

KEEPING RIVERS COOL:

The Woodland Trust to lead on putting rivers in the shade



In this issue:

- Riparian shade maps available for all England's WFD management catchments
- An update on the Keeping Rivers Cool demonstration projects
- The KRC Guidance Manual gets a refresh

What is this work about?

Welcome to the final edition of the Environment Agency's Keeping Rivers Cool newsletter.

Since beginning in 2012, 'Keeping Rivers Cool' (KRC); has become an award winning, million pound, multi-partnership programme. It was designed in response to the evidence supporting the positive impact that riparian shade, from trees and vegetation along river banks, can have on water temperatures. On average riparian trees and vegetation in the right places can prevent excess warming, with shaded reaches 2-4°C cooler than exposed streams, with greater differences being recorded on hot summer days when the treatment is most required.

UK Climate Projections (UKCP09) models project that average summer air temperatures will warm by between 2°C and 4°C by the 2050s – compared to the 1961-90 average temperature. Because river temperatures are sensitive to changes in climate, we expect them to rise by a similar amount. The availability of riparian shade for vulnerable freshwater species such as Atlantic salmon and Brown trout is going to become more important as we see the impacts of a changing climate on our summer water temperatures.

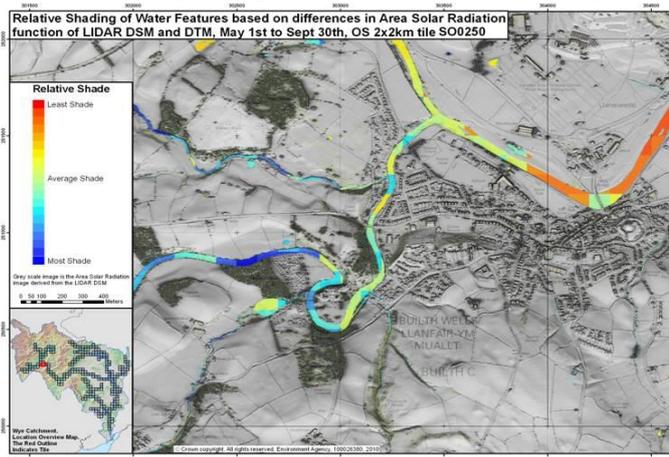
Now that the demonstration projects are complete, we have been looking for a way to increase the adoption of KRC actions and secure the future of the programme without further funding from the Environment Agency. We are delighted that the Woodland Trust has agreed to take on the leadership of this programme; it is excellently placed to promote KRC given the Trust's established role in woodland creation and will explore options to raise funding for this programme. The Trust has an excellent understanding of KRC as it has been involved from the start and the partnership is optimistic that KRC will continue to grow under it's leadership.

The new Keeping Rivers Cool web page can be viewed here:

<http://www.woodlandtrust.org.uk/get-involved/plant-trees/why-plant-trees/planting-trees-for-water-management/reducing-river-temperature/>

England-wide riparian shade maps now available

Using EA Light Detection and Ranging data (LiDAR) the Environment Agency has created



riparian shade maps for each of the WFD management catchments in England. These maps can be used by land managers to identify areas in a catchment which are exposed most to sunlight and potential warming. Maps for specific catchments can be requested on DVD from archived-lidardata@environment-agency.gov.uk or the whole national data set can viewed on the Rivers Trust Catchment Mapping Portal: <http://arcg.is/1113hqJ> in combination with other WFD data sets.

Demonstration project updates

Partners have been working together to begin the expansion of riparian shade and build resilience across England's extensive network of vulnerable 1st and 2nd order streams. Since the publication of the shade maps, the Guidance Manual and the start up of the demonstration projects, we have seen many additional projects with 'keeping rivers cool' objectives in mind starting up all over the country, from southern England into Scotland. Since the programme began we estimate that there have already been around 100,000 trees planted (not to mention the fencing erected) to restore our rivers and help to keep them cool in the face of a changing climate.

In the Ribble

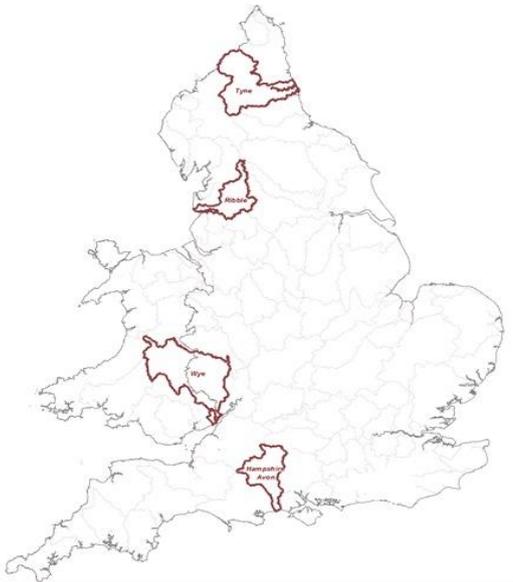
In the North West the Ribble Rivers Trust made agreements with landowners and used volunteers to help plant more than 54,000 trees and erect about 24km of fencing. The project '[Keeping Ribble Cool](#)' has since attracted further funding from other partners and has appeared on ITV's 'Country Wise' as an example of climate change adaptation in action.

In the Hampshire Avon

In 2013, 200 trees were planted and 80m of fencing erected along the Hampshire Avon, led by a dedicated EA KRC Project Officer with help from the [Woodland Trust](#). In 2014 the local Water Framework Directive (WFD) team, with both WFD outcomes and KRC objectives in mind, planted around 22,000 trees working in partnership with the landowner.

In the Wye

On the Welsh/English border the Environment Agency worked in partnership with the [Wye and Usk Foundation](#) who delivered 13km of fencing and stock watering along the lower reaches of the Hindwell to promote natural regeneration of riparian vegetation.



In the Tyne

The Tyne catchment wasn't one of the original pilot catchments but a partnership between the [Tyne Rivers Trust](#) and the Woodland Trust has already planted 16,000 trees in the right places to create shade where it is most needed in the catchment.

**If you have a start-up project with 'keeping rivers cool' aims in mind, please do get in touch for advice/support and tell us all about it: Diane Millis:
DianeMillis@woodlandtrust.org.uk**

Guidance Manual update

With support from programme partners a practical Guidance Manual was produced in 2012 which is in the process of being revised and reissued by the Woodland Trust. The manual provides practical information on site and tree selection for KRC inspired projects. When re-published the guidance manual will be found here: <http://www.woodlandtrust.org.uk/get-involved/plant-trees/why-plant-trees/planting-trees-for-water-management/reducing-river-temperature/>

The latest research on Woodlands and Water

Rachel Lenane gave a talk on Keeping Rivers Cool at the Institute of Fisheries Management conference in April this year. The excellent research and practical experiences from other projects concerning woodlands and water can be found here: <http://www.ifm.org.uk/node/319>

For queries about any of the information above please contact Rachel Lenane or Diane Millis:

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