

SPRING 2015

NEWSLETTER



CaBA Catchment Partnerships

Catchment Invertebrate Fingerprinting

Ecosystems Services Mapping

Habitat Restoration Projects

TICP Rivers Week - 20th April

CHAIRMAN'S INTRODUCTION

Dear Supporter

I am delighted to be able to tell you about significant developments at Wessex Chalk Stream and Rivers Trust since our last newsletter. In October 2014 Dr Paul Jose joined WCSRT as our full-time director, taking over from Tom Davis who had done a sterling job part-time since the establishment of the trust in 2010. Paul was previously Head of Environmental Management at Huntingdonshire District Council and before that had a distinguished career as an environmentalist in the public and private sectors. Much of this newsletter gives Paul's opening thoughts on WCSRT after four months in office.

We have had a great deal to do in the past year, leading catchment partnerships for the Hampshire Avon and the Test & Itchen, taking forward our invertebrate fingerprinting project led by Dr Nick Giles to identify and rectify pollution hotspots and expanding our in-river project work and educational outreach activities.

Now, more than ever, we need your support. Government funding for the environment is under severe pressure and the national budget of the Environment Agency has been cut dramatically over the last 2 years. Not surprisingly, WCSRT is getting less support from Government than in previous years and needs increasing help from the private sector to deliver our prime objective of ensuring high water quality with sustainable water flow in the rivers of the Wessex region. So if you can help us financially, or by donating fishing days (please see page details on page 11), we would be tremendously grateful.

George Seligman



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The Wessex Chalk Stream and Rivers Trust is a charity dedicated to the guardianship, protection, enhancement and maintenance of healthy, functioning ecosystems within the river catchments and corridors of the Wessex region. Our vision is of healthy rivers which are valued and nurtured by the community.

A look to the future

Thoughts from new Director, Dr Paul Jose

As part of the growing Rivers Trust movement, I believe the Wessex Chalk Stream and Rivers Trust is well placed to tackle the ever mounting and wide ranging pressures damaging this region's precious river systems.



Through our involvement in the government's Catchment Based Approach, we see an important role for the relatively newly formed Catchment Partnerships in bringing together key players and organisations. We have already begun facilitating the agreement of priorities amongst partners and stakeholders and together we have planned and are starting to carry out a series of actions to deliver habitat and catchment wide improvements. The first part of this newsletter highlights these activities and looks at some of the proposed projects for the Hampshire Avon and Test & Itchen Catchment Partnerships.

In the second part of this newsletter you can read about how the Trust is shaping ideas for the future, based on sound science and evidence. We are using a technique called Catchment Invertebrate Fingerprinting (CIF) to identify the spatial coverage and extent of environmental stresses, such as excessive sediment and nutrients. This information is helping us and our partners to target activities on the ground which not only will benefit the environment but also enhance wider ecosystems services.

Central to the work of our Rivers Trust is habitat restoration and rehabilitation. Our recent projects, highlighted in the third section of the newsletter, are delivering tangible improvements to our rivers and fish populations. The Trust is able to undertake habitat enhancements such as these in a professional and cost effective manner and we will seek to help riparian owners and statutory bodies to deliver further habitat improvement and restoration throughout the Wessex region.

We are also continuing to work closely on our educational activities with local schools and are currently working to deliver an outdoor programme with Winchester College for several local junior schools. We hope to feature more on this in a forthcoming newsletter.

Finally, it is thanks to you and your generous support that the Trust is able to look towards a brighter future for our rivers. We are committed to working on your behalf to achieve our vision of healthy rivers that are valued and nurtured by the community. To do so, we will focus on four key themes; **catchment management** and **habitat improvement**, underpinned by sound **science and evidence** and shared through positive **education**.

We hope you find the newsletter informative and we will look forward to bringing you more success stories and news of our activities over the year ahead.



Catchment Based Approach: Catchment Partnerships

The two catchment partnerships being hosted by the Trust, the **Hampshire Avon Catchment Partnership (HACP)** and the **Test & Itchen Catchment Partnership (TICP)** (where we are working alongside the Hampshire & Isle of Wight Wildlife Trust), are continuing to develop apace.



Our Catchment Officers, Jacob Dew and Rupert Kelton, have been busy working with local stakeholders to agree priority issues and actions for the two catchments. Both Partnerships have now published **Catchment Action Plans** and are currently working up a number of partnership projects to deliver against the aspirations of these plans. Further details can be found on the catchment partnership websites.

