



DRAFT REVISED PLAN JANUARY 2018

RIVERS & STREAMS

1. INTRODUCTION

The sub-region straddles two major water catchments of middle England. These are the Avon Catchment which takes water from the south and east of the sub-region into the Severn and Bristol Channel via the Avon and its tributaries including the Sowe, Leam, Dene, Stour, Alne and Arrow), and



River Leam © Steven Falk

the Tame Catchment which takes water from the north west of the county (as well as from much of the West Midlands) into the Trent, Humber and North Sea via the Tame and its tributaries (including the Blythe, Bourne, Cole and Anker). A tiny part of the Thames Catchment also lies within the extreme southern tip of Warwickshire. There are over 2000 km of rivers and streams in this sub-region of varying ecological character and quality. That diversity relates both to the watercourses themselves and to their immediate surroundings, referred to as riparian corridors.

Watercourses are among the most important wildlife corridors within the intensively farmed local landscapes and within urban areas. They also contribute much to local landscape character, both through place-names like 'Stratford-upon-Avon' and their physical presence in many local villages, towns and beauty spots.

Where the river corridor (approximately 50m either side of a river) is not affected by intensive agriculture, fisheries or urban development, rich fen vegetation can develop, either maintained by extensive cattle grazing or naturally progressing to carr woodland. Both alder and willow carr exist on several sites across the county and such areas are particularly rich in breeding birds. Dead wood within the sites can be frequent, its association with water providing specialised habitats not found in dry woodland types; e.g. the fly, *Lipsothrix nigristigma*, is associated with log jams in streams (JNCC, 2011). There is one good example of in-stream large-scale dead wood on the R. Dene, in the parish of Combrook.

Ecologically, the best watercourses are those that exhibit the natural channel features typical of lowland watercourses. These include a variety of flow patterns (riffles, runs, glides, pools and marginal dead water), a variety of channel features (side bars, point bars, silt deposits and islands) and meanders and associated erosion/deposition features. These and the natural variation of bankside habitats create a large range of niches upon which a huge range of species depends; the increasingly scarce sand martin (*Riparia riparia*) requires bare river banks in which to excavate new nests annually as they become full of debris.

Few truly natural watercourses now exist in the sub-region as nearly all rivers and most streams have been severely modified for land drainage, abstraction of water, flood alleviation and navigation purposes by re-sectioning, straightening or deepening of the watercourse. Many have been culverted or had weir structures installed to control / impound water and thus have been completely disconnected from their natural flood plain. This modification has been

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compounded by an increase in riverside and floodplain development. In many cases in-stream habitat diversity has been severely degraded affecting our freshwater invertebrate species, and weir obstructions have disconnected migration routes for fish.

As well as modifications to channels, rivers are severely impacted by diffuse and point source pollution. Causes of diffuse pollution can vary greatly between agricultural and urban landscapes. Although some riparian wildlife is relatively pollution tolerant, fennel pondweed (*Potamogeton pectinatus*), blanket-weed (*Spirogyra adnate*), invertebrates such as snails, leeches, freshwater hog louse (*Asellus aquaticus*), stoneflies (*Plecoptera*) and certain caddis species (*Trichoptera spp.*), other species such as trout and plants such as river water crowfoot (*Ranunculus fluitans*) cannot survive where pollution levels are high.

Over the last ten years there have been some improvements in water quality, one indication of which is that otters have expanded their range since the 2002 survey. They are active on all watercourses in Warwickshire following the banning of harmful pesticides that once contaminated their food, and helped by a reduction in persecution.

| 2. | OBJECTIVES | TARGETS |
|---|--|------------------|
| Associated Action Plans are: 'Fen & Swamp', 'Reed beds', 'Lakes & Reservoirs', 'Field Margins', 'Bats', 'Otter', 'Water Vole', 'Barn Owl', 'White-clawed Crayfish' and 'Black Poplar' | | |
| PLEASE CONSULT THE '<i>GENERIC HABITATS</i>' ACTION PLAN IN CONJUNCTION WITH THIS DOCUMENT FOR OBJECTIVES COMMON TO ALL HABITAT PLANS | | |
| A. | Prevent any deterioration of status in any water body. | 2015, 2021, 2027 |
| B. | Improve all WFD failing water bodies to Good Ecological Status (GES) or to Good Ecological Potential (GEP) if heavily modified. | 2027 |
| C. | Comply with objectives and standards for protected areas including water bodies holding Annex II Habitats Directive species, UK Biodiversity Action Plan Priority Species & Red Data Book species. | ongoing |
| See Generic Habitats Plan for rationale for derivation of targets and definitions of favourable and unfavourable condition ('Habitats overview' in 'State of the Natural Environment' (NE,2008, p49). | | |

3. NATIONAL BAP OBJECTIVES AND TARGETS

Rivers are on the current UK Biodiversity Action Plan (BAP) list of Priority Habitats published in 2007 ([Joint Nature Conservation Committee](#)). The targets and objectives for the Broad Habitat [Rivers and Streams](#) BAP, updated in 2010-11, may be seen online.

