

**CYNGOR CEFN GWLAD CYMRU
COUNTRYSIDE COUNCIL FOR WALES**

SITE OF SPECIAL SCIENTIFIC INTEREST CITATION

MONMOUTHSHIRE/NEWPORT

**RIVER USK (LOWER USK)/
AFON WYSG (WYSG ISAF)**

Date of Notification: 1996

National Grid References: SN 239239- ST317837

O.S. Maps: 1:50000 Sheet Numbers: 160, 161, 171
1:10000 Sheet Numbers: ST 38 SW, ST 30 SW
ST 38 NW, ST 30 SE
ST 39 SW, ST 30 NE
ST 39 SE, ST 30 NW
ST 39 NE, SO 31 SW
SO 21 SE

Site Area: 543.9 ha

Description:

River Usk

The River Usk comprises a large, linear ecosystem which acts as an important wildlife corridor, an essential migration route and key breeding area for many nationally and internationally important species. The Usk is of special interest as a fine example of a river running over sandstones and for its associated plant and animal communities. Its character spans a wide range of types from an upland, base-poor stream to a large lowland river with extensive tidal reaches. Its overall diversity is a product of its underlying geology, soil type, adjacent land-use and fluvio-geomorphological regime.

The River Usk is one of the largest rivers in Wales. From its source to its confluence, the main channel is over 120 kilometres long, and drains a catchment of 1358 km². Rising at an altitude of 500 metres on Mynydd Ddu on the Carmarthenshire/Powys border, the Usk flows eastwards along the northern scarp of the Brecon Beacons, turning south below Abergavenny and meandering down through Monmouthshire to its confluence with the Severn Estuary below Newport.

River Usk (Lower Usk) (Abergavenny - Newport)

The River Usk (Lower Usk) is a rare example of a large mesotrophic lowland river which has not been subject to significant modification by man. Of particular significance to the river's morphology and biology are the extensive deposits of fluvio-glacial and alluvial material in the Usk valley between Abergavenny and Newport. The Lower Usk has developed a wide floodplain with a complex and active system of meanders, cut-off and back channels which contribute to

the biological interest and diversity of the site.

The main plant communities present are those that are characteristic of rivers running over hard and soft sandstones with changing base status merging into brackish waters in its lowest reaches.

The river shows a clear downstream succession in plant communities due in part to the rapid transition from mesotrophic to nutrient rich in its lower reaches and increasing salinity as it nears its confluence with the Severn Estuary.

The invertebrate fauna is characteristic of a large lowland river. Of special interest are the craneflies associated with silty river margins in the vicinity of Newbridge on Usk. The fish fauna is of international significance including several rare and scarce species and there is an expanding population of otters *Lutra lutra*. Several scarce higher plant species occurring along the river's tidal reaches are also of special interest.

Whilst not a special feature of the site, there is a good range of breeding birds associated with riverine habitats.

The SSSI incorporates adjacent areas of riparian habitat which directly support the special interest of the river. These include woodlands dominated by alder *Alnus glutinosa* and willows *Salix spp.*, marshy grassland, stands of tall herb, swamp and fen vegetation, salt-marsh and coastal grassland.

Geology and Topography

The catchment of the Lower Usk is predominantly low lying, the eastern part of the Brecon Beacons and South Wales Coalfield Massif being the most significant upland areas within it. The River Usk (Lower Usk) is thus lowland in character, meandering across a floodplain up to 3 km across and falling from 100m AOD at Abergavenny to sea level over a distance of 68 km.

Between Abergavenny and Llanfair Kilgeddin, the river flows over the marls, mudstones and sandstones of the Raglan and St Maughan's beds of the Lower Old Red Sandstone Series. The river bed of the Lower Usk is however, also strongly influenced by the extensive fluvio-glacial and alluvial deposits between Abergavenny and Usk. At Llanfair Kilgeddin the river initially follows the line of the Pontypool Road Fault separating the Lower Old Red Sandstone rocks in the north-west from the older limestones and mudstones of the Ludlow (Silurian) series in the south. As the river crosses onto the more resistant Silurian Ludlow Series it has cut down to the bedrock in a number of places creating a rock based channel that is in marked contrast to the silt and gravel based channel upstream.

Above Usk, the valley narrows cutting through the resistant limestones and marls of the Ludlow Series to form the Llanbadoc Gap. Below this point the river again flows over the marls, mudstones and sandstones of the Raglan and St Maughan's beds until it crosses onto the Triassic Keuper Marls at Newport Docks. The great depth of alluvial and glacial deposits within the valley from Llanbadoc Gap to the River's confluence with the Severn Estuary means that the underlying geology has little direct influence on the river.

The Lower Usk has a relatively natural fluvio-geomorphic regime and has remained relatively

free from straightening, widening or deepening schemes. The section of the river between Caerleon and Usk is particularly active with migrating meanders depositing shingle point bars and islands and cutting vertical earth cliffs. The pattern of meander loops along the entire length of the river from Abergavenny to Newport is complex, steep outer slopes contrasting with shallow slip-off slopes. Large abandoned meander loops such as the one at Llanfihangel Gobion indicate the former course of the River Usk as it flowed across and created its floodplain. Oxbow lakes and active back channels remain adjacent to the river in places.

Flora

In its middle and upper reaches the river channel is characterized by the frequent occurrence of floating and submerged plants including water crowfoot and water milfoils *Myriophyllum spp.* Aquatic macrophytes disappear below the tidal limit at Newbridge on Usk although emergent species are able to tolerate the transition zone between brackish and freshwater conditions.

