

# Managing Trees

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## Background

Bankside trees are vital for good trout fisheries. Their branches and leaves provide cover and shade, whilst their root systems protect fish from predators and the banks from erosion. They are also a source of energy for rivers via leaf and invertebrate fall into the water, and play a significant part in how water flows within the catchment.

Modern research has shown that by careful management of trees, valuable marginal plant growth can be promoted, and optimum water temperatures for trout maintained.

## Objective

The key to successful bankside tree management is to achieve a balance between shaded and open sections of water. There are a number of prescriptions as to how much of each is ideal. A generally agreed formula is that there should be around 60% shading of the channel, with 40% open to direct sunlight. The idealised 'dappled shade' regime should allow an abundant growth of marginal vegetation that overhangs the water, providing shelter for young trout and also protects the banks from erosion. It will also help to moderate excessively high summer water temperatures. Studies have shown that in shallow open rivers, these can reach lethal levels for trout and salmon, with predicted climate change likely to increase this risk.

Tree management should also be used to manage the supply of Large and Coarse Woody Debris in rivers. (see separate **Woody Debris management sheet**).



*Casting into a heavily shaded section of river*

## Timing

Tree work should generally be carried out between October and late February. This is the dormant period for trees, and also avoids the bird nesting season. Care should be taken when working to avoid excessive wading over shallow gravel areas as this could damage recently deposited trout eggs.

## Location

The management of trees can be undertaken anywhere along the fishery. However, some locations are more favourable than others. Reducing shading on the outside of bends will promote the growth of vegetation that may help protect banks from excessive erosion. Cutting immediately below a spawning riffle will similarly promote the growth of fringing cover, increasing habitat for fry. Cutting of trees adjacent to spawning areas may prove counterproductive by increasing access for predators. Site specific assessment is therefore essential. Trees grow slowly and overcutting will take a minimum of ten years to put right.

One absolute amongst all these variables is the fact that cutting of trees along the south bank will allow most light into the channel.

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## Method

There are three options for tree cutting; coppicing, pollarding and singling. Coppicing involves felling a tree near to its base. Pollarding is the same process, but with the cut made at a height above the reach of browsing animals. Neither technique kills the tree which will re-grow multiple stems from its remaining 'stool'. Singling involves coppicing all but one strong stem, which is allowed to continue growing to maturity.

A further variation on the coppicing technique involves making a tear cut in the timber and hinging it into the channel where it can be trimmed and fixed in place to increase cover and scour.



*Cutting and hinging a tree .....*



*.....And in place in the stream*

## Safety and tool selection

Felling trees is potentially very dangerous. Only fully qualified operators should use a chain saw and then only after having carried out a rigorous Risk Assessment including an assessment of the potential risks to other workers and members of the public.

Smaller trees can be cut using hand saws. Care should be taken with these as there are still significant risks posed by sharp edges and falling timber.

*Felling a tree wearing full safety equipment*



## Monitoring

The benefits of tree work can probably best be monitored by fixed point photography. Select a number of suitable locations in sections where work is undertaken. Take photos before work commences and then every six months or so after completion.

If electrofishing surveys are undertaken by fishery specialists, the results may reflect any changes to the abundance and distribution of trout, particularly fry.