RIVER USK (LOWER USK) SITE OF SPECIAL SCIENTIFIC INTEREST

YOUR SPECIAL SITE AND ITS FUTURE

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Your Special Site and its Future' is part of our commitment to improve the way we work with SSSI owners and occupiers. In it, we try to explain what is special about the wildlife on your site, and what care is needed to look after it into the future.

All SSSIs are considered to be of national importance and we recognise the crucial role that owners and occupiers play in their management and protection. We need you to share your views and knowledge of this site with us, to help safeguard it.

We hope that you will find 'Your Special Site and its Future' interesting and helpful. Please contact us if there is anything about the site and its management that you would like to discuss.

What is 'special' about the River Usk (Lower Usk) SSSI?

River Usk (Lower Usk) has four special features.
Running water supporting Ranunculion vegetation The river contains submerged / partly floating vegetation in moderately fast flowing water. 'Ranunculion' vegetation is a mixture of aquatic plants, the best known of which is water crowfoot. It is characteristic of stable gravel / cobble substrates.

Otter Once common throughout Britain this species suffered badly from the 1950's largely because of the effects of pollution and habitat loss. Happily this trend has been reversed and otters can once again be seen, if you are very lucky, playing together in the water.

Fish Species

- **Atlantic salmon -** The 'King' of the freshwater fish, they struggle up the river against all odds to breed, returning to original spawning grounds by using scent markers.
- **Twaite shad and allis shad -** Both migrate into the river each year from the Severn Estuary to spawn. Shad species are very sensitive to any changes within the river. They look a bit like herrings and have silver and blue metallic markings, neither is very common but allis shad is considered to be the rarer species.
- **Sea lamprey, river lamprey -** These fish species also migrate up the river from the Severn Estuary. They have an eel-like body shape and feed parasitically on fish. Unlike most vertebrates, they have a round jawless mouth sharp, hook-like tooth arranged in rows with which to attach themselves onto their prey.
- **Brook lamprey -** This is the smallest of the three lamprey and unlike its relatives never leaves the river and does not feed parasitically.
- **Bullhead** - They are found in clean water, under stones and vegetation feeding mainly on aquatic invertebrates and small fish.
- **A group of rare craneflies -** Some of these features like the otter and fish can be found throughout the River Usk. Others have special habitat needs so are only found in particular locations like the group of rare craneflies that can only be found around Newbridge-on-Usk.

The River Usk is one of the largest rivers in Wales; it is over 120km along from source to mouth.

As well as the features listed above, the River Usk (Lower Usk) has other habitats that contribute to the special wildlife interest. These include woodland, grassland, swamp and marginal vegetation, bracken, mudflats and saltmarsh. This diversity of habitats supports the wide range of species present and is therefore a key part of the special interest of the site. The River Usk (Lower Usk) is connected to the Upper Usk and the Severn Estuary SSSI's. The Whole River and its tributaries are also designated as Special Areas of Conservation.

What do we want the River Usk (Lower Usk) SSSI to look like?

The following is a description of how we would like to see the features at River Usk (Lower Usk) SSSI

This river is dynamic with ever-changing habitats that suit many plants and animals.

Your journey begins at Abergavenny, here the river supports typical freshwater plants and animals. It is a winding wildlife corridor, twisting and turning all the way down to Newbridge-on-Usk. The aquatic plant beds are seen out in the middle of the river, often in the fast flowing waters. Beneath the gleaming water, dark green finger-like leaves of water moss and crowfoot, the brown of pondweeds and the emerald green of water starwort stretch for up to several metres. In May and June, the river is illuminated by the dainty little white flowers of crowfoot. These beds are good habitats for many insects and young fish seeking shelter from predators, they also act as feeding areas for birds.

From Newbridge-on-Usk the river flows down through Newport where the river meets the Severn Estuary. Here the river is tidal and the extreme tidal range of the Severn Estuary leaves lots of the riverbed exposed as mud banks at low tide. These mud banks may look bare and unattractive but they contain a wealth of life beneath the surface. Thousands of tiny shellfish and worms form part of a thriving habitat where birds such as redshank and oystercatcher can often be seen feeding. Small areas of saltmarsh are often present on the higher parts of the muddy banks. Here splashes of purple –pink colour during the summer months are seen from the sea aster, growing amongst saltmarsh grass and scurvy grass. Fringes of common reed are also seen at intervals along the banks.

The group of craneflies are associated with the silty river edges around Newbridge-on-Usk. If you are lucky enough during the summer you may see the craneflies taking flight to find their mate. There is enough suitable habitat in this area to support the populations in the future.

The whole river is important for the otter and several fish species; Atlantic salmon, bullhead, sea lamprey, brook lamprey, river lamprey, twaite shad and allis shad.