Nationally, the [Environment Agency](#) (EA) aims to create 10000ha of BAP habitat while working in collaboration with partners and to ensure at least 50% of [Sites of Special Scientific Interest](#) (SSSIs) are in favourable condition, whilst maintaining at least 95% in favourable or recovering condition. [Natural England](#) (NE) has produced a list of 'Priority Rivers' (NE, 2014).

4. CURRENT STATUS

The EA carries out monitoring of watercourses throughout Warwickshire. In the past this was carried out using [General Quality Assessment](#) scheme (GQA). The majority of rivers in Warwickshire, Coventry and Solihull, were classed as B (good); these included most of the Avon, the Itchen, the Leam, the Sowe and most of the Blythe. Several rivers were classed as A (very good) including the Stour, Hatchford Brook and parts of the Dene. In general, chemical and biological quality of rivers in the county is improving, partly due to improving sewage treatment works and better pollution control. However, monitoring of watercourses has changed to reflect the need to assess a wider range of ecological indicators in order to meet the [European Water Framework Directive](#) (WFD) legislation. Under WFD, if a watercourse fails to meet appropriate standards for any one measure, it is classified as failing. Crucially this now includes ecological measures such as fish and [macrophytes](#) and this changed the status of some watercourses from being good GQA to a failing WFD status.

Many rivers in the county have been heavily modified by re-sectioning, and straightening to facilitate the drainage of farmland. This has led to rivers being much more deeply incised than would be naturally. This has severely limited the range of in-stream habitats present and almost completely eliminated floodplain wetlands by disconnecting the river from a functioning floodplain. Removing most of the in-stream habitat and largely preventing regular flooding of farmland has destroyed the physical, biological and chemical mechanisms which enable natural rivers to reduce the impact of organic pollution resulting in serious impacts upon water quality. This is in addition to the obvious severe impact on wildlife.

Given that all rivers in the UK are required to reach good ecological status/potential by 2027 under WFD, it will be necessary to restore the natural hydromorphological functioning of the river network, where appropriate.

Warwickshire has 76 water bodies, either completely or partially within the county boundary, in 3 catchments; in May 2016, the EA classified 48 as 'moderate' status, 24 'poor' and 4 'bad':

- in the **Warwickshire Avon Catchment**: 50 waterbodies- 39 'moderate', 9 'poor' and 2 'bad': Noleham Bk source to confluence R Avon; Tach Bk source to confluence R Avon.
- in the **Tame Anker Mease catchment**: 19 waterbodies - 7 'moderate', 10 'poor' and 2 'bad': Temple Balsall Brook from source to R Blythe; R Bourn source to R Tame.
- in the **Cherwell Catchment**: 7 waterbodies: 2 'moderate' and 5 'poor'.

River Basin Management Plan objectives for improvement of these water bodies are:

- **for Warwickshire Avon Catchment:**
 - 2 'moderate' waterbodies to be 'good' by 2021
 - 25 'moderate' waterbodies to be 'good' by 2027
 - 1 'poor' waterbody to be 'moderate' by 2021
 - 3 'poor' waterbodies to be 'moderate' and 4 'good' by 2027
 - 1 'bad' waterbody to be 'moderate' and 1 'good' by 2027
- **for Tame Anker Mease Catchment:**
 - 5 'moderate' waterbodies to be 'good' by 2027
 - 8 'poor' waterbodies to be 'moderate' by 2027
 - 1 'bad' waterbody to be 'moderate' and 1 'good' by 2017

- for **Cherwell Catchment:**
 - 2 'moderate' waterbodies to be 'good' by 2027
 - 1 'poor' waterbody to be 'moderate' and 4 'good' by 2027

4.1 Legal and Policy Status

The most important piece of environmental legislation relating to rivers and streams is the EU WFD which became law in 2003. It revised water legislation into a new overarching programme to deliver protection of the water environment and improve the water quality and ecology of all water bodies including groundwaters, surface waters and associated wetlands. It aims to deliver substantial benefits for wildlife and the environment. This framework is fundamentally different to the previous classification system, looking at both water quality and the ecological elements of a river water body. The status of each river water body can be found in the relevant and current [River Basin Management Plan](#) (RBMP).

