

Guidelines for Riparian Tree Management

A Protocol for Working with Protected Sites

Addressing the Need

With appropriate justification, active management of riparian trees and deadwood within a river catchment can provide numerous benefits, such as enhancing the structural diversity of the riparian habitat, reducing the risk of falling trees causing accelerated erosion to the river banks, and improving safety for navigation without reducing habitat quality. Therefore, the two main drivers that are considered a reasonable need for tree management are:

1. Conservation and wildlife interest.
2. Flood defence and navigation risk.

If deciding to act on **one** of these drivers, it is essential that works are planned thoroughly and sensitively so that **the other** is in no way negatively affected.

Gaining Consent – Why & How?

Tree and vegetation works are included in the list of 'Operations Requiring Natural England's Consent'. To gain this consent, Natural England must be provided with a notice detailing specific operations and timings. A template notice is available at:

<https://www.gov.uk/guidance/protected-areas-sites-of-special-scientific-interest>

For works on the SSSI rivers of the West Midlands, you should fully complete this template and adhere to the guidelines provided in this document. All completed notices should be sent by email to

ProtectedSites@naturalengland.org.uk with appropriate maps.

Other permissions

It is important to check if an EA Environment Permit or an FC Felling Licence is required – if this is the case then you do not need to apply for separate consent from Natural England as we will be consulted formally by the relevant organisation. Consideration for European Protected Species should also be undertaken, and if necessary any relevant licences sought at: <https://www.gov.uk/government/publications/europeanprotected-species-apply-for-a-mitigation-licence>.

General principles

Trees and woody debris play a vital part in the health of river and streams. As a general principle they should be left in situ unless they pose a threat to public safety, bank stability or significantly increase the risk of flooding.

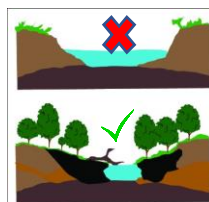
Bankside trees and riparian woodland as part of the river corridor

Ideally alongside rivers and streams we should aim to have

a wide corridor of vegetation of varied structure that is a mix of long and short vegetation, trees and shrubs, and bare ground created by natural river processes. Riparian trees interact with river flow to restore habitat complexity (exposed tree root systems, scour holes); provide leaf litter (an important food source); and generate large woody debris, patchy light and shade in the channel which helps to keep rivers cool (this is particularly important for fish and climate change mitigation). They are also important in buffering the river against adjacent intensive land management, providing bank stability, and helping to prevent channel movement.



- Trees should be left and should **only be removed if absolutely necessary**.
- The extent of tree removal should be sensitively considered on a site-by-site basis and should be driven with the intention of providing benefit to the ecology of the river (if not for flood defence or navigation).
- All non-emergency tree **management should be undertaken between 1st September and 28th February** when trees are dormant and free of nesting birds.
- **Always work from the bank**, not from within the river. In-channel work risks disturbance to fish and spawning habitat and may need EA consultation.
- Address dangerous trees (e.g. over footpaths or fishing platforms).
- Ensure that deadwood is left standing wherever possible.
- **Retain channel shading**; ideal river conditions arise when the canopy provides approximately 60% shading to the river, leaving 40% open to sunlight. It is also **advised that the very minimum for canopy shading is 30%**.
- Where safe to do so, **retain all 'special ecological features'**, such as veteran trees, large trees with 'hollows' and any significant limbs that overhang and/or dip into the river. Bats may be present in mature trees with holes and crevasses, therefore a bat survey should be completed and work on such trees will require special permission.
- Livestock densities ideally should be at levels that allow for a diverse riparian corridor of a mixed structure. Where this is not the case appropriate fencing should be considered.
- Otter could be using tree features and woody accumulations as holts or resting areas please retain hollow trees and other areas otter may frequent and do not disturb these areas.



Further information:

<https://www.woodlandtrust.org.uk/media/1761/keeping-rivers-cool.pdf>



Mature bankside tree with exposed roots

Large Woody Debris

Trees, branches and root plates that fall into the river are referred to as Large Woody Debris (LWD) and they form accumulations in rivers known as 'debris dams'; both are a vital component of a healthy river system. The structure it creates supports wildlife, particularly insects and fish. Woody debris and log jams provide an important role in 'slowing the flow'. Holding water back in floods allows the water to soak away, preventing flash floods which affect communities and cause bank erosion. LWD can also improve flow variability, which in turn can diversify the habitats and species utilising a given section of river.

- **Always defer to a position of leaving wood in the water**, moving it to the edge and/or fixing in place rather than taking it out.
- Any **deeply embedded LWD should be retained** so as not to release stored sediment.

Further information:

http://www.therrc.co.uk/MOT/References/WT_Fish_live_in_trees_too.pdf

Diseased trees

Phytophthora (alder disease) is a significant issue alongside some of our watercourses and once present the majority of alder within the catchment are likely to succumb to the disease. Where riparian vegetation has been reduced to single, even-aged alder this has resulted in a significant loss of shade and habitat along watercourses. For management of alder with *Phytophthora* we advise:

- **Coppicing is the most appropriate management for diseased alders**; it encourages re-growth but will not cure them.
- Where alders have multiple stems, **only coppice diseased stems**; leave healthy stems to retain shade.
- **Periodically review the state of alders**; a continued programme of coppicing will be required.
- Diseased and dead alders provide habitat, so unless likely to fall into the river trees they should be left or coppiced/trimmed to varying heights to develop a mosaic of living, rotting and dead wood features.
- **Non alder species should not be cut** unless necessary management is required.

- **Diseased wood must remain on site.**
- Wholesale trimming of all mature, diseased or dead specimens must be avoided as this will create a barren, almost tree-less river environment, even if new tree planting is carried out.
- **Root plates should always be left to retain bank stability.**
- Where possible mature trees, especially those with important features (e.g. exposed tree roots, cracked bark and diverse canopy structure), should be retained and appropriately managed.
- **Temporary fencing should be erected to protect new growth** of coppiced wood from livestock.
- Plant willow stakes behind lines of diseased alder or areas of destabilisation to promote longer term tree cover.



Characteristic black staining associated with *Phytophthora*

When carrying out work always:

- Ensure you use biodegradable chain oil and take other measures to prevent pollution, such as minimising ground disturbance and employing silt control measures.
- Follow appropriate biosecurity protocols to prevent the spread of diseases and invasive non-native species by following check-clean-dry protocols

<http://www.nonnativespecies.org/checkcleandry/index.cfm>

Further information:

Forestry Commission for advice on felling licences woodland management and tree planting:

<https://www.gov.uk/government/organisations/forestrycommission>

Environment Agency for information on environmental permits, licences and consents in England:

<https://www.gov.uk/government/organisations/environment-agency>

Catchment Sensitive Farming for advice and support to land managers and guidance on funding available:

<https://www.gov.uk/guidance/catchment-sensitivefarming-reduce-agricultural-water-pollution>

The Rivers Trusts: www.theriverstrust.org

River restoration Centre: <https://www.therrc.co.uk>