

# River Clun Restoration Strategy

## Background

The River Clun is a rich habitat for many rare animals and plants. Forming part of the Shropshire Hills Area of Outstanding Natural Beauty it drains just under 300 km<sup>2</sup> of farmland and woods. The lower part of the river is protected both as a Site of Special Scientific Interest (SSSI) and a Special Conservation Area (SAC) because it is ideal habitat for animals such as otter, salmon, white-clawed crayfish, bullhead, grayling and brook lamprey. The Lower Clun is also one of the few remaining locations where freshwater pearl mussels still survive in the UK.

A number of studies into the Clun and its pearl mussels have been carried out in recent years. These have established that the mussel is in decline. The main reason for this fall in numbers is the unnaturally high levels of sediment, nutrients and pesticides within the river system. Our estimate is that the mussels will only survive for another 25 years if nothing is done to improve these conditions.



Example of good mussel habitat



Example of poor highly-silted mussel habitat

Pearl mussels require extremely clean waters and a thriving salmon/trout population to survive; conditions that are also good for the other animals and plants for which the Clun is designated.

We commissioned an environmental consultancy (Atkins) to develop a strategy for returning the river to a condition that is favourable for its characteristic habitats and species.

## Restoration Strategy

The Strategy builds on previous studies to set out a plan for recovery of the habitats and species for which the River Clun is designated. It provides specific guidance on measures that need to be carried out, both adjacent to the river and also within the wider catchment to create a healthier river environment.

One of the key challenges facing the Strategy is that the part of the Clun with habitat that is particularly suited to the pearl mussel (the SSSI/SAC) is at the very bottom end of the river. This habitat is affected not only by what is done locally, but also by everything done in the river and the catchment upstream. Recovery of the part of the river particularly suited to pearl mussels is therefore dependent on actions throughout the whole catchment, not just change within the SSSI/SAC.

The Strategy sets out three key groups of measures that need to be delivered together to allow recovery the Clun's characteristic habitats and species:

- **Solutions focussed on the SSSI/SAC.** These measures are targeted at "**doing the best**" for the SSSI/SAC" under current conditions. These focus on extending the lifespan of the current pearl mussel population and assisting the recovery of other species through habitat enhancement (see over).
- **Catchment-wide solutions.** These are measures that need to be taken right across the Clun catchment in order to address the "**root causes**" of the current unfavourable condition of the SSSI/SAC. Particularly significant root causes are the fine sediment loads and other pollutants delivered by the river from the upstream catchment. Tackling these issues is likely to require some fundamental changes to the way land is managed throughout the catchment (see over).
- **'Further studies and monitoring'** to help define actions more precisely in areas not covered by the studies to date, such as the tributaries to the Clun (particularly the Unk, Kemp) and monitoring to assess progress in the recovery of the habitats and species for which the River Clun is valued.

## 'Doing the best' for the SSSI/SAC

At present the Clun pearl mussels are unable to reproduce. Hence protecting the surviving mussels is very important. A key element of this strand of the Strategy is therefore to minimise damage to the remaining mussel beds. This can best be done through continued control of livestock access, as well as careful and sensitive management of riparian trees and woody debris in the channel. There are also opportunities to preserve and enhance habitat that is particularly good for the wide range of species that currently live within the SSSI/SAC.

## Addressing the 'root causes'

Probably by an order of magnitude, the most effective way of supporting recovery of the characteristic habitats and species of the River Clun is to reduce the amount of sediment, nutrient and pesticide that is washed from fields right across the catchment and into the river. This solution depends on agencies, landowners and farmers continuing to work together to find more effective ways of conserving soil and water.

The control of 'point sources' of sediment and pollutants is also key to recovery. A major source of sediment is exposed river banks. Other significant sources include ditches and tributaries, farm activities (e.g. yard management), roads, tracks and gateways that cross the river and unrestricted access to the river by cattle for drinking.

Other ways of controlling sediment inputs to the river include buffer strips, selective restriction of stock to the river and its banks, management of trees adjacent to the river and the expansion of strategic woodland or wetlands in the catchment to act as natural sinks for sediment. Further studies are required to ascertain the best locations and design for these.

## Further Hydrological Studies

Natural England has commissioned Atkins to conduct further hydrological investigations of the River Clun. This work will initially focus on the Upper Clun and Folly Brook. The aim of this work is to investigate how the river responds to rainfall events to help guide future management decisions. We are trying to understand how the river behaves following heavy rainfall. We believe that the flows within the river are now greater and flashier following rain fall than they were previously. The reason for this is likely to be associated with changes in land management across the catchment.

We are also aware that the depth of water within the river varies greatly following rainfall. Understanding the changes in river flow and depth is extremely important to understanding why the important population of freshwater pearl mussel are not breeding, and to help understand if there is any chance of providing suitable locations for them to survive in the future.

The long-term survival of the mussels in the Clun is dependent on the support of local landowners and the local community who live and work here.

Further studies like this are important to help inform and guide future decision. The Strategy highlights the need to address land use and river bank management throughout the Clun catchment.

If you would like to find out more about the River Clun Restoration Strategy documents are available at the Shropshire Hills AONB website:

<http://www.shropshirehillsaonb.co.uk/looking-after/projects/rivers/>



*A cleaner dynamic river and healthier riparian trees are an important part of our vision for the River Clun*