Woody Debris and Trees near Rivers: A Guide for Landowners

Issued August 2017

The Environment Agency, The Loddon Fisheries and Conservation Consultative and The Angling Trust have produced this short guide to highlight the value woody debris and fallen trees can have on improving river ecology and contributing towards natural flood management.

The Environment Agency advise that where a tree is in high-risk area and poses a risk of obstruction to a structure immediately downstream or significant increase in flood risk, then the landowner should remove it. If the fallen material is well anchored and not causing the normal in-bank flow to overtop, then it does not have to be removed. Such features can help slow flood events whilst providing important habitat for fish and other wildlife. If you are unsure, please seek further advice from us on whether or not removal is required.

The purpose of this guide is to encourage riparian landowners to consider the wider benefits of having trees near to rivers whilst managing their land. Healthy rivers are rich in wildlife and are extremely important to our communities and economy. Making space for trees is very important and we are happy to provide further advice to aide your decision-making.

You can contact your local Environment Agency

Fisheries and Biodiversity Team for further information and advice

Customer Services line 03708 506 506

Trees next to rivers are valuable because:

- Their roots stabilise riverbanks helping to reduce and prevent erosion.
- Planting trees in the upper reaches of river catchments can 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. The light areas encourage in-channel vegetation while the shady areas cool rivers. This is important for species such as native brown trout, and contribute to reducing the impacts of climate change.
- Trees and shrubs provide habitat for nesting birds, while mature trees with holes and crevices provide important roosting sites for bats and nesting sites for hole-nesting birds such as owls and woodpeckers.

Woody material in the channel provides:

- A means of restoring the morphology of rivers, especially where over-widening or straightening has historically been applied.
- Restoration of floodplain connectivity and help to encourage upstream flood storage (however, woody material can increase flood risk in critical locations if not secured or anchored to the bank, such as by causing blockages beneath bridges or culverts).
- 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 for many species of plants, invertebrates and fish.
- 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 cause scour (erosion) of the river bed to 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. Seek advice from an expert about how to do this.
- Do not leave large gaps between groups of trees – some bat species are reluctant to cross a gap larger than 10m. Ensure all planting proposals on Main River have consent from the Environment Agency
- 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 (seek advice if unsure).
- 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.

Examples:

A naturally fallen tree posing no flood risk. It has created scour and a riffle downstream in a previously uniform channel. This also provides refuge and habitat for fish and invertebrates.

A fallen tree with protuding brances providing cover with no additional flood risk.

An Environmental Permit from the Environment Agency may be required under the terms of the Environmental Permitting (England and Wales) (Amendment) (No. 2) Regulations 2016 for any proposed works or structures, in, under, over or within 8 metres of the top of the bank of designated 'main rivers'. This was formerly called a Flood Defence Consent (FDC). Some activities are also now excluded or exempt. An environmental permit is in addition to and a separate process from obtaining any other permissions (including planning permission). Further details and guidance is available on the GOV.UK web-site: https://www.gov.uk/guidance/flood-risk-activities-environmental-permits. For further information please contact our National Customer Contact Centre (NCCC) on 03708 506 506.

We advise that you contact us as early as possible to discuss the proposals for further advice and guidance at westthamesconsents@environment-agency.gov.uk. .