
THE
wildlife
TRUSTS
STAFFORDSHIRE

Staffordshire Wildlife Trust (SWT) was approached to produce and deliver a monitoring strategy for the Sow and Penk Biodiversity Action Plan (BAP) area (Map 1). The following document briefly outlines SWTs proposal monitoring strategy with a brief outline of methodologies.

Based on the IDB's direct capacity to exercise control over waters within the Sow and Penk area (i.e. maintenance of bankside vegetation and channels), and the potential knock-on effect of this management in terms of benefits to both BAP habitats and species, it was decided that **Water Vole *(Arvicola amphibius)*** and **Flowering-rush *(Butomus umbellatus)*** populations would be monitored. Water Vole is a nationally legally protected species and both a UKBAP and Staffordshire BAP species and has seen a national widespread decline due to habitat loss and predation by American Mink *(Neovison vison)*. Flowering-rush has no current designations locally or nationally, and currently little is known about the population, but it is possible that there has been a decline over the past few decades due to habitat loss and/or reduction in water quality. Based on population trends and the national/local significance of these species any management which could contribute to their conservation is beneficial.

The rationale behind monitoring these two species is based on their habitat requirements and how they relate to the Eutrophic Standing Open Waters priority habitat[1]. In a natural state, Eutrophic Standing Waters have high levels of biodiversity and vegetation is generally geographically diverse (JNCC 2008); and through positive sympathetic management it should be possible to achieve the same high levels of biodiversity. Water Voles are a species which require well vegetated banks of both still and flowing water which they rely on for cover, food and to provide nesting material during the breeding season, they generally nest underground in burrows above the waterline on the edge of water bodies. It is vitally important to have diverse bankside vegetation for this species, therefore channel and bankside maintenance is likely to play a role in suitable habitat provision for this species, however this still does not affect American Mink predation.

Flowering-rush is a perennial plant of slow moving shallow waters like those which the IDB maintain, it can reproduce either by seed or through its rhizomatous roots, as the rhizomes have a structurally weak connection which break from minor disturbances (e.g. ditch clearance etc.), these are buoyant and can be carried to other areas along the watercourse where they may begin to grow. Flowering-rush establishment and expansion is encouraged through fluctuating water levels where un-vegetated sediments are exposed, warm quickly and promote accelerated growth (USDA 2011). Watercourse maintenance and management may allow this species to increase in abundance and colonise new areas which would be reflected through monitoring.

[1] The IDB stated that the only habitat over which they have some control within the Sow and Penk BAP area would be the UK BAP broad habitat: Standing Open Waters and Canals, UK BAP priority habitat: Eutrophic Waters. There is, however, no reason why actions carried out through the implementation of this strategy would not be beneficial to other BAP habitats in the IDBs area.

In 2013-2014, SWT, with funding from the Environment Agency (EA), carried out practical work for a Rural Sustainable Drainage Scheme (RSuDS) located in the Upper Sow which created valuable new habitat, provided additional benefits to water quality and landowner access as well as delivering Water Framework Directive (WFD) objectives. As part of continued monitoring such as that proposed in this document, there is a potential to target areas for habitat creation or restoration, therefore contribute to the conservation of biodiversity and provide more resilient ecological networks.

As a brief methodology outline, surveys will likely be carried out throughout the year but will be focused primarily between March–November as this is the most suitable time to look for evidence of Water Vole, whilst Flowering-rush foliage will also be visible throughout this time period, it will only be flowering throughout the summer months. Surveys for both Water Vole and Flowering-Rush will take place in tandem as this is the most effective use of time, a small group of experienced surveyors will intensively examine suitable stretches of watercourse for evidence of Water Vole activity e.g. burrows, feeding damage, footprints or latrines etc. as well as looking out for presence of Flowering-rush and recording its relative abundance; this will be carried out either from the watercourse itself where conditions allow, or from the bankside with landowners permission. A Global Positioning System (GPS) unit will be used to waypoint recording locations and notes will be made as to what was recorded at each location. Whilst surveying, other information which may be of use or interest will also be recorded e.g. American Mink activity.

The information gathered will be analysed and a short annual report will be produced, documenting finding results for that year and how populations compare to previous years/baseline data.

References

JNCC, 2008 Uk Biodiversity Action Plan Priotity Habitat Descriptions: Eutrophic Standing Waters. [Online] JNCC available at: <http://jncc.defra.gov.uk/pdf/UKBAP_BAPHabitats-14-EutrophicStandingWaters.pdf> [Accessed 13 October 2015]

USDA Natural Resources Conservatrion Service, 2011. Invasive Species Technical Note No. MT-33. Ecology and Management of Flowering Rush (*Butomus umbellatus* L.) [Online] Available at: < http://www.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/mtpmstn10617.pdf> [Accessed 13 October 2015]

Map 1: Sow and Penk IDB BAP area in Staffordshire