RIPARIAN

HABITAT

DESTRUCTION

Riparian Buffer Zone Destruction

Introduction

Despite the Angling Trust submitting an extensive dossier of evidence to the Environment Agency in 2017, the widespread destruction of critically important riparian habitat and the scandalous waste of public money continues unabated. These habitats serve to reduce flooding, erosion, sediment ingress, pollution and predation whilst providing shade and habitat for insects, birds, bats and fish. They are a key part of addressing the major challenges of climate change, flood alleviation, riparian habitat improvement and reversing the decline in species diversity and abundance along our rivers.

It is apparent that the different departments at the EA are not talking to each other, following or enforcing their own guidelines. On numerous rivers, such as the Blackwater and the Medway, we have seen one part of the EA support angling clubs to improve riparian habitats, to great effect, only for another EA department to come in and rip it out, often in the name of flood alleviation. The River Blackwater fiasco is highlighted below and is a scandalous waste of public finances and a clear example of lack of coordination and confusion within the Agency.

Much of the unnecessary and damaging habitat destruction is carried out by contractors acting for landowners. However, it is clear that many landowners have felt under pressure from EA navigation and flood risk officers to carry out works in contravention of the Agency's own guidance. This has once again become a national issue with extensive coverage in the media and we call upon the Environment Agency to play its part in ensuring a coordinated approach to the management of riparian habitat.

The importance of riparian buffer zones

Riparian buffer zones, the margins adjacent to a river or stream, are a crucial part of healthy aquatic ecosystems.

Buffer functions:

- reduce erosion
- filter sediment
- reduce / filter pollution
- providing shade to moderate water temperatures
- provide habitat
- reduce predation
- store water and reduce flooding

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The following guidance is from the Environment Agency 'Woody Debris and Trees near Rivers: A Guide for Landowners', published in 2017.

Trees next to rivers are valuable because:

- Their roots stabilise riverbanks helping to reduce and prevent erosion.
- Trees in the upper reaches of river catchments help to alleviate flood risk downstream, by intercepting and slowing flood flows, and increasing infiltration.
- Overhanging branches that touch the water and underwater tree roots provide vital refuge and spawning substrate for fish, along with habitat for invertebrates.
- Overhanging branches provide perches for kingfishers and yield insects that fall into the river, providing food for fish.
- Trees act as a barrier preventing fly hatch from being blown away from the river.
- Tree roots above ground and dense scrub provide otter habitat.
- A mosaic of trees and open areas provide a mix of light and shade, contribute to reducing the impacts of climate change.
- Trees and shrubs provide habitat for nesting birds and roosting sites for bats.

Woody material in the channel provides:

- A means of restoring the morphology of rivers.
- Restoration of floodplain connectivity and help to encourage upstream flood storage.
- Habitat for fish and invertebrates, especially where there is a lack of in-channel vegetation.
- Variation in flow and shape of the channel, creating and diversifying habitat.
- Backwaters and pools that provide refuge for fish and invertebrates during drought.
- Slack water areas behind woody debris to prevent juvenile fish from being washed away downstream during flood events.
- Fast flows that clean spawning gravels and help create riffles and pools.

Good Practice:

- Retain mature trees and riverside scrub.
- Pollard or coppice rather than removing the entire tree.
- Retain the root balls.
- Create a mosaic of groups of trees and open areas along the course of the river.
- Do not leave large gaps between groups of trees – some bat species are reluctant to cross a gap larger than 10m.
- Retain or create an uneven age structure that will encourage greater biodiversity.
- Do not carry out tree or shrub works between 1st March and 31st July, to avoid the bird nesting season.

- When working on mature trees, always survey for protected species such as bats and barn owls and check for otter holts.
- Check with your local authority to see if the trees have Tree Preservation Orders (TPOs) on them.
- Check with the Forestry Commission to see if you need a felling licence.
- Where possible, leave fallen trees in the river and secure if necessary.
- Always secure any woody material installed in the river, to prevent it drifting downstream and causing a flood risk.

Trees and climate change

Evidence indicates that some salmon, trout and grayling populations in England and Wales are under stress from increased river temperatures attributed to climate change. Temperature on some rivers have exceeded the lethal limit for salmonids in recent hot, dry summers. It has been demonstrated that riparian tree cover can help reduce local stream temperatures on hot summer days; mean and maximum summer water temperatures are on average 2-3ºC lower in shaded versus open rivers. 'Keeping Rivers Cool' was a four-year project led by the Environment Agency from 2012 to 2016, that focused on using trees to cool river temperatures. This approach aims to moderate the pressures of climate change on freshwater ecosystems. The project catchments included the Wye, Hampshire Avon, Tyne, Ribble, Frome and Tywi. Subsequently, the Environment Agency has been working with charitable organisations such as the Woodland Trust and the Rivers Trusts to plant trees and install riparian fencing in appropriate sites. The approach aims to create a mosaic of tree cover along riparian banks, thus providing maximum benefit to the river. Keeping Rivers Cool - Woodland Trust

Flood Prevention

Although it if often difficult to confirm the justification for the work undertaken in many cases flood prevention is the main factor quoted.

