Wessex Chalk Stream & Rivers Trust

Newsletter - Spring 2013

Chairman's Introduction:

I hope that you enjoy reading this newsletter. We have put it together to illustrate what the Wessex Chalk Stream & Rivers Trust has been doing in recent months and plans to do during 2013.

My involvement started in early 2012 when I was approached to see whether I would become a trustee and the chairman of the Trust. I am a keen fisherman, own a small farm in the Test valley and have an ongoing interest in environmental improvement and education. So I accepted with alacrity. A good decision!

I took over the reigns as chairman six months ago. With the help of Tom Davis, our director, and the other trustees, we have started to put the Trust onto a sound financial footing and at the same time to expand our activities across the Wessex catchment area. We have been greatly helped with that by the Environment Agency, who have kindly agreed to fund a Programme Development Officer for us. We have appointed Dr. Nick Giles to this role. He has made a flying start and you can read about his plans elsewhere in this newsletter.

I frequently get asked what the Trust does, which is a fair question. There are numerous environmental and fisheries bodies active within the Wessex region. The Trust's key differentiation comes from its catchment wide remit and charitable status.

Our main role is as a provider of services to people and businesses interested in the rivers and chalk streams of Wessex, whether they be land owners, farmers, fishermen or educationalists.

With our Programme Development Manager's help, we can facilitate projects ranging from in-river restoration to blue sky thinking about, for example, the reduction of agricultural run-off.

With our charitable hat on, we can access government and other funding which is not available to riparian organisations such as the Test & Itchen Association or the Wiltshire Fisheries Association.

Other important aspects of our work are advocacy on issues such as water abstraction or diffuse pollution, which affect the whole catchment area, and education through our Trout in Schools programme to teach the next generation the importance of our waterways.

George Seligman
Chairman

Director's Update

Since the last newsletter we welcomed the arrival of our new Chairman, George Seligman. Another milestone has been the appointment of Nick Giles as our full-time Programme Development Officer. His focus is on planning, managing and delivering river improvements. He is an acknowledged expert on chalkstream fisheries and their ecology and is well known to many in the Wessex region.

Since joining us Nick has got stuck in to developing a number of projects including:

Improvements to fish passage, river habitat enhancements and measures to reduce diffuse pollution in the Dun sub-catchment of the Test. Target reaches have been identified and plans are being compiled. We are in the midst of discussions with landowners and are initiating technical survey work. We hope to deliver several elements of the scheme this summer/ autumn.

A major fish passage scheme at Ibsley on the lower Avon. This project aims to facilitate passage for all species past the Ibsley weir at all river heights with a new by-pass channel.

Habitat improvements upstream of Ibsley. Various surveys have been completed so far, and design options are being examined in consultation with the owners. Both Ibsley projects are being supported by the EA Wessex office under the strategic River Avon Restoration Plan.

Backwater refuges for juvenile barbel and other coarse fish on a stretch of the lower Stour. This is being planned in conjunction with the Barbel Society and the EA with the aim of execution this summer.

In addition Nick is looking at a number of other project opportunities, including actions to assist spawning and nursery habitat on the Itchen, Test and Avon and exploration of opportunities to adopt a paid ecosystems services approach to reduce diffuse pollution.

The Christchurch Harbour net buy-out was concluded at the end of March 2012. The agreement, which is in perpetuity, is backed up by a net limitation order by the Secretary of State for the Environment. It was the result of a collaboration with key Avon and Stour riparian owners, the Environment Agency and the Avon Salmon Group and was supported by a generous contribution from the North Atlantic Salmon Fund. It marks the final cessation of legal netting for salmon and sea trout on the chalkstreams of our region.

The plight of the chalkstreams has been very much in the news recently with the S&TA's Avon Complaint, the Chalkstream Summit and most recently the draft Chalkstreams Charter, being led by Itchen riparian owner and MP George Hollingbury and Martin Salter at the Angling Trust. Chalkstreams even made a brief appearance in the House of Commons debating chamber. All of this is good to see.

One of the key themes is over abstraction. Although it is not a major issue in the upper Itchen and Test basins, it most definitely is a concern on the Meon, the upper Avon/Wylye and some of the Stour tributaries. More recently the threat of a significant increase in abstraction on the lower Test has emerged as the water company seeks to transfer the abstraction burden from sources on the lower Itchen to the lower Test. Modelling suggests a big impact on downstream flows during drier periods. Our review of the environmental report highlights the effect of this on water temperature and the implications for spawning and survival of salmon which are already on a thermal knife edge. Both the EA and Natural England are against the proposals as they stand. It seems rather like a game of robbing Peter to pay Paul, and stresses the need to look at alternatives such as the proposed reservoir at Havant Thicket. Meanwhile, working with the WFA, we continue to press for further reductions in the abstraction and out-of-catchment export of water from the upper Avon and Wylye.

Drought was very much on our minds this time last year. Goodness, how things have changed since then! However we should not let that take our minds off the need to plan for effective and timely environmental protection during drought. The statutory Drought Plans for both Wessex and Southern Water came up for revision during 2012, and we made our views known on them such as the need for earlier hose-pipe bans, metering and a more precautionary approach to chalk groundwater use.