Riverside rocks and boulders are characterised by a flora of mosses, such as *Amblystegium fluviatile*, *Cinclidotus fontinalioides*, *Fontinalis antipyretica*, *Rhynchostegium riparioides* and *Thamnobryum alopecurum*, liverworts, such as *Chiloscyphus polyanthus*, *Conocephalum conicum*, and *Marchantia polymorpha*, the filamentous alga *Lemanea fluviatilis* and lichens of the genera *Verrucaria*.

Marginal vegetation is dominated variously by reed canary-grass *Phalaris arundinacea*, branched bur reed *Sparganium erectum*, common spike-rush *Eleocharis palustris* and lesser pond-sedge *Carex acutiformis* with a variety of other species including brooklime *Veronica beccabunga*, water forget-me-not *Myosotis scorpioides*, water mint *Mentha aquatica* and yellow cress *Rorippa spp.* Below Newbridge the upper mud banks of the river are colonized by saltmarsh species such as sea aster *Aster tripolium*, saltmarsh-grass *Puccinellia spp.* and scurvygrass *Cochlearia spp.*

Characteristic riverbank plants include stinging nettle *Urtica dioica*, great willowherb *Epilobium hirsutum* and Indian balsam *Impatiens glandulifera*. Locally the river bank vegetation can be more diverse and supports species such as common knapweed *Centaurea nigra*, Meadowsweet *Filipendula ulmaria* and comfrey *Symphytum spp.*. Occasionally inundated grassland along the tidal reaches is dominated by couch grass *Elytrigia repens* and supports regionally rare species including bulbous foxtail *Alopecurus bulbosus*, marsh-mallow *Althaea officinalis* and marsh helleborine *Epipactis palustris*.

The river banks are frequently lined with willows and alder. In addition, there are larger areas of woodland adjacent to the river dominated by these species or by sycamore *Acer pseudoplatanus*, pedunculate oak *Quercus robur* and ash *Fraxinus excelsior*.

The River Usk (Lower Usk) floodplain retains a number of important geomorphological features and associated wetland habitats. In particular at Llanviangel Gobion, south of Abergavenny, a large cut off meander has areas of standing water, emergent and marshy vegetation and shingle. The areas of standing water support diverse still water plant communities dominated by Canadian waterweed *Elodea canadensis* with frequent broad-leaved pondweed *Potamogeton natans*, sweet-grasses *Glyceria spp.*, fool's water-cress *Apium nodiflorum*, pink water-speedwell *Veronica catenata* and common water-plantain *Alisma plantago aquatica*, together with by

stands of common spike-rush, rushes *Juncus spp.* and lesser spearwort *Ranunculus flammula*.

Mammals

The common otter *Lutra lutra* is widespread along the length of the river where appropriate bankside cover exists. The frequent tree cover provides valuable feeding and roosting habitats for several bat species including Daubenton's bat *Myotis daubentonii*.

Birds

The River Usk (Lower Usk) supports a wide range of riverside breeding birds such as sand martin *Riparia riparia* and kingfisher *Alcedo atthis* nesting in eroding earth cliffs. Yellow wagtail *Motacilla flava*, grey wagtail *M. cinerea* and dipper *Cinclus cinclus* occur with increasing frequency above the tidal limit at Newbridge. In addition marsh warbler *Acrocephalus palustris* breeds in riparian habitat along the river banks. The cut-off meander at Llanfihangel Gobion is an important area for wintering and passage migrants including teal *Anas crecca*, greenshank *Tringa nebularia* and green sandpiper *Tringa ochropus*.

Fish

The river has a wide range of migratory and non-migratory fish species. The most abundant coarse fish include chub *Leuciscus cephalus*, roach *Rutilus rutilus* and dace *Leuciscus leuciscus* which, together with the bullhead, are the most widely distributed fish along the river.

The rare river lamprey *Lampetra fluviatilis* and twaite shad *Alosa fallax* and the very rare allis shad *Alosa alosa* all migrate from the Severn Estuary and spawn at various localities in the river. Large numbers of elvers *Anguilla anguilla* migrate up the river with spring tides.

The Usk is a notable game fish river with species including brown trout *Salmo trutta fario*, sea trout *Salmo trutta trutta* and Atlantic salmon *Salmo salar*, the latter migrating up along the lower river, in order to reach spawning grounds in the headwaters and tributaries of the River Usk (Upper Usk). The river also supports an important population of the non-migratory brook lamprey *Lampetra planeri*.

Invertebrates

The lower Usk has important assemblages of craneflies including rare and scarce species such as *Limonia omissinervis*, *Erioptera limbata* and *Rhabdomastix hilaris*, *Gonomyia abbreviata* and *Cheilotrichia imbuta*. The rare mayfly *Potamanthus luteus* can be found in the river and there are also localised populations of the Atlantic stream crayfish *Austropotamobius pallipes*, an endangered species in Europe.

Remarks:

The site supports the following habitats and species covered by the EC Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna:

Common otter *Lutra lutra* - Annex II and IV

Allis shad *Alosa alosa* - Annex II and V
Twaite shad *Alosa fallax* - Annex II and V
Brook lamprey *Lampetra planeri* - Annex II
River lamprey *Lampetra fluviatilis* - Annex II and V
Bullhead *Cottus gobio* - Annex II
Atlantic salmon *Salmo salar* - Annex II and V
Atlantic stream crayfish *Austropotamobius pallipes* - Annex II and V

Otter and Atlantic stream crayfish are also listed in schedule 5 of the Wildlife and Countryside Act 1981, as amended.

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