

KEEPING RIVERS COOL



Getting ready for climate change by creating riparian shade.

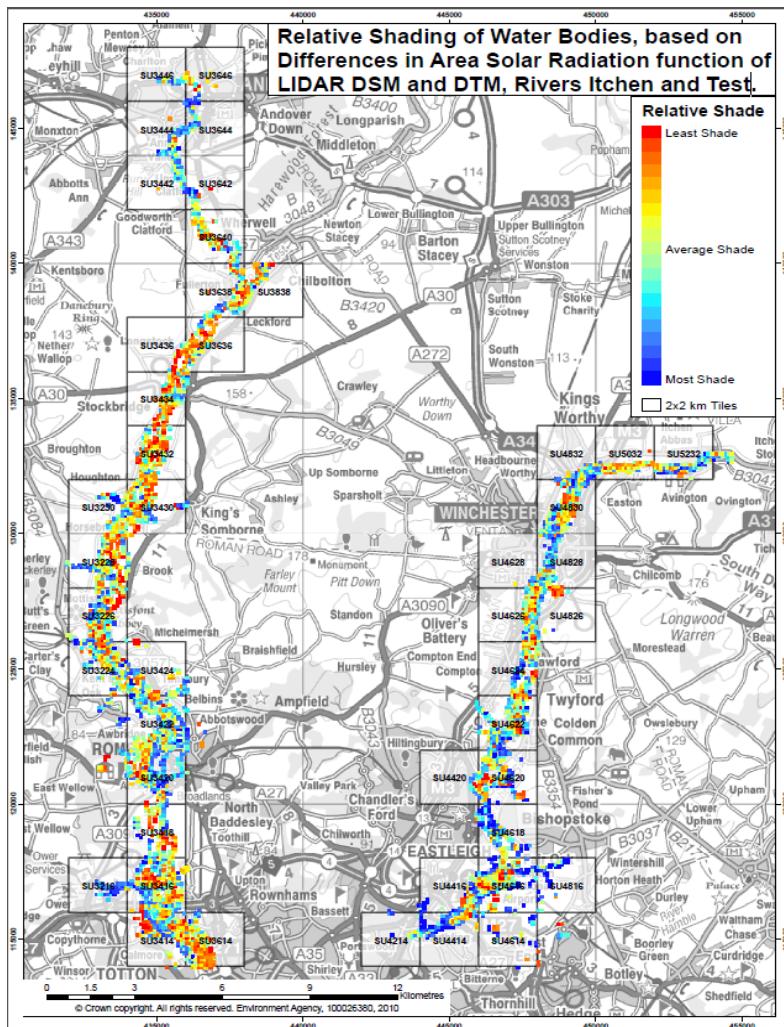


Fig 1 Relative Shading of Water Bodies, Rivers Itchen and Test



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Keeping Rivers Cool is an Environment Agency led climate change adaptation project that aims to use shade from trees to keep small rivers cool. Climate models suggest that average summer air temperatures in the UK could rise by up to 4°C by 2050. This could have a significant impact on freshwater species by affecting the physical, chemical and biological processes that occur within freshwater systems – plant, insect and fish populations of the Test and Itchen Rivers are likely to be adversely affected by these changes.

Atlantic salmon and Brown Trout are cold water species that are poorly adapted to high water temperatures. When temperatures exceed 15°C, migration upstream is reduced and can affect egg production in female fish. Temperatures above 22°C for more than seven consecutive days can be lethal to Brown Trout, concerning considering some smaller freshwater streams in Southern England have already recorded temperatures of 31°C.

Many rivers in the UK now lack adequate levels of shading due to the loss of tree cover over recent decades. Shade cast by riparian trees and shrubs can help to reduce local stream temperatures by 2 to 3 degrees on hot summer days and the woody debris and leaf litter produced by them are beneficial to a range of plant, invertebrate and fish species. Areas of the River Itchen and Test catchments that currently lack adequate levels of shade have been identified using LiDAR (Light Detecting And Ranging) data.

Over the coming winters the Test & Itchen Catchment Partnership will be working with land owners, fishing clubs and others to identify suitable areas for planting within sites that are currently lacking shade. Any planting will be carried out using native broad leaved species with lighter foliage such as willow and alder. These species provide dappled shade and reduced water interception compared to species with a denser crown.

The project is part funded by the Environment Agency and Southern Water, and is being delivered through the TICP on their behalf.

If you are a riparian owner on the test or Itchen and would like further details about the project then please get in touch by visiting the contact us page on our website.

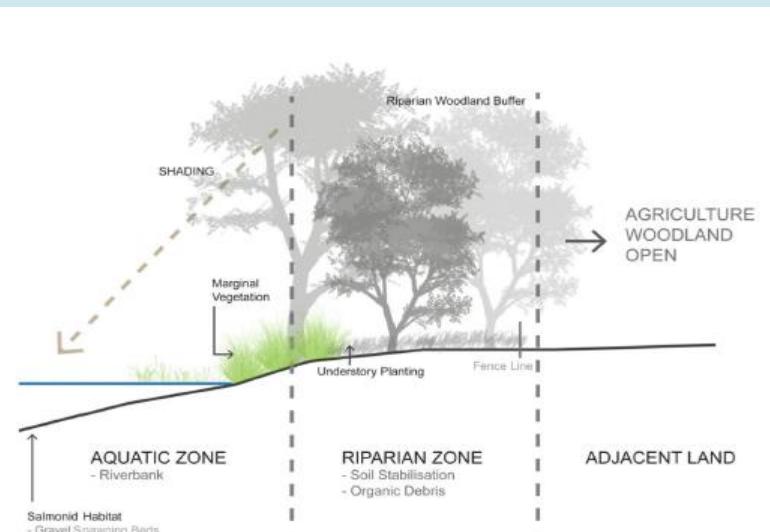


Fig 2 Riparian shading diagram. © Environment Agency