

Views About Management



A statement of English Nature's views about the management of River Lugg Site of Special Scientific Interest (SSSI).

This statement represents English Nature's views about the management of the SSSI for nature conservation. This statement sets out, in principle, our views on how the site's special conservation interest can be conserved and enhanced. English Nature has a duty to notify the owners and occupiers of the SSSI of its views about the management of the land.

Not all of the management principles will be equally appropriate to all parts of the SSSI. Also, there may be other management activities, additional to our current views, which can be beneficial to the conservation and enhancement of the features of interest.

The management views set out below do not constitute consent for any operation. English Nature's written consent is still required before carrying out any operation likely to damage the features of special interest (see your SSSI notification papers for a list of these operations). English Nature welcomes consultation with owners, occupiers and users of the SSSI to ensure that the management of this site conserves and enhances the features of interest, and to ensure that all necessary prior consents are obtained.

Please note that if you own land on both sides of the England/Wales border you will also receive a similar document from Countryside Council for Wales in due course.

Management Principles

Rivers vary widely in character, from dynamic, boulder-strewn, upland streams, to more tranquil, spring-fed, chalk rivers in the lowlands. Each river naturally provides a diversity of habitats for plants and animals (including invertebrates, many species of fish, otter, water vole and breeding and wintering birds). Some of these habitats are directly connected with the physical form of the channel and its banks; others are created by the vegetation which the river's form supports. The river substrate and its water chemistry vary naturally, depending upon the geology of the river catchment.

Despite their varied character, there are some common principles on conservation and management that apply to all rivers.

The physical features of the river (its natural structure and form) should be maintained as far as possible in their natural state. This will support a natural flow regime that will help conserve the geomorphological features of interest. It will also ensure the provision of resting pools for fish like salmon and trout, and conserve the quality of the riverbed habitat for salmon, shad and lamprey spawning.

Wherever possible, the creation of artificial barriers to the passage of migratory fish and other animals, such as otters, should be avoided. Natural barriers to the movement of fish (such as waterfalls, or large log jams) should be left alone. Where artificial modifications have occurred - such as weirs and impoundments, embankment, straightening and dredging – the restoration of natural channel profiles and dynamics is desirable where appropriate. Any new infrastructure, such as road and rail bridges should be carefully designed to avoid the constriction of the river or blockage of its floodplain. Opportunities should be taken to create additional riparian areas where flooding is acceptable, in order to reconnect the river with its floodplain.

Management should maintain the natural flow regime of the river, including *natural* erosion and sedimentation processes, in order to meet the requirements of the full range of flora and fauna it supports. Abstraction levels should be managed to protect the characteristic flow regime of the river, including seasonal base flows and flushing flows. Compensation flows are generally not an acceptable alternative to reducing abstraction, and river transfers may also have an undesirable effect on river ecology.

Bank-side vegetation should be allowed to develop, allowing characteristic plants to flourish as well as benefiting those animals that spend part of their life-cycle out of the water. A mix of trees, bushes, marginal fen vegetation and grass is desirable and can be encouraged by careful management. For example, grass swards are best managed by cutting once or twice a year or lightly grazing with stock at low densities. If it is not possible to reduce stocking densities on bank-side habitats, it may be necessary to consider fencing the bank-side habitat to avoid artificially exacerbated bank-side erosion caused by excessive livestock trampling. The riverside tree stock should be managed, and where pollarding or coppicing have been practiced in the past these practices should be re-instated. It is better to carry out management in small runs on alternate sides of the river rather than in single clear-fell blocks, and the coppice stools should always be protected from grazing animals.

Associated habitats, such as oxbow lakes, areas of marshland, vernal pools and wet woodland, can all be very important for invertebrates and should be considered integral with the river system.

The characteristic aquatic plant communities associated with in-channel vegetation should be allowed to flourish. Any cutting of vegetation should aim to leave at least 50% of the channel vegetated, comprising an active marginal fringe and a mosaic of submerged and floating beds that are allowed to flower and set seed.

Of particular importance for invertebrates are lightly vegetated gravel bars and shoals, as well as sand bars and spits and the eroding river banks and cliffs. The nature of these features is such that they tend to shift and move over time and management should aim to ensure that a similar proportion of exposed sediment is maintained within any given stretch of the river. The invertebrate communities associated with these exposed riverine sediments are sensitive to excessive shade, livestock trampling over and feeding on the shoals, and vehicle compaction and digging activity, and management should aim to keep most areas of exposed sediment free from these impacts. Where appropriate, any log jams and flood debris piles (wrack) within the river channel should be left *in situ* or, if unavoidable, moved within channel to less

“damaging” locations. As well as providing a valuable habitat for many rare water beetle and crane fly species, they can also promote the deposition of river silts behind the debris (thus countering some bank erosion) and can generally increase in-channel structure, for the benefit of invertebrates.

Any exploitation of fish populations or other native animals or plants should be at a sustainable level, without manipulation of the river’s natural capacity to support them or augmentation by excessive stocking. Where stocking is carried out it should not be done in areas which have not previously been subject to stocking, to ensure that the genetic integrity of natural populations of species such as brown trout are not compromised.

In common with other freshwater systems, rivers are susceptible to the introduction of invasive species such as non-native plants and animals, for example, mink and signal crayfish. The introduction of non-native plants and animals, including fish, should be avoided. Invasive species such as Japanese knotweed and Himalayan balsam should also be controlled. Attention should be paid to diseased alder trees and any trees showing signs of infection are often best managed to reduce the stress on the tree.

The maintenance of good water and sediment quality are essential to maintaining a healthy river system. River management should minimise pollution both from point and diffuse sources, and will include discharges of domestic and industrial effluent, run-off from agriculture, forestry and urban land, and accidental pollution from industry and agriculture. Siltation of the river bed can smother and infill coarse gravels, adversely affecting fish spawning success and behaviour, and the establishment of submerged plants such as water crowfoot. It can also seriously impact invertebrates such as caddisflies living in and on the riverbed.

Riparian areas and the wider catchment need to be managed sensitively to avoid excessive run-off of soil particles and nutrients into the river. Ploughing should not be allowed to destabilise river banks and an unploughed strip of at least 2m should be left adjacent to the riverbank and tributary ditches and streams. Nutrient enrichment and organic pollution result in the decline of plant, invertebrate and fish communities. Effluents entering the river, either directly or indirectly, should be treated to reduce the levels of phosphorus contained within them to concentrations that will not lead to a proliferation of algae or the disappearance of characteristic plants and animals. Organic pollution should also be controlled to avoid de-oxygenation of the water or any toxic effects on aquatic animals and plants.