The ambition of the WFD is to ensure that all rivers in Europe meet [Good Ecological Status](#) (GES) by 2027, under a consistent set of parameters, or [Good Ecological Potential](#) (GEP) if a heavily modified water body, and aims to ensure that no element of its WFD status should deteriorate. Under the WFD each country is required to:

- prevent deterioration in the status of aquatic ecosystems, protect them and improve the ecological condition of waters
- aim to achieve at least good status for all water bodies by 2015. Where this is not possible and subject to the criteria set out in the Directive, aim to achieve good status by 2021 or 2027
- meet the requirements of [WFD Protected Area](#)
- promote sustainable use of water as a natural resource
- conserve habitats and species that depend directly on water
- progressively reduce or phase out the release of individual pollutants or groups of pollutants that present a significant threat to the aquatic environment
- progressively reduce the pollution of groundwater and prevent or limit the entry of pollutants
- contribute to mitigating the effects of floods and droughts

The WFD encourages new opportunities and ways of working with partnerships via DEFRA's [Catchment Based Approach](#) (CaBa) to input and influence the next River Basin Management Plan (RBMP). This is delivered through a [Catchment Host](#), which can be a company or NGO or even a partnership of both. This promises to deliver positive contributions to improve the health and therefore the biodiversity value of our rivers and streams.

The WFD creates the opportunity to provide multiple benefits through delivery of flood schemes via the EA or Lead Local Flood Authority (LLFA) [Flood Risk Management Plan](#). Watercourses can benefit by provision of beneficial mitigation measures carried out via development and the planning process.

The EA, NE, all Local Authorities and [water companies](#) have a statutory duty to further conservation through their work. EA Permits and Consents (e.g. for flood defence, abstraction, discharge, waste spreading, etc.) are assessed for their impact on the aquatic environment.

Any issuing authority listed above should ensure that appropriate mitigation measures are included within the applications to prevent any adverse impacts on the environment.

The EA is the lead authority for implementing the WFD which will offer major benefits for biodiversity improvements on Warwickshire's rivers and streams. In order to ensure that the necessary measures are taken to fulfil WFD requirements, the EA has produced RBMPs covering every catchment in the country; Warwickshire falls within two RBMPs – the Severn and the Humber.

There are a number of SSSIs in Warwickshire that are associated with rivers and streams. A 39km stretch of the R. Blythe from Spring Brook to its confluence with the R. Cole is designated as a SSSI, its clear succession of plant communities, rich flora (both emergent and floating), diverse invertebrates and physical character being a good example of a lowland river on clay. However, it has deteriorated and is also failing WFD for phosphate levels. NE have responded by producing a diffuse water pollution plan (2014) to address the issues, and to improve the status of the R. Blythe a river restoration plan has been written by consultants for EA and NE (2017)

A section of the Itchen, south of Bishop's Itchington, has been selected as a geological SSSI for its fluvial processes. The River Anker flows through [Alvecote Pools](#) SSSI which straddles the Warwickshire / Staffordshire border in a series of shallow pools caused by colliery subsidence; it is locally important for bird communities. Similarly, the Smite Brook flows through [Coombe Pool SSSI and Country Park](#) which holds the largest heronry in Warwickshire.

Local Nature Reserves (LNRs) with rivers or streams include the R. Arrow at Alcester, [Stonebridge Meadows](#), [Leam Valley Nature Reserve](#), [Kingsbury Meadow](#) and [Whitnash Brook](#), Leamington. In addition to the above, the EA, Water Companies and Local Authorities have a statutory duty to further conservation where consistent with purposes of enactments relating to their functions (as set out in the [Water Resources Act 1991](#), the [Land Drainage Act 1991](#) and the [Environment Act 1995](#)). The EA has a statutory duty for pollution control, control of water abstractions and flood defence consenting on main rivers. The LLFA controls flood defence consenting for ordinary watercourses.

An accurate digitised database of the county's key water courses/corridors has been established by the Habitat Biodiversity Audit team (HBA). Three rivers have been designated as [Local Wildlife Sites](#) (LWS) – the Avon, Arrow and Alne. All other rivers are mapped as potential LWS in line with the previous aims of the River and Stream LBAP. These sites represent important sites for nature conservation and provide part of the important corridor features needed for a resilient ecological network (Lawton, 2010).

[Cross Compliance](#) is a series of standards that farmers need to meet in order to receive their subsidy payment under the Common Agricultural Policy. There are two main elements, Statutory Management Requirements and Good Agricultural and Environmental Condition. As part of the latter farmers are required to establish a protection zone along water courses. This must not be cultivated nor have fertilisers, herbicides or pesticides applied. It must measure 2m from centre of a ditch, with a minimum of 1m from the top of the river bank. [Agri-environment schemes](#) administered by NE provide funding to protect and enhance river and stream corridors. Riparian corridors can be defined as the continuous area of river, river banks, associated wetlands and linked habitats alongside a river and its tributaries. The corridor may be of varying widths to incorporate related habitats. There are examples of land under agri-

environment schemes along main rivers throughout Warwickshire, Coventry and Solihull. Entry Level (ELS) and Higher Level (HLS) options in 2016 were:

- EE9/10: 6m buffer strips next to watercourse on arable / intensive grass
- EJ9/HJ9: 12m buffer strips next to watercourse on arable / intensive grass
- EJ5/ HJ5: in-field grass areas to prevent run-off.