Good numbers of salmon, bullhead, sea lamprey, river lamprey, brook lamprey, twaite shad and allis shad exist in the river. The migratory fish species (river and sea lamprey, twaite and allis shad and salmon) are seen moving up through the river at various times of the year to find their spawning grounds. During May and June, on gravels between Newbridge and Abergavenny, you may be lucky enough to see the shads noisily splashing as they spawn, and later on the sea lampreys excavating their nests in coarse gravel. There is enough suitable habitat to support these fish populations in the future – this includes features such as well-aerated gravels for spawning, deep pools for resting fish, stones for bullhead to hide under, sandy silt beds for lamprey larvae and sheltered backwaters for juvenile shad. There are near-natural flows of water all year, and the water is free from pollution allowing salmon to migrate to their spawning grounds further up the river.

Otters are common along the whole river, if you take the time one summer evening you can see them playing together or feeding in the fading light of the day.

Existing riverbank habitats including swamp, river shingle, marshy grassland, rush pasture, woodland can all be found. These habitats are suitably maintained, and where appropriate, are extended to benefit otters, fish, the group of craneflies and birds.

All habitats support important food resources for key species and provide nesting sites for birds such as the common sandpiper, little ringed plover and oystercatcher.

Submerged river shingle supports the important fish spawning grounds. This type of habitat requires an active, dynamic river that can rework the sediment. The river is able to move freely within its floodplain, continually creating new habitat for wildlife and scouring away excess silt.

Pollution and excess nutrient inputs do not affect the wildlife interests of the river.

What management is needed on River Usk (Lower Usk) SSSI and why?

Although the River Usk (Lower Usk) is an excellent place for wildlife it does require some management to ensure the long-term survival of the habitat. CCW's priority is to work with you to achieve this. We place a great importance on our relationships with owners and occupiers, because without your help, it will be impossible for us to safeguard the special features on your land.

What does this mean in practice?

There are a number of different factors that could damage the special features of the River Usk (Lower Usk) if they are not properly managed. These are the ones we regard as most important:

Good **water quality** is a key factor in maintaining healthy fish stocks. Water quality can be affected by nutrient enrichment from consented and unconsented discharges, agricultural run-off, new developments and sedimentation from riverbank erosion. Fish and otters alike are sensitive to the effects that pollution can have on plants and animals lower down in the food chain. The water quality of the River Usk should be good enough to support fish, amphibians and invertebrates in good numbers, as they are the main food sources for the otter and fish species.

Fish can also be affected by sediment that is washed from the banks of the river as it contains high nutrient levels. It can cause a high death rate at the fish egg stage by increasing the oxygen demand at spawning gravel beds.

Associated river habitats including wet woodlands, marshy grassland, swamp and saltmarsh also rely on good water quality. They can be damaged by nutrient enrichment. Excess nutrients in the river affects the water plants by filamentous algae growing directly on the plant. Increased build-up of sediments in-stream, can also promote the growth of other species. This smothering effect would eventually lead to a decline in habitat variety and the potential loss of the important weed beds.

Pollution, nutrient inputs and silt run-off caused when ploughing occurs on the riverbanks too close to the river can be reduced by enforcement of pollution and agricultural support regulations and the introduction of "buffer strips" and less intensive agricultural practises. A procedure known as the 'Review of Consents' was set up over five years ago and in 2004 outputs were produced for the River Usk. The Review of Consents process will look at operations that are in force along the river and assess whether these operations damage the river and need to be addressed.

Water quantity There should always be enough water to support the variety and quantity of in-stream and bankside habitats such as wet woods and marshy grassland. Water quality can also be affected when the river does not have enough water to dilute pollutants entering the river. Fish are especially affected by low water levels, because at peak migration times (April-June and October-November) it is important that there is sufficient flow for the adult fish to reach all of their spawning grounds.

Reduced breeding of fish could also have a knock-on effect for otters as they rely on high fish stocks to support their populations.

All future water abstraction and discharge proposals are to be subject to review, with conditions placed on them so water abstracted does not reduce flows and affect the quantity and quality of habitats.

Bankside habitat management Suitable agricultural and forestry management along the banks of the river is important for maintaining the river system in suitable condition to support the plants and animals that are of special interest including otters, craneflies, fish and the many bankside habitats.

Bankside erosion is a natural process and is essential for the maintenance of the river. Many species depend on erosion; for example sand martins and kingfishers nest in eroding earth cliffs, lamprey larvae live in silt beds deposited by the river, and salmonids depend on erosion to clean their spawning gravels and provide access to fresh gravel beds. Maintaining the erosion and deposition processes is critical to the management of the site. However, human activity tends to accelerate this process to undesirable levels. Grazing along the fields adjacent to the river has been the most significant factor leading to the deterioration of the various habitats found along the riverbanks and is likely to be the major constraint to its improvement. Too much grazing prevents the trees and shrubs from growing and establishing themselves, which leaves the banks unstable and prone to erosion. This soil and silt that is washed into the river through erosion creates excess sediment in the water, which can smother fish spawning sites. When grazing is heavy, the ground can also become badly poached resulting in the loss or degradation of habitats such as river shingle and saltmarsh.