The catchment partnerships have partly been funded by the EA and DEFRA. We are also extremely grateful to Wessex Water and Southern Water for their generous contributions to supporting the work of the partnerships.

Partnership Projects

From the suite of projects being developed by the respective catchment partnerships, Sediment and Septic Tanks are two common themes that have been identified by stakeholders from the Hampshire Avon and the Test & Itchen catchments and both partnerships are working on plans to deliver the following two projects:

Septic Tanks Awareness Scheme

Phosphorous from septic tanks and domestic cleaning products has been identified as a significant issue for a number of catchment partnerships. The TICP and the HACP are working jointly with several other neighbouring catchment partnerships in the South of England to develop a collaborative project that will build awareness of the environmental impacts of

Websites



Both catchment partnerships have recently launched new websites to help share information between partners and to communicate with a wider audience about the work being undertaken to address the issues affecting the catchment's local water environments.

To view the websites, please visit:

www.ticp.org.uk

and

www.hampshireavoncatchmentpartnership.org.uk

Twitter

You can also follow the catchment partnerships on Twitter!

@TICP_CaBA

and

@JacobDewWCSRT



non-mains sewerage and high phosphate domestic products on the water environment. The project will aim to improve management of septic tanks and increase the supply and purchase of low phosphate or phosphate-free cleaning products in most severely impacted parts of the catchments.



Sediment Pathways Project

Increased levels of fine sediment are widely agreed by stakeholders to be a significant threat for both catchments. Physically, sediment causes damage by clogging aquatic habitats and it also acts as a vector for many undesirable contaminants, including phosphorous.

This project will deliver measures to reduce levels of fine sediment entering river channels from roads, tracks and other pathways. In doing so, it will improve water quality, as well as also having positive implications for flood risk mitigation and highways maintenance.

Other Projects:

The partnerships are also working on a number of other projects, these two are on the Hampshire Avon:

Salmon Spawning & Juvenile Habitat Project

With Hampshire Avon Salmon numbers at an all-time low, the Catchment Partnership are looking to deliver a project to improve salmon survival rates at spawning riffles and in associated downstream juvenile habitat at key locations across the catchment. Historic EA Spawning data will be used to identify priority sites and an appraisal undertaken to understand the level of impact the available habitat is having on salmon survival. Where a modest amount of input could improve the site, the Catchment Partnership will look to undertake works to improve gravel spawning and habitat for hatched fish. This will include, but is not limited to, channel narrowing, gravel cleaning and, where possible, the introduction of large wood and flints to act as cover for the hatched juvenile fish. The budget for the project is small, but we are hoping funding will enable us to also improve habitat on other large scale restoration schemes already planned for 2015.



Burgate & Avon Tyrell Estates

The Lower Hampshire Avon is suffering from declining cyprinid numbers. Other projects on the lower River are already looking to improve numbers through stocking, but the Catchment Partnership are seeking to install long term habitat improvements to increase and improve the juvenile cyprinid survival rate. 2 projects are planned, at Burgate and Avon Tyrell, which will open up historic drains and back waters proving still water and cover, ideal for juvenile cyprinid species. Previous similar works have been a great success and it is hoped that this work will continue the success so far.



Catchment Invertebrate Fingerprinting Study

The evaluation of invertebrate communities living in a river or stream is one of the best methods available for assessing the impacts of environmental stress on the health of an aquatic ecosystem. Invertebrates that spend all, or part, of their lifecycle living in a river are constantly exposed to changes in the structural composition of the river bed, in the volume of water in the river and in the chemical composition of the water flowing over them.