4.2. Current Factors Affecting the Habitat

- **Pollution** – comprising diffuse and point sources, including eutrophication, agricultural and road run-off, sewage effluent discharges, misconnections and industrial effluents.
- **Loss of areas of carr woodland** due to lack of awareness of its importance for birds and the specialist insects of wet dead wood.
- **Excessive water abstraction causing low flows** – both ground water and surface water abstraction. Particularly evident near certain boreholes and where [Severn Trent Water](#) (STW) [Asset Management Plan](#) (AMP) investigations are being undertaken. For more details see [Catchment Abstraction Management Strategies](#) (CAMS).
- **Land drainage and flood defence works** – where carried out insensitively, can result in loss of habitat diversity and disconnect watercourses from their floodplains. It can also prevent the rivers' natural methods of removing nutrients and suspended solids and improving water quality. For more details see [Flood Risk Plans](#).
- **Modification for boat traffic, extension of navigation and private moorings and marina construction** – decreases in-stream habitat, which reduces ecological value and the carrying capacity for fish.
- **Inappropriate bank management** – including the scrubbing up of bare cliff areas suitable for sand martins, excessive grazing, removal of trees, mowing or inappropriate planting, hard engineering techniques, such as sheet piling, gabion baskets, concrete channels, and livestock poaching.
- **Introduction of invasive plant and animal species** – including fish (such as zander (*Stizostedion lucioperca*) and carp (*Cyprinus carpio*), North American mink (*Neovison vison*), non-native crayfish, demon shrimp (*Dikerogammarus haemobaphes*) and killer shrimp (*D. villosus*) and plants such as Himalayan balsam (*Impatiens glandulifera*), floating pennywort (*Hydrocotyle ranunculoides*) and Japanese knotweed (*Fallopia japonica*).
- **Development within the floodplain** – such as housing, industry, roads and amenity features.
- **Changes in agricultural land use** – changes in agricultural land management have contributed to the reduction in the wildlife value of riparian habitats. Issues include chemical runoff, soil erosion, farming practices, stock grazing and watering, bank side land management, and loss of functional floodplain grazing meadow.
- **Inappropriate recreation** – rivers and streams form the focus of many recreational activities including angling and walking. These activities can, if unregulated, result in a degradation of the habitat and disturbance to wildlife.

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- **Lack of understanding** – there is a general lack of understanding relating to the mosaic of habitats within river systems which promotes a healthy river system. Research is being carried out regarding the importance and location of features such as exposed riverine sediments and large woody debris, which have in the past, been routinely removed.
- **Climate change** – a changing climate bringing hotter, dryer summers and milder wetter winters can impact a river system. Lack of shade and cool rivers in summer can affect fish populations. Modified channels generally lack a low flow channel that is essentially for dry periods for both aquatic species and riparian wildlife such as water voles whose burrows become exposed by the low water, making them easy prey targets. Wetter winters will bring more frequent flooding and pressures on the adjacent land use.

5. LOCAL ACTION

- ❖ **Several organisations oversee and comment on planning applications** that may affect water bodies, using [National Policy Planning Framework](#) (NPPF) and local plan and strategies to enhance natural environment by reducing negative impact from development.
- ❖ **Monitoring:**
 - **EA takes the lead for monitoring** which includes:
 - the assessment and drawing up a programme of measures which feed into the RBMPs, delivered in partnership with business, water industry, NGO's and others including [Catchment Sensitive Farming Partnerships](#).
 - the periodic review of water company prices and investments (the AMP process) will lead to improvements at several sewage works in this sub-region. Improvements include nitrate removal, phosphorus stripping, and the installation of secondary or tertiary treatment. The process will also investigate water company abstraction licences which could be impacting on the water environment. It will certainly lead to significant reductions in
 - the monitoring of watercourses throughout Warwickshire to fulfil WFD requirements which includes water and invertebrate sampling, fish and macrophyte surveys.
 - conducts Catchment Walkovers to identify pressures which adversely affect water quality and ecology. This information is described in the RBMP as Reasons For Failure (RFF).
 - monitors the flow on the main rivers; flows are supplemented when necessary. The Catchment Abstraction Management Strategy (CAMS) process assesses the availability of water resources for each river catchment, produces a strategy and feeds into investigations to identify failing water quality. They provide a consistent and structured approach

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to local water resource management, covering all catchments in England. In Warwickshire there are CAMS for the [Avon](#) and for the [Tame, Anker and Mease Catchment](#).

