

Managing instream vegetation

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Background

Plants are vital to the ecology of rivers. This is particularly true for lower energy streams, which often have dense stands of vegetation providing cover and habitat for fish and invertebrates, as well as helping to modify physical conditions within the channel. Plants can create local scouring of the bed, encourage the deposition of silt in marginal areas, and have a significant impact on moderating extremes of water temperature.

There are two main groups of instream plants: submerged species such as water crowfoot, starwort and willow moss, and marginal plants including a wide range of sedges, rushes, reeds and grasses. It is important to understand that these groups do not exist in isolation. A reduction in the growth of one group is often rapidly followed by corresponding growth in the other. This is most spectacularly seen in the relationship between water crowfoot and water cress in limestone and chalk rivers systems, with their inter-dependent growth patterns helping to stabilise flow velocity and water depth.



Strong growth of instream and marginal vegetation

Objective

The objective of good plant management should be to optimise its ecological value, with particular emphasis on maintaining cover, ensuring suitable flow rates and water temperature. Where angling takes place, there may also be a need to provide access for anglers.

Timing

Timing is particularly critical for vegetation management. Marginal vegetation cutting should avoid the bird nesting season. Heavy cutting pre-winter should be avoided as this can damage populations of over-wintering invertebrates and remove vital marginal habitat for trout fry. Early season cutting of instream vegetation can impact on the survival of invertebrate nymphs, affecting subsequent fly hatches detrimentally. Late season (pre-winter) cutting of water crowfoot will result in a lack of cover and may cause a reduction in its growth in the subsequent year. Generally, the best policy is to cut weed lightly on a number of occasions from mid-June to September. Further details on the impact of timing of cut can be found in the **WTT Chalkstream Habitat Manual**.

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Method

Cutting of submerged weed is generally carried out using either a hand scythe or a chain scythe ('links'). There is a wide range of opinion on the location, extent and technique of cutting. There are however a few universally accepted rules. Never cut more weed than necessary. You can cut more at a later date if required. Cut the weed to provide a patchwork (bars or 'checkerboard') of open water habitat. Remember that cutting weed can reduce both the velocity and depth of the water. This can be crucially important especially in a dry summer when flow and depth can be severely reduced.

Emergent vegetation is usually managed by mechanical cutting using a combination of mower, trimmer and hedge cutter. These mechanical aids are very effective, but can lead to a risk of over-management of marginal areas. This should be avoided, with only enough vegetation cut to allow angler access to the river. Bankside and emergent vegetation management may need to be modified on rivers where invasive plant species are present, with mechanical cutting risking spreading these unwanted plants. High density livestock grazing and poaching of the banks is damaging to marginal and instream vegetation. Fencing is a useful way of excluding animals. However, there is a need for management of vegetation within the fenced area, by either light grazing or selective cutting, to avoid the development of a plant monoculture. A reduction in shading of streams by cutting of bankside trees will also promote the growth of instream and marginal vegetation, with consequent modification of its management perhaps required.



Weed cutting on a chalk river