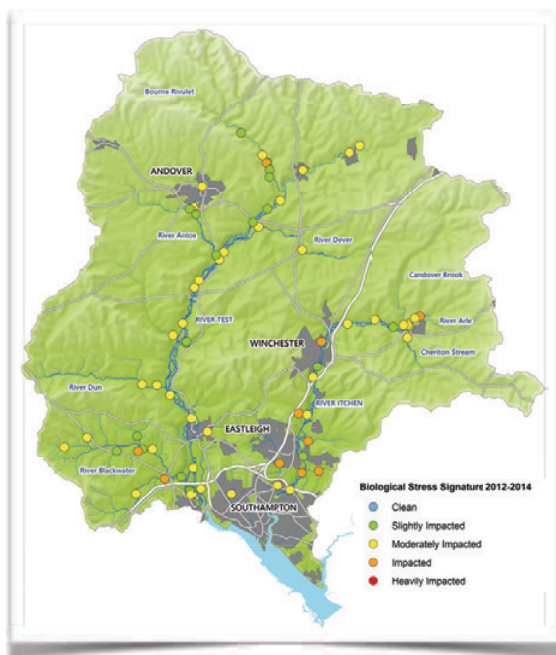
The Catchment Invertebrate Fingerprinting (CIF) study, which has been generously supported by the Esmée Fairbairn Foundation, is examining aquatic invertebrate communities, throughout the river catchments of the Wessex region, and is looking at their responses to four environmental stresses:



The first phase of the study has been to examine historic invertebrate sampling data, supplied by the Environment Agency. The community structure at each sampling site has been analysed, to family level, for four biometric indices: PSI (fine sediment), TRPI (total reactive phosphorous index), Saprobic (organic pollution) and LIFE (low-flow impacts).

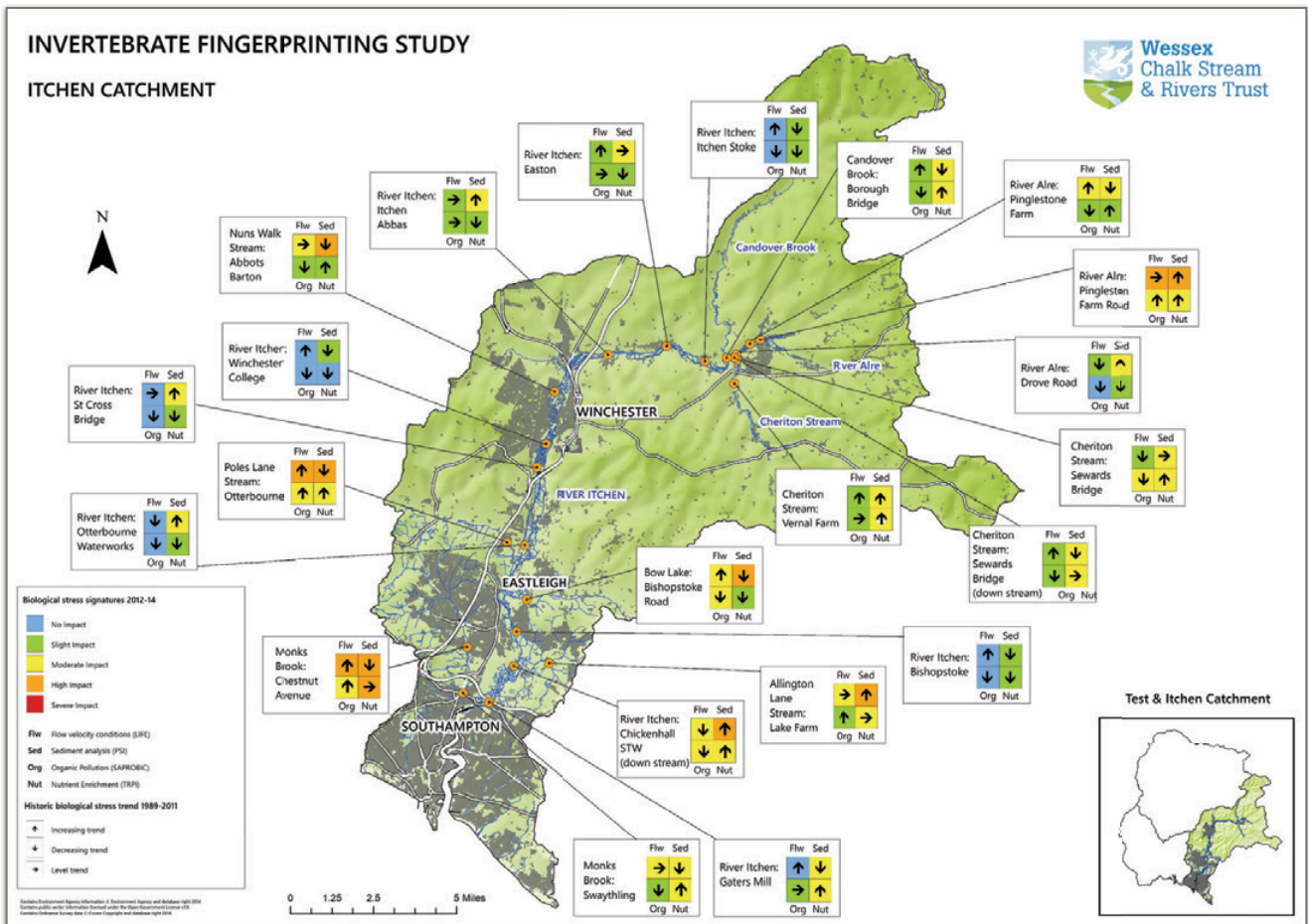
For each of the indices, an invertebrate group is allocated a score according to its sensitivity to a particular environmental stressor. When a river becomes polluted the most sensitive and highest scoring groups are the first to be lost and the average score falls. Where the average score of the groups found is high, it indicates that the most sensitive groups are present in the river and that, by inference, the pollution levels are low.

