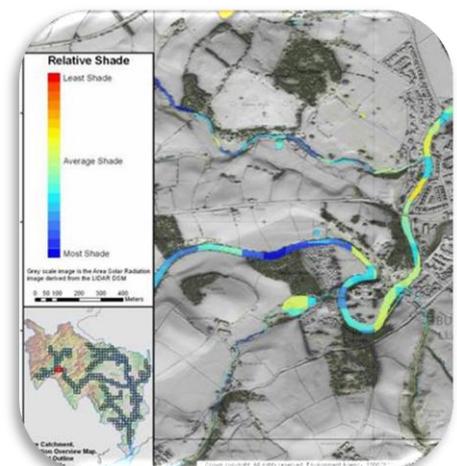
We recognise that action is needed now to protect young trout and salmon in the future. Shade from trees can reduce temperatures in small rivers by on average 2-3°C (compared to unshaded streams) and greater differences have been recorded on hot summer days.

In certain circumstances other interventions for cooling rivers e.g. river restoration, heated effluent control, modified abstraction regimes and water meadow management may also be beneficial and we will be exploring these in the future. In the meantime we will provide riparian shade where our evidence base indicates that it will have the greatest benefits for river ecology.

How to access shade maps for your catchment

Shade maps are now available for all England WFD catchments (where there is LiDAR coverage). For Environment Agency staff these are now available from your relevant Catchment Co-ordinator, and will be available on Easimap 2 when it launches. For non-Environment Agency staff, the PDFs of the shade maps can be requested by contacting: archived-lidardata@environment-agency.gov.uk. We are currently making arrangements to distribute PDFs maps to external organisations.

These relative shade maps can support the identification of the most effective places to create or increase riparian shade. Derived from LiDAR (Light Detection and Ranging) data, the rainbow shading indicates the likely amount of shade created by



the landscape e.g. hill and valley effects as well as shading caused by existing vegetation.

We are receiving enthusiastic feedback from those who have already received maps, and we welcome the many responses for more copies which we are receiving.

Huge thanks go to Andrew Richman, Alastair Duncan and the National Operations Geomatics team who produced these maps on time, despite facing the demands of priority incident work.

Keeping Rivers Cool scoops a golden apple

Under the Climate Change Benefits category Keeping Rivers Cool won a 'gold' green apple for its partnership work promoting riparian shade to protect salmon and trout from the effects of a changing climate. With the award came the opportunity to create a 60 second promotional video for the project with our partners from the Rivers Trust and the Wye & Usk Foundation. We'll look forward to using the clip to further promote the project in future funding bids.



Pictured left to right: Sophie, 'Miss Green UK', Mr Jack Spees, Ribble Rivers Trust Director, Dr Stephen Marsh-Smith OBE, Wye & Usk Foundation Director, Rachel Lenane, E&B, Environment Agency & Dr Dan Fox, ncpms, Environment Agency, collected their gold prize at the Green Apple

Natural regeneration starts on the Wye

We are truly excited to announce that the first Keeping Rivers Cool natural regeneration pilot has been commissioned on the Wye! Led by the Wye and Usk Foundation, this pilot will regenerate over 5 hectares of riparian land.

With EA funding the Wye and Usk Foundation will deliver 8.5km of fencing and stock watering along the Hindwell and Arrow. In addition, the Wye and Usk Foundation are funding and delivering an additional 4.5km of fencing and stock watering along the lower reaches of the Hindwell.

The Wye pilot will use fencing alone to allow the natural regeneration of local species, such as alder and willow, protected from grazing cattle. This will have the additional benefit of reducing another major pressure on salmonid populations, sediment levels downstream, by preventing stock access, sealing off drinking points and creating effective buffers from arable operations. Stock watering is being put in place to allow access to drinking water for cattle which would previously have drunk from the river.



A sunny stretch of the River Arrow
Photo courtesy of the Wye and Usk
Foundation

Pilot updates

Ribble Pilot: Planned outcomes by March 2014 are 22,000 trees and 15km of fencing. To date, around 9km of fencing have been erected. Despite delays caused by autumn's warm temperatures, the Trust has already planted 2,500 trees.

Hampshire Avon Pilot: The Project Team said a fond farewell to Leanne Sargeant who left the Environment Agency for new challenges in 2014. Key members of the Environment Agency's Blandford team are currently building on Leanne's good work by developing a local partnership with the Woodland Trust.

Tyne Pilot: there is currently no funding for a Tyne pilot, however subject to funding for Keeping Rivers Cool in 2014/15 we are considering running a pilot on the Tyne with the Tyne Rivers Trust.

Benefits Mapping

Under the guidance of the E&B Benefits Team, we have drafted a benefits map which examines the products of Keeping Rivers Cool and the type and range of benefits that arise from the programme. We presented this map to the Keeping Rivers Cool Steering Group in November 2013 to discuss how these benefits can be understood and managed over time.

Following systematic analysis we found a wider range of benefits from riparian shading than we had originally thought. As well as improved habitat for salmon and trout we also found that the Keeping Rivers Cool method brings benefits such as interconnectivity of ecosystems, increased farm productivity and reduced diffuse pollution. We are confident that the benefits map will help in future funding applications.

Funding for 2014/15

Currently there is no funding available for Keeping Rivers Cool in 2014/15. However the shade maps will remain available and the Guidance Manual will remain available internally after our transition to GOV.UK. We are exploring sources of potential funding with our partners and will keep you informed on our funding position.

In the face of restricted funding the Ribble Rivers Trust are taking the opportunity to approach external sources, and have had an Expression of Interest accepted by SITA for a **Keeping Ribble Cool** project! The Ribble Rivers Trust are now working on their full application and we're all keeping our fingers crossed for the outcome which will be announced during summer 2014.

The Environment Agency web content has moved to a new home on the GOV.UK website. As a result, very few updates are being made to the website or intranet. What this means for us is that all Keeping Rivers Cool newsletters will be available by email, instead of the Easinet – please [contact us](#) for any back issues.

For queries about any of the information above please contact us via our new email address: keepingriverscool@environment-agency.gov.uk