But as noted previously trees can have a positive role in flood alleviation:

- Trees in the upper reaches of river catchments can help to alleviate flood risk downstream, by intercepting and slowing flood flows, and increasing infiltration.
- Woody material in channel can help restoration of floodplain connectivity and help to encourage upstream flood storage.

A significant disconnect

In 'The England Trees Action Plan 2021-2024', published in May 2021, it states that *"the Government has committed to increasing tree planting rates across the UK to 30,000 hectares per year by the end of this Parliament. To achieve this we are intending to spend over £500 million of the £640 million Nature for Climate Fund on trees and woodlands in England between 2020 and 2025 to support this ambition. And by planting the right trees in the right places for*

the right reasons, we can do so much more than just sequester carbon." Later in the report under 'Woodlands for water' the report states that "*There are 242,262 km of watercourses in England, forming a natural network throughout the country. Planting trees or using natural colonisation along these areas and within the wider catchment would offer enormous benefits for water quality, flood management, biodiversity and climate resilience. By establishing the right trees in the right places these 'woodlands for water' can both create new priority wet woodland habitats and protect other priority habitats such as chalk streams, by improving water quality through reducing the amount of sediment and pollutants that reach rivers. These new woodlands can also provide shade and reduce summer water temperature for fish helping rivers adapt to climate change. Trees throughout catchments can also help slow the flow of and temporarily store water as part of Natural Flood Management and prevent excessive riverbank erosion and collapse.*

We will:

- *Provide dedicated financial support and guidance for riparian planting through the new England Woodland Creation Offer, using over 100 existing catchment partnerships to target delivery;*
- *Pilot new approaches to deliver coordinated woodland creation within targeted catchments, harness private investment and maximise benefits;*
- *Collaborate with water companies to meet and exceed their target of planting 11 million trees as an industry by 2030, whilst maximising the benefits of each tree for water quality, flood resilience and biodiversity".*

Looking at the many examples of riparian buffer zone destruction, there appears to be a significant disconnect. With the roll out of the Environment Land Management (ELM) scheme to farmers, which brings rivers, water quality and riparian buffer zones into consideration with potential flows of money to farmers, plus all the money the Department for Environment, Food & Rural Affairs (DEFRA) is making available through the Forestry Commission's England Woodland Creation Scheme for tree planting, including riparian tree planting, it is illogical that public money is used to plant trees and improve riparian buffer zones, only for public money to be used rip it all out for flood management.

What needs to change?

- The EA Fisheries, Navigation and Flood teams need to work more closely together to ensure that flood alleviation works do not adversely impact on the riparian habitat, and so that public investment is not wasted.
- Consultation must be undertaken with riparian owners, angling clubs and other key stakeholders prior to work on riparian buffer zones being planned and undertaken to ensure that such works consider the views and needs of fish and anglers as well as the wider environment.

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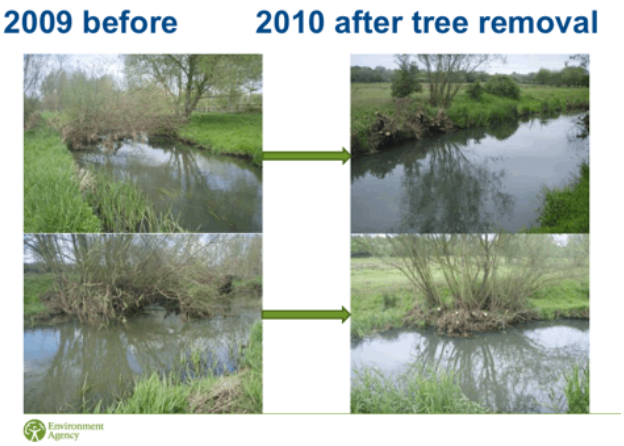
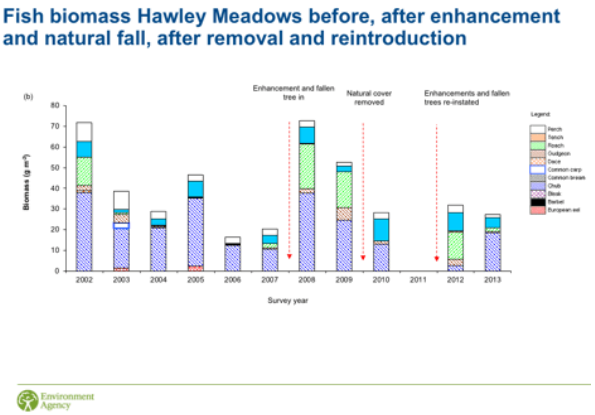
- We need the EA to review, update and implement its own guidelines and to ensure its contractors follow the guidelines when undertaking work in and around rivers to ensure that the value riparian buffer zones, woody debris and fallen trees can have on improving river ecology and contributing towards natural flood management are realised.
- Riparian owners need better support and advice where they are looking to undertake work impacting on riparian buffer zones, so that any negative impacts on river habitats are minimised and where possible improvements to the riparian ecology are achieved.
- When riparian owners do not adhere to the appropriate consents and legislation,
- enforcement action needs to be pursued and remedial action needs to be undertaken. This will discourage noncompliance and, where it does occur, ensure rivers are returned to an acceptable habitat status.