The Trust is using GIS software to map the results and has created a series of maps showing the current degree of impact and the long term trend at each sampling site. The examples below for the Test & Itchen, show the current impact from sediment (below, left) as well as highlighting those sites where the long term trend shows sediment pressure is increasing (below, right).



The results have also been combined and mapped on a sub catchment basis, as per the example below on the Itchen. Please visit our website for the complete set of maps showing the results of the first phase of the CIF study. www.wcsrt.org.uk

With the help of the GIS maps, the Trust has already begun to use the first phase results to engage with businesses, landowners and government agencies, encouraging them to work with us to deliver solutions that will improve invertebrate communities at a number of individual sites.



CIF Study Phase 2:

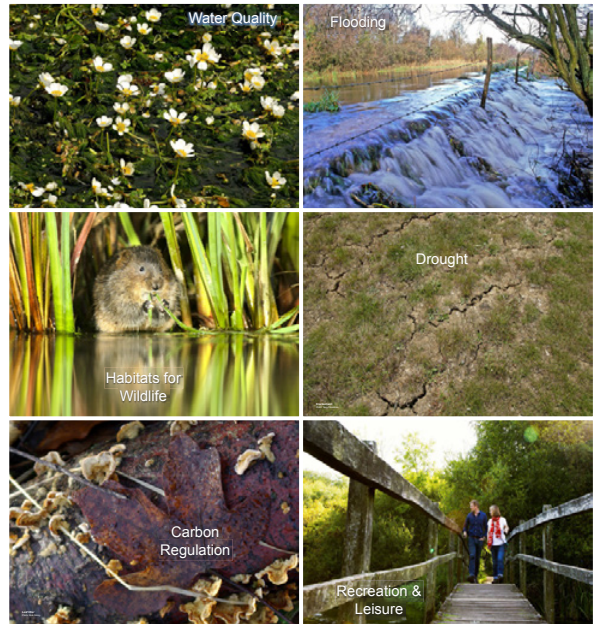
The second phase of the Study is now underway with a wide range of sites (50+) having been sampled, both in the Test / Itchen and Avon catchments, last autumn. These samples are currently being analysed to 'species-level', by AquaScience Consulting Ltd, which will enable further refinement for targeting of catchment-wide management activities (e.g. addressing sediment inputs) which have been highlighted in the Catchment Partnership updates. Work is also underway to report to the Esmée Fairbairn Foundation, which has funded this innovative work. It is hoped that this programme will be extended in the longer term to look at the Stour and Meon catchments.

Sampling will begin again in April and our officers will be in touch with riparian owners and keepers to arrange follow-up visits to collect the spring samples that are needed to complement those taken last autumn and provide a year round picture of invertebrate assemblages.