- ❖ **Recording and monitoring and of various invertebrate groups and birds** in the [Coventry River Study](#) at certain key stretches of watercourse, based at Coombe Country Park by [Friends of Sowe Valley](#), working as a Waterside Care group measure :
 - water quality - temperature, turbidity, ammonia and pH
 - invertebrates - by kick survey for 3 x 1min.

- ❖ **The removal of physical barriers to fish movement by EA** includes:
 - weir removals and fish pass installations on EA gauging stations to improve fish migration.
 - fish passes on weirs on the Aine in Henley (2010).
 - weir removal on the Arrow at Alcester (2012),
 - removal of hard engineering on the Tame at Eon Meadows, Oversley (2012)
 - removal of weirs or fish pass installation on the Sowe at Baginton (2012) and Stoneleigh (2013)
 - deculverting of the St John's Brook in Warwick.
 - establishment of a fish fry refuge and deculverting of stream as part of the Broom flood alleviation scheme (2013).

- ❖ **Other failing WFD elements** that are being tackled in various ways by several organisations have included:
 - **The Flood Risk Management plan** which creates an opportunity for habitat creation and river restoration creating multiple benefits from a capital scheme carried out by the EA or the Lead Local Flood Authority.
 - **Shipston-on-Stour Flood Action Group:** 2016 - a project is being developed with landowners to implement natural flood management upstream of the town; Coventry University is providing the technical input.
 - The production of the '**Coventry Brooks Plan**' by [Warwickshire Wildlife Trust](#) (WWT), in March 2013, spawned by the Yellow Fish and [Love Your River](#) projects, to identify opportunities and issues within the water bodies in the city to improve the water environment. Implemented at Longford Park, funded by Midland Urban Communities Initiative (MURCI) project,
 - The '**Solihull River Corridor Improvement Plan (ShRImP)**', produced by Solihull Metropolitan Borough Council in partnership with the EA, has outlining aspirations for the borough's rivers including the Cole, Hatchford Brook and the Blythe SSSI.
 - **The Tame / Anker / Mease Catchment Partnership** was developed in 2011 as a pilot through Defra's Catchment Based Approach pilot project, and now hosted by STW.

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- **Warwickshire Avon Catchment Partnership** was initiated in 2015 as part of a Catchment Based Approach.
- **The Leam Pilot Catchment Project**, funded by Defra and the Catchment Sensitive Farming (CSF) partnership and delivered by Severn Rivers Trust (SRT) until 2015:
 - encouraged farmers to undertake voluntary measures not to apply [metalddehyde](#) slug pellets to 'high risk' fields throughout 2014; also to implement several projects to prevent cattle poaching and to establish riparian tree planting along the R. Leam (2013/4).
 - led a partnership project with CSF (SRT, NE & STW) and the University of Warwick, looking at the degradation of pesticides through in-ditch wetland features that do not take up valuable space.
 - piloted the use of bioreactors (large fermentation chambers growing organisms such as bacteria or yeast) to remove nitrate from field drains at a farm near Southam, reducing the cost of water treatment and helping to limit further restrictions on fertiliser use.
 - a fish pass near Southam is still at the planning stage.
- ❖ **River restoration programmes;**
 - early examples of such projects were:
 - [Middleton Hall quarry](#), where Hanson Smiths Concrete created 1200m of braided channel along the Tame in the 1990s and early 2000s;
 - Coleshill Quarry where Cemex moved over 1.8 km of the Cole in three sections including re-meandering 700m.
 - bank modification work at [Kingsbury Water Park](#) by WWT.
 - various river restoration and habitat improvements funded through the **WFD Catchment Restoration Fund**, e.g. habitat creation project on the River Tame at [Whitacre Heath](#) SSSI by WWT/TVW team in 2013.
 - restoration project on R Swift by EA in 2009.
 - **Lower Tame flood defence schemes** carried out by EA during 2012-14 incorporated river improvements and associated wetland habitat creation.
 - **Coventry Brooks** restoration projects include 400m of improved bank and river corridor, creation of fish refuges (pool areas are approx. 150sqm and 65sqm.) and installation of woody debris, eight black poplar trees (*Populus nigra*) planted and spiling along eroding river bank to create protected bank area at Guphill Brook in 2016.
 - **Warwickshire Avon Catchment Plan:** 2016: WWT undertook reedbed restoration and deculverting improvements through Longford Park, beside R. Sowe.
 - silt removal and re-profiling of some banks at **Abbey Green Park** off R. Anker (2012/13) via [Access to Nature funding](#) by North Warwickshire Borough Council (NWBC).