Another key area of concern is the effect of excessive phosphate input, which results in the familiar early season algal masses on the river bed, algal blooms, reduction in water clarity and the proliferation of blanket weed. The collaborative research project at Southampton University, in which we are a partner, is now in its second year, and has already revealed some very interesting results. Of particular note are the very high levels of Phosphate on the Arle and the Itchen between Itchen Abbas and Easton. Although this study is focused on the headwaters of the Itchen and Test we believe that its findings will be of value broadly across the rivers of our region.

Things seem to be moving with respect to the problems at Alresford Pond and the upper Itchen. Working with the Hampshire Wildlife Trust, we presented the case for adopting a holistic and proactive strategy. It was our hope that this would help support those working at the coal-face in the EA and Natural England in their efforts to secure commitment and resources to characterising and addressing the underlying issues. We also thought it would help other parties to identify the contribution that they could make. Various surveys have since been completed through the upper Itchen Initiative. One of the emerging themes is that Alresford Pond may over the years have acted as a buffer protecting the river downstream from the effects of effluents from cress operations, fish farming and sewage, but that buffer capacity has now been exceeded, resulting in deteriorations downstream. We welcome actions taken by Alresford Salads to reduce the chlorine used in salad washing and look forward to its complete cessation shortly.

Our Trout in Schools programme is running in five locations in Wiltshire and Hampshire this winter, thanks to the efforts of our education officer, Pete Reading. We have recently joined forces with the Wild Trout Trust to offer a similar scheme, Mayfly in the Classroom, alongside it, offering a different timeframe and season. Initially the focus of this will be in Hampshire.

We continue participation on the River Basin Liaison Panels in both the South East and South West Regions. We are also closely involved with the implementation of the River Avon Restoration Plan, and Jon Bass chairs the Project Board. We continue our involvement in the development of the Test and Itchen Restoration Strategy and we have also been a partner in establishment of a Catchment Group in the Test and Itchen basins to oversee delivery of river improvements there.

During the past year Debbie Tann and Robin Lalonde stepped down as trustees. We are extremely grateful for their valuable help and insight in the formative stages of the Trust. In addition to our chairman we have welcomed four other trustees to the Board. Zam Baring is a documentary film maker by profession, whose family owns an estate on the headwaters of the Itchen. Clay Brendish's professional background is in the software industry, as an entrepreneur and industry captain. He owns a stretch of the Test and is chairman of the Test and Itchen Association. Paddy Douglas-Pennant returns to the Trust having been a Trustee at the time of its naissance. He is a retired accountant and is chairman of the Wiltshire Fishery Association.

Continued Overleaf

Director's Update Continued

Rod Parker is an agricultural economist with a background working with the fertilizer and pesticide industries.

We also welcomed Trish Durrant, who joined us on a part-time basis to assist with administrative matters. She is familiar with river matters as her husband runs a fishery on the lower Test.

We have a busy year ahead in which our key priorities are:

1) Fundraising and building our supportership base
2) Delivery of river improvement actions through our project work
3) Continued constructive advocacy to ensure the protection and improvement of our rivers
4) Improving our communications

Thank you for your ongoing support.

Tom Davis

Salmon Roundup

Rod catches of salmon on the Test and Itchen in 2012 were slightly up on the previous year despite marginally lower validated counter figures. The Lower Itchen Fishery reported its second highest catch on record, while at Broadlands on the Test catch numbers continue to recover steadily. Interestingly fish were caught higher up the river than they have for some years: as far up as Leckford - possibly a reflection of the very high summer flows.

While the validated counter numbers remained reasonably constant on the Avon, relative to recent years, rod catches were well down. This was probably due to difficult fishing conditions and consequent reduced fishing effort.

Meanwhile, Dr Anton Ibbertson of the Game and Wildlife Conservation Trust has warned that the drought of 2011 and consequent reduction in habitat caused a much reduced smolt run in 2012 on the Frome. This was compounded by extreme flooding in 2012 and he anticipates reduced returns of adult salmon through to 2015. It is possible that similar effects have occurred on other rivers in the south and south west.

	2012 counter	2012 rod catch	2011 counter	2011 rod catch	2010 counter	2010 rod catch	2009 counter	2009 rod catch	2008 counter	2008 rod catch
Avon	762	64	784	138	609	42	743	72	810	67
Test	949	297	980	208	833	225	903	185	1487	424
Itchen	650	359	697	297	757	361	(276)	205	609	282

Salmon Smolt & Parr Project

Following recent alarm bells from The Game & Wildlife Conservation Trust's Dr Anton Ibbotson regarding low River Frome salmon smolt and parr numbers and the potential for similarly low salmon stocks in other southern rivers, an initiative has been developed by WCSRT and the Environment Agency's fisheries technical specialist, Chris Gardner.

The work, which is well underway, has surveyed salmon spawning and nursery habitat areas on various areas of the Rivers Nadder, Wylye and Avon, recording aspects of habitat quality and the potential for habitat improvement to boost ova incubation success and parr survival.

It is hoped that the first habitat improvement projects will be implemented this year.

Photos: Nick Giles

In Hot Water?

Climate change is very much in the forefront of conservationists' minds at present. Should we throw up our hands and abandon all hope of controlling the consequences of a process delivered at a global scale? We at the WCSRT don't think so. Familiar and iconic species favoured by our present climate are under threat. Salmon are considered to be at risk of extinction in southern rivers, stressed by rising temperatures with a northward shift in marine feeding areas and changes to