

Our Reference: 5084 (14 January 2014)
Attention of: Tom Surrey
Deputy Director
Landscape and Recreation
Forestry Commission, England

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Date: 21/01/14

Dear Mr Surrey

Re: Case Study for National Forestry Forum Meeting (29 January 2014)

Thank you for your correspondence of 14 January 2014 to the Chief Executive of the Environment Agency. I am responding on his behalf with an overview of our achievements over the past year, including a short case study on one of our key forestry / woodland related Climate Change Adaptation projects; 'Keeping Rivers Cool,' which involves a significant amount of riparian tree planting.

CASE STUDY: KEEPING RIVERS COOL

Overall Aim:

Keeping Rivers Cool is an ambitious four-year (2012 to 2016), one-million pound climate change adaptation programme. It integrates scientific evidence and practical landscape-planning to increase the adaptive capacity of our freshwater ecosystems.

Based on innovative analysis of remote sensing data, this programme aims to take action now by planting trees, erecting fences and promoting natural regeneration. This will create shade and reduce chances of rivers becoming too warm for some freshwater wildlife over the next 60 to 70 years.

In recent hot, dry summers, some rivers have already reached temperatures above the lethal limits for salmonid fish. Furthermore, climate experts are providing increased certainty that the UK will become warmer with potentially profound impacts on freshwater ecosystems. An expanding body of literature suggests that changing riparian land use can reduce water temperatures.

Specific Objectives:

1. Use technological innovation to promote riparian shade as a strategic climate-ready measure
2. Improve ecology by creating cool refuges and reducing temperatures in the headwaters of salmon and trout rivers

3. Deliver socio/economic gains by inspiring and enabling others in the UK and beyond to create riparian shading by providing:
 - Scientific Evidence
 - Guidance Manual
 - National Demonstration Pilots

Achievements (to date):

- Innovative use of Light Detection and Ranging data (LiDaR - normally used for flood modeling), to generate national 'Shade Maps' for use by all, showing relative shade over rivers and highlighting areas most exposed to warming.
- Benefits from our first demonstration pilot in partnership with the Ribble Rivers Trust (2012/13):
 - 34,797 trees planted
 - 15,057 metres of fencing erected
 - 14,253 metres of river where livestock has been excluded
 - 33.51 hectares of improved riparian woodland habitat
- Benefits (to date) from our second pilot on the Hampshire Avon catchment (2012/13):
 - 200 trees planted
 - 80 metres of fencing erected
 - Whilst the metrics are much smaller, we have learnt valuable lessons on stakeholder engagement in this sensitive catchment.
- Benefits to other people through our Guidance Manual (2012), which has sparked interest beyond the UK (e.g. Spain and Romania). It describes for the first time how others can target fencing / planting, select trees, access funding, and what engagement / consents and other environmental aspects they need to consider.
- Excellent feedback from locally affected stakeholders (e.g. anglers).
- Influencing other European Member States to adopt this Climate Change Adaptation measure (e.g. presented conference papers at IALE2013 and RESTORE 2013 in addition to meeting with EU Commission)
- Influenced a Project Partner (Ribble Rivers Trust) to make their own funding applications
- Won Gold in the category of Climate Change Benefits at the Environmental Best Practice National Green Apple Awards (London, November 2013)

Lessons Learnt (to date):

- The effectiveness of Partnership working (e.g. with Rivers Trusts), who have excellent local landowner relationships and access to highly motivated volunteer resources.
- The effectiveness of the national Project Steering Group, where the Forestry Commission is gratefully represented by Mr. Vince Carter (Adviser, Climate Change).
- Risk Management (e.g. European Union exemption from State Aid and excellent guidance from the Forestry Commission during Ash Die Back event).

Future Plans:

- We have recently commissioned our third pilot in the Wye catchment, focusing on natural regeneration (rather than planting).
- Subject to funding, we hope to run our fourth and final Pilot in the Tyne catchment in 2014/15.
- Working with the Rivers Trust and the Woodland Trust to explore potential future funding options, such as Heritage Lottery Funding and/or corporate sponsorship.
- Despite our focus on riparian planting and fish we expect to deliver multiple environmental benefits, including:
 - Increased woodland connectivity and increased woody debris
 - Enhanced freshwater habitats
 - Reduced bank erosion/diffuse pollution
 - Carbon sequestration

Although I am unable to attend in person, I would be delighted to arrange attendance at the Forum Meeting on 29 January, and offer a short oral presentation on the aforementioned case study. In the meantime, should you require any further information, please do not hesitate to contact me.

Yours sincerely,



Geoff Bateman
Head of Fisheries & Biodiversity, Head Office