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- **sand martin banks** have been installed by the EA at Water Orton (2014), and by WWT Tame Valley Wetlands team at Kingsbury Water Park (2016); a second has been constructed winter 2016.
- ❖ **Local Volunteer Action:**
 - rubbish removal by the Friends of R. Sowe.
- ❖ **Landscape scale river and wetland related projects;**
 - [The Tame Valley Wetlands Landscape Partnership](#): HLF scheme (2014-2018) led by WWT and working with a strong partnership of Local and County Authorities, the EA, STW, NE and [Canal & River Trust](#) to name a few. One of the four main themes of the project is to target improvements to the natural environment to include river restoration and habitat creation projects, adding vital green and blue habitat connectivity and corridor features to provide resilient ecological networks. Possible HLF schemes to be developed include schemes on the Arrow, Anker and Sherbourne. Tame Valley Wetlands was designated as the first [Nature Improvement Area](#) in Warwickshire, Coventry and Solihull in 2016 by the Local Nature Partnership.
 - [Water vole recovery project](#): HLF scheme (2015–2017) being led by WWT with Coventry City Council (CCC) / Nuneaton & Bedworth Borough Council (NBBC) includes habitat improvement on stretches of Coventry Brooks, R. Anker, R. Sherbourne and tributaries.
- ❖ **Several key wetlands have been formally designated as LNRs or Country Parks (see section 4.1):** Leam Valley, Kingsbury Meadow, Abbey Green Park and Cole End Park.
- ❖ **Invasive non-native species:**
 - **Himalayan balsam:** by the Friends of Longford Park, Coleshill WWT Group, Friends of R. Sowe, [West Midland Bird Club](#) and [Earlwood Wildlife Partnership](#)
 - **North American mink** monitoring by WWT alongside the county-wide otter survey and specifically in Coventry and Nuneaton with the water vole recovery project.

6. PROPOSED LOCAL ACTIONS

| ACTION | Lead | Partners | By |
|---|------|------------------------|---------|
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| Policy, Legislation & Protection | | | |
| PL1. Ensure that any site meeting the relevant criteria is considered for designation as an SSSI. | NE | EA WWT LAs SMBC CCC | ongoing |

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| PLEASE CONSULT THE '<i>GENERIC HABITATS</i>' ACTION PLAN IN CONJUNCTION WITH THIS DOCUMENT FOR ACTIONS COMMON TO ALL HABITAT PLANS | | | |
| PL2. Assess and notify all qualifying water courses as LWSs and enter onto database: including the Tame by May 2018, the Leam and Anker by Mar 2019, Sowe and Sherbourne by Dec 2019, and the the Itchen, Cole, Dene and Stour by Dec 2020. | LWSP | NE EA WWT HBA LAs | 2017 -2020 |
| PL3. Ensure that all statutory Permissions and Consents, including new developments and abstractions, wherever possible enhance the environment and as a minimum avoid an adverse impact on the aquatic environment. | EA | WCC NE LAs | ongoing |
| PL4. Ensure that water bodies are recognised as important biodiversity assets in Local Plans and Neighbourhood Plans. | WCC | NE EA WWT LAs | ongoing |
| PL5. Actively review and comment on planning applications to fulfil biodiversity net gain on all developments. | WCC | NE EA WWT LAs | ongoing |
| PL6. Implement the national requirement for Sustainable Urban Drainage Schemes (SUDS) in all new housing schemes of more than 10 dwellings as well as commercial and industrial developments, using the opportunity to create new habitats. | WCC | NE EA WWT LAs | ongoing |
| Site / Species Safeguard & Management | | | |
| SM1. Use the Catchment Based Approach (through the Tame Anker Mease and Warwickshire Avon Catchment Host Partnerships) to identify and deliver mitigation measures required to improve condition of water bodies. | WWT | EA NE WCC TAMP(in N) LAs WAP(in S) STW | 2015, 2021, 2027 |
| SM2. Actively work with partners and agencies to ensure that development proposals do not affect the integrity of watercourses, ensuring WFD Assessments are carried out where necessary. | EA | NE WCC WWT LLFAs LAs | ongoing |