Ecosystems Services Mapping

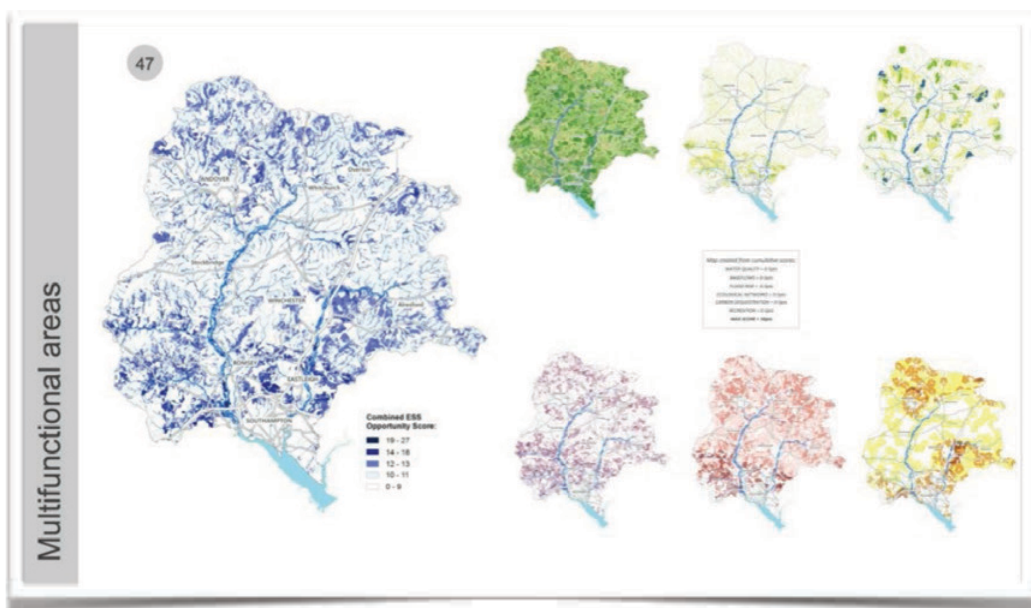
'Ecosystems services' can be described as the benefits that society receives from the natural environment e.g. the provision of clean drinking water, habitats for wildlife, opportunities for recreation, etc.

The Catchment Partnerships have been using GIS software to map these services, so that we can provide a visual environmental audit of the Test & Itchen and Hampshire Avon catchments. The maps allow us to assess the current provision of ecosystems services and engage people to be part of the debate about the need to improve particular services. They also provide a theoretical framework of where to focus activity, so that improvements can be maximised and delivered in the most cost effective way.



The mapping process follows four key steps; **1.** identify all the priority features that are effected by the provision or non-provision of a particular ecosystems service, **2.** map the features of the landscape that are responsible for providing that service, **3.** assess the current provision of the service to establish a baseline and question whether or not there is a mandate to improve the existing level of service and, finally step **4.** identify the parts of the catchment where action is likely to deliver the greatest improvement to that particular ecosystem service.

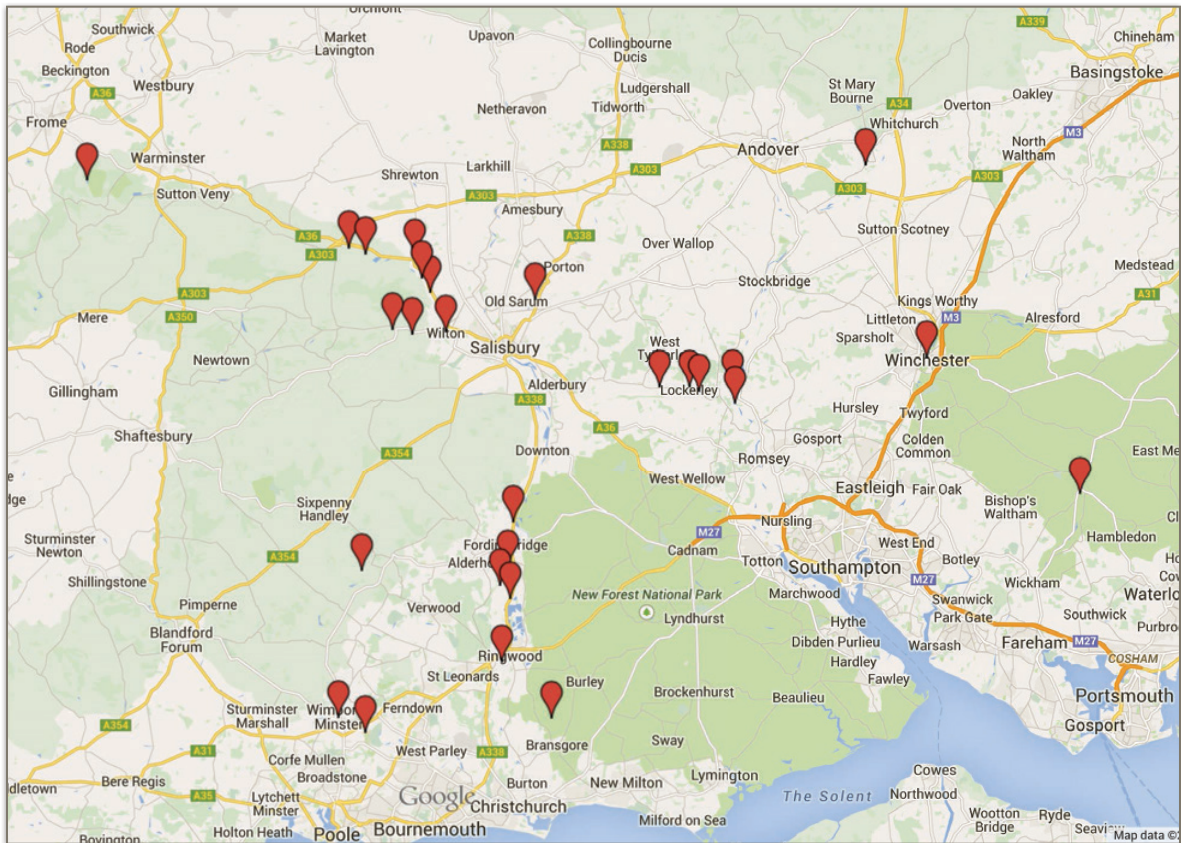
This process is repeated for each of the six services we have mapped for each catchment. The opportunity maps for individual services can then be overlaid, to produce a map (seen below in blue), which identifies the areas of the catchment where investment can be targeted to deliver the greatest amount of benefit to the widest number of services.