The River Blackwater fiasco

In 2007 the local EA fisheries team in partnership with the Blackwater Country Park and other stakeholders installed woody debris along sections of the River Blackwater on the Surrey / Hampshire border at Hawley Meadows. Subsequent surveys in 2008 showed a significant increase in bio diversity and fish populations. One survey identified the area as now having the largest biomass of fish in the entire Loddon catchment. However, this didn't last for long as in 2010 the EA flood defence teams took it upon themselves to strip out the very structures that were installed using rod licence income. There was an immediate crash in fish populations in the area. After understandable protests the woody debris wad reinstalled, also at taxpayers expense, and a partial recovery in fish populations took place.





The River Blackwater fiasco is but one example of confusion and waste within the Agency.

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Destruction of riparian buffer zones

Below are two examples of the destruction of riparian buffer zones. These not only demonstrate poor management but may also go against legislation and guidance issued.

Examples:

1. River Lugg
2. River Tone, Creech Castle

Example 1 - River Lugg, Kingsland

This example will need no introduction as it was extensively featured in the media at the time. The work has been described as *"one of the most egregious acts of ecological vandalism"* in 25 years.

Two views from the bridge before and after.

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Emma Johnson, Natural England area manager, said: "*I'm shocked by the destruction I've seen to this very special river. Sites of Special Scientific Interest represent our finest places for wildlife and geology and Natural England is responsible for ensuring their protection, working with landowners and managers to achieve this. The river Lugg is a very special place due to the ecology of the river and surrounding area.*"

Keith Jones, area director for the Forestry Commission said: "*I'm appalled at what has happened. Trees are a precious natural resource, which is why anyone wishing to fell them must ensure they comply with the Forestry Commission's felling licence requirements.*"

https://www.bbc.co.uk/news/uk-england-hereford-worcester-55193809

https://www.wildlifetrusts.org/news/horror-destruction-nationally-important-uk-river

https://www.herefordtimes.com/news/18925788.pictured-bulldozer-work-river-lugg/

https://www.countryfile.com/news/riverluggdestroyed/

Example 2 - River Tone, Creech Castle

In February 2022 EA contractors cleared 250 metres of the Tone below Creech Castle in order to alleviate flood risk.

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Dominic Garnett - "Shocked to find this today . Complete devastation, courtesy of the EA. Scorched earth work the Russian Army would be proud of! Those stumps were decades old trees where I used to watch the local kingfisher. Everything now disappearing and no coherent answer from the staff. This stretch just downstream from Creech Castle is all precious habitat for nesting birds, fish and other life, obliterated using public money. It's simply impossible to justify. Either the brief was mindless or the workmen didn't read it. Absolutely shocking, from a body meant to be enhancing wild habitats- and I know Taunton Angling Association members will be appalled. We are mere weeks away from nesting season too! Absolutely beyond belief- and I know many EA staff themselves would be shocked and embarrassed by this."

Environment Agency response - "*We are sorry that essential work to manage flood risk at Bathpool and the upstream town of Taunton looks very messy right now. We wouldn't be clearing this small area of overgrowth and trees without the following good reason.*

The trees at the toe of the river bank have effectively become small islands, which are prone to catching debris and causing in-channel blockage, restricting flows and increasing flood risk. The trees have created erosion of the bank and are likely to detach and flow downriver eventually, creating a blockage or flood risk elsewhere.

Before we start any work, we consult our internal experts on how we can improve this area and protect what is already there. New, native trees will be planted at the top of the bank and the fruit they will grow will benefit local wildlife. Removing the overgrowth will allow easy inspection of the flood defence bank and we expect grass to regrow as early as six weeks after the work is finished. The area will also have wild flower seed mixture sown, further enhancing biodiversity and increasing habitat for pollinators."

https://www.bbc.co.uk/news/uk-england-somerset-60280603

https://www.theguardian.com/environment/2022/feb/06/anglers-heartbroken-as-stretch-of-river-tone-stripped-of-trees

https://www.independent.co.uk/climate-change/news/environment-agency-taunton-somerset-woodland-british-b2008652.html

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Further examples

1. Warwickshire Avon, Marlcliff weir
2. Warwickshire Avon, downstream from Marlcliff weir
3. River Arrow, upstream of confluence with Warwickshire Avon
4. River Hull
5. River Severn, Coalport
6. River Dane
7. River Thames
8. River Arrow, Broome
9. River Dearne

Appendix: Riparian Habitat Destruction (Further Examples)