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| PLEASE CONSULT THE '<i>GENERIC HABITATS</i>' ACTION PLAN IN CONJUNCTION WITH THIS DOCUMENT FOR ACTIONS COMMON TO ALL HABITAT PLANS | | | |
| SM3 Actively work with partners and agencies to ensure that all flood defence works result in an overall environmental gain to aquatic and riparian habitats. | EA | NE WCC WWT LLFAs IDB | ongoing |
| SM4. Deliver Restoration Projects to improve water quality and ecology. | EA | NE WWT WCC TAMP (in N) LAs WAP(in S) STW | 2015, 2021, 2027 |
| SM5. Implement schemes to tackle identified issues on priority sites (see RM1) for water course/corridor improvement to ensure that no water bodies in Warwickshire deteriorate, and continue to aim for Good Ecological Status. | EA | WCC WWT LAs STW LLFAs LOs | 2015 |
| SM6. Actively work to ensure that flow levels are sufficient to sustain characteristic habitats and species ensuring they are investigated through the AMP process. | EA | NE STW WWT | 2014, 2019, 2024 |
| SM7. Prioritise the removal of physical barriers to fish movement e.g. weirs and culverts from water bodies wherever possible, re-naturalise rivers and encourage and enable fish migration using any means and opportunities e.g. planning, capital schemes, flood defence consents, landowner negotiation. | EA | WWT LAs STW TAMP(in N) TRT WAP(in S) LOs LLFAs SRT | 2027 |
| SM8. Ensure that any weir repair work incorporates fish pass and eel pass solutions that are in line with Salmon & Freshwater Fisheries Act 1975 (SAFFA) and eel regulation. | EA | NE WCC WWT LLFAs SRT TRT LAs | ongoing |
| SM9. Actively implement invasive non-native species eradication plans to include Himalayan balsam Japanese knotweed and North American mink. Prevent the spread of non-native crayfish and killer and demon shrimps through effective biosecurity measures (see CP4). | EA | NE WWT LAs STW TAMP(in N) WAP(in S) SRT TRT ACs CGs LOs | 2027 |
| SM10. Address sedimentation and rural diffuse pollution runoff by implementing a range of solutions including: (SUDs), fencing and buffer margins, and run-off attenuation features. | EA | NE WWT NFU TAMP(in N) LAs WAP(in S) LOs | 2015, 2021, 2027 |
| SM11. Tackle urban diffuse pollution through community engagement e.g. projects such as Yellow Fish , Love Your River, and using the | EA | NE WWT STW TAMP (in N) LAs | 2015, 2021, 2027 |

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|--|------|---|---------------------|
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| Catchment based Approach, applying the 10 point Plan to correct both residential and industrial misconnections, and other sources e.g. urban and road run off. | | WAP(in S) LOs | |
| SM12. Tackle point source pollution issues through sewage treatment discharges and combined sewage overflows (CSOs). | EA | NE STW WWT LLFAs LOs | 2027 |
| SM13. Protect rivers from a changing climate, utilising initiatives such as Woodland for Water , CSF and agri-environment schemes administered by NE: <ul style="list-style-type: none"> by adapting them through strategic tree planting to keep sheltered areas of rivers cool for fish and invertebrates. by providing low flow channels necessary in extreme dry periods that will additionally benefit water voles. by reconnecting rivers with their flood plains. | EA | NE WWT FC WT SRT TRT WCC TAMP(in N) WAP(in S) LAs LOs | ongoing |
| SM14. Create artificial sand martin nesting banks above the flood level; 2 to be installed in the Tame Valley by 2017. | WWT | TVWLP EA | 2017 |
| Advisory | | | |
| A1. Inform landowners of any special interest attached to streams and rivers they control. | NE | EA TRT LWSP WWT RSPB SRT LAs | ongoing |
| A2. Make landowners aware of sources of information, advice and grants in relation to best practice for water course/corridor management. Encourage landowners to enter into Environmental Stewardship agreements. | NE | EA WWT RSPB SRT TRT | ongoing |
| Research & Monitoring | | | |
| RM1. Conduct catchment walkover surveys to identify reasons for failure to inform River Basin Management Plan Actions. | EA | WWT SRT TRT LOs | 2015, 2021, 2027 |
| RM2. Report on the progress of restoration schemes and WFD status at each RBMP review and through partnerships. | EA | NE WWT LAs TAMP(in N) TRT WAP(in S) SRT | 2015, 2021, 2027 |

| ACTION | Lead | Partners | By |
|---|------|---|------------------------|
| PLEASE CONSULT THE '<i>GENERIC HABITATS</i>' ACTION PLAN IN CONJUNCTION WITH THIS DOCUMENT FOR ACTIONS COMMON TO ALL HABITAT PLANS | | | |
| RM3. Analysis and use of angler catch data to identify and use as indicators of issues in the water body. | EA | ACs | ongoing |
| Communication, Education & Publicity | | | |
| CP1. Organise and deliver information events and management training days to relevant landowners in order to illustrate best management techniques and to tackle diffuse pollution of nutrients and sedimentation in water bodies. | NE | EA WWT STW SRT TRT LAs LLFAs LOs | ongoing |
| CP2. Develop innovative invertebrate monitoring schemes engaging communities in learning about and monitoring their local rivers and streams. | EA | WWT WBRC LAs | 2015 |
| CP3. Ensure that any interested parties associated with the water environment engage and contribute to the consultations associated with the RBMP process. | EA | WWT WCC STW TAMP(in N) TRT WAP(in S) SRT LAs | 2015, 2021, 2027 |
| CP4. Actively promote Check Clean Dry Campaign to protect native species from non-native species threats and diseases. | EA | WCC WWT NE SRT TRT ACs LAs | ongoing |
| CP5. Create an action plan for fish to inform and focus on actions required to tackle fish population failures and migration issues. | EA | WWT SRT TRT | 2017 |

Abbreviations: **ACs** - Angling Clubs, **CGs** - Community Groups, **EA** - Environment Agency, **FC** – Forestry Commission, **HBA** – Habitat Biodiversity Audit partnership, **IDB** - Internal Drainage Board, **LAs** – Local Authorities, **LLFAs** – Lead Local Flood Authorities, **LOs** – Land owners, **LWSP** – Local Wildlife Sites Project, **NE** – Natural England, **NFU** – National Farmers Union, **RSPB** – Royal Society for the Protection of Birds, **SRT** – Severn Rivers Trust, **STW** - Severn Trent Water, **TAMP** – Tame Anker Mease Catchment Partnership, **TRT** – Trent Rivers Trust, **TVWLP** – Tame Valley Wetlands Landscape Partnership, **WAP** – Warwickshire Avon Catchment Partnership, **WBRC** – Warwickshire Biological Record Centre, **WCC** – Warwickshire County Council, **WT** – Woodland Trust, **WWT** – Warwickshire Wildlife Trust.

7. PROGRESS WITH ACTIONS

From 2015–2020 there will be a rolling programme of reporting on progress, of 10 action plans per year with an annual summary of results. Progress with this plan up to 2018 can be seen at www.warwickshirewildlifetrust.org.uk/LBAP.

8. BIBLIOGRAPHY

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- RSPB (2016) [State of Nature](#) – a stocktake of all our native wildlife by over 50 wildlife organisations.
- Natural England (2016) [Conservation Strategy for the 21st Century](#). Sets out how NE will help deliver DEFRA's ambitions for the environment to reverse biodiversity loss, sustain distinctive landscapes and enhance engagement with nature.
- World Wide Fund for Nature 2017. [Water for Wildlife: tackling drought and unsustainable abstraction](#). The report urges urgent reform of abstraction to mitigate the devastating effects of drought and restore river health.

9. FURTHER INFORMATION

[Waterways Birds Survey](#) (WBS) – from 1974-2007 mapped 100 sites a year for grey wagtail (*Motacilla cinerea*), dipper (*Cinclus cinclus*), kingfisher (*Alcedo atthis*), goosander (*Mergus merganser*), little grebe (*Tachybaptus ruficollis*), sand martin (*Riparia riparia*), mute swan (*Cygnus olor*), reed warbler (*Acrocephalus scirpaceus*) and common sandpiper (*Actitis hypoleucos*); coordinated by the [British Trust for Ornithology](#) (BTO).

[Waterways Breeding Bird Survey](#) (1998 as pilot – present) matches the survey method used by EA River Habitat Survey; coordinated by the BTO.

Habitat Biodiversity Audit (HBA) for Warwickshire, Coventry & Solihull – mapping data set and associated information. Phase 1 ([JNCC](#)) 1996-2002 and Phase 2 (Local Wildlife Sites) ongoing.

[Biodiversity Planning Toolkit](#) - a new online resource to help incorporate biodiversity and geodiversity into the planning system and new development.

Forestry Commission (2003) [Forests & Water Guidelines](#)

[Flora Locale](#) (2005). Planting near Watercourses and Buying Native Flora (advisory notes). Send large A4 SAE to: Flora Locale, Denford Manor, Hungerford, Berkshire, RG17 0UN.

[Plantlife](#) - a charity which carries out plant species and habitat conservation, owns and manages nature reserves, campaigns, and raises awareness through education.

[Staffordshire Wildlife Trust](#) (2006): Managing woody debris in rivers, streams & floodplains – pdf booklet. Tel. 01889 880100.

RESTORE (2014) - a report for the layman published by the UK-led LIFE project promoting river restoration: '[River Restoration in Europe](#): The art of the possible'.

Wildfowl & Wetlands Trust (2015) – the [Wetland Manifesto](#) is a 10 point plan to look after the UK's remaining wetlands.

Environment Agency (2015) - [Plant Tracker](#) app to help combat the spread of the UK's most problematic invasive, non-native plant species. It shows how to identify and record the location of 14 invasive plant species with a "Confusion Species" gallery for each one, to help separate similar looking plants.

[Water Matters](#) (2015) – a vision for watery places by Blueprint for Water, a coalition of 16 organisations, launched in 2006 to revolutionise the way water is managed in England for the benefit of people and wildlife.

Freshwater Habitats Trust nationwide community survey [Clean Water for Wildlife](#) aims to find wildlife rich, clean water habitats in England and Wales.

[Himalayan balsam](#) – a project running since 2006 to find a biocontrol agent.

10. CONTACT

Contact your local biodiversity officer via the Midlands Customer Service team.

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