The 'Environmental Services Evidence Review' for the Test & Itchen catchment is available to view and download from the TICP website - www.ticp.org.uk . The map booklet is primarily a visualisation tool that we hope highlights ways in which we are all affected by the condition of our natural environment and will encourage people to work with the Catchment Partnership to agree solutions and deliver environmental improvements.

Habitat Improvement Projects

WCSRT Programme Development Officer, Dr Nick Giles, has worked on 42 projects /reports over his first 2 years in office. A snapshot of the coverage of habitat improvement projects undertaken by the Trust is shown on the map below and overleaf is a case study of works that the Trust completed on the Severals Fishery on the River Avon.



We are working in partnership with a number of organisations and landowners to deliver a range of priority projects identified in the Avon and Test and Itchen restoration strategies led by the Environment Agency and Natural England. Current projects include:

River	Location	Works	Partners
Wylfe	Longleat Estate	Habitat improvement	Landowner
Wylfe	Stapleford	Habitat improvement	SADAC / WWT
Wylfe	Wilton Estate	Butchers stream project	Wilton Fishing Club
Avon	Ibsley	Fish passage	EA / Wessex Water
Test	Upper Test	River restoration project	Landowner
Itchen	St Cross Mill	Habitat improvement	Landowner

Case Study:

River Avon, Severals Fishery, Habitat Improvement Project

Location: Westover Farm, downstream of Castleman Trail, Ringwood, Hampshire.

Installation Date: June 2013

Partners: Environment Agency, Natural England, Mr D. Goulding, Ringwood Angling Club, Barbel Society,



- Project Objectives**
- Improve habitat for juvenile Cyprinids
 - Improve instream habitat variety
 - Improve cover for all instream species to reduce the threat of predation
 - Reduce flood risk to Ringwood

Project details:

Using 5 Rivers Contracting Ltd., WCSRT excavated six new fry bays into the banks of the Avon to provide back water habitat for juvenile coarse fish.

WCSRT also installed 21 upstream facing log deflectors, keyed into the bank, to scour new pool/riffle features into the relatively uniform and open river bed. Low-growing willows were also planted at the bankside-end of all log deflectors to combat bank erosion and to add much needed in-stream cover and habitat features on the river bank.

The lower end of Bickerley Stream and two Culverts under Castleman Public footpath were cleared as part of the project, improving the conveyance of flood waters across the site and away from Ringwood town centre.

Net sampling in the summer of 2014 showed large numbers of dace, chub, minnows & other species utilising the safety of the bays and some interesting new instream features developing due to the installation of the log deflectors.



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The publication of this newsletter has been kindly sponsored by the Winchester office of Smiths Gore
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