Bankside trees and scrub help to stabilise the bank with their roots. They also provide cover and feeding grounds for otters, fish species and nesting birds. Cranefly larvae are also likely to live in the tree-covered riverbanks.

However, if there is no management to bankside vegetation, trees can become over grown creating too much shade on the river, reducing aquatic vegetation and therefore invertebrate and fish habitat.

A mixture of shade and open habitats is best, with active and stable sections reflecting the natural river structure. Maintenance of bankside trees and scrubs should involve positive management, such as coppicing, pollarding and thinning.. This will help prevent trees and the banks around the trees being lost when the river floods. Some old wood should be left, as it is an important food source for many invertebrates

It would be beneficial to allow improved pasture along the riverbanks to revert to woodland, wetland, and various types of grassland. This could be achieved by fencing off suitable stretches of bank to create river corridors and allowing nature to take its course. If possible larger areas e.g. one field back from the river could be included in this river corridor.

If this approach were adopted, it would be best to look at connectivity between existing areas of semi-natural habitat and attempt to join these up, in order to maximise the effectiveness of this approach.

The co-operation of landowners and occupiers is essential in order to achieve and maintain sustainable bankside management. This co-operation will largely be dependent on the availability of suitable financial incentives and the availability of staff time to build up partnerships.

Where the river is very tidal, such as around Newport, the salty water reduces the number of bankside trees. So this increases the importance of other fringing vegetation such as reedbeds and scrub as cover for sensitive species like otter. This fringing vegetation also acts as screening for the river from the hustle and bustle of the city. Buffer zones are very important for protecting these important fringing habitats. Unfortunately activities such as fly-tipping can damage these habitats. CCW is working with Newport Harbour Commissioners and others to reduce fly tipping along the River Usk.

Fishery management The over-exploitation of fish stocks or inappropriate stocking can damage fish stocks and have a knock-on effect for otters.

Fishing should be maintained within naturally sustainable limits with positive management used to ensure healthy, natural populations of fish.

Introductions should be avoided because of hybridisation, disease, predation and competition. Where necessary they must be native species, reared from local stock with timing of release, size and numbers determined to avoid competition and predation of the natural fish populations.

Invasive alien species Japanese knotweed, giant hogweed and Himalayan balsam are alien species that can form dense stands, replacing native plants and reducing wildlife interest. They provide a poor habitat for insects, birds and most mammals and the risk of riverbank erosion is increased when they die back in the autumn.

These alien species may need to be controlled and removed from sites; however, they are difficult to control and easily spread. They tend to establish most easily in disturbed areas. Special care needs to be taken when any development works are taking place as this can cause alien species to be introduced and spread.

The roots do not stabilise banks effectively, and bank erosion, especially during the winter months, can be increased.

CCW intend to seek funds to implement a large-scale invasive weed clearance programme in partnership with EA, Local Authorities, landowners and fishery interests, for the whole of the River Usk.

Development works such as housing and industry developments, highways maintenance, bridge repairs; flood defence works and the maintenance/creation of weirs have the potential to cause significant damage to fish spawning grounds and juvenile habitat. This could have a knock-on affect for otters if fish stocks were reduced. Many of the rivers associated habitats only exist as thin strips along the edge of the river channel. As a result, any developments within these areas can also damage or destroy bankside habitats.

Such activities can cause sediment, chemical and noise pollution, which affects water quality and water quantity. These developments can also create barriers and introduce or spread invasive weeds.

Any development works can also affect otters and fish through the loss of bankside cover, disturbance from noise and/or light and in the case of fish species (particularly shad) vibrations in the water especially during the construction phase.

"Soft engineering" management options should be used wherever suitable. The encouragement of such management measures designed to improve bank stability will, in the long-term help to reduce the need for extensive bank protection works.

New proposals will be assessed by the statutory agencies to ensure that proposed developments do not impact upon the special interests of the river. All developments should be timed, where possible to avoid critical migration periods. Existing barriers to fish are being re-evaluated, with consideration being given to the removal of artificial obstructions.

Finally

Our knowledge of wildlife is constantly improving. It is possible that new issues may arise in the future, whilst other issues may disappear. This statement is written with the best information we have now, but may have to change in the future as our understanding improves. Any information you can provide on the wildlife of your site and its conservation would be much appreciated.

If you would like to discuss any aspect of your SSSI, or have any concerns about your SSSI, please contact your local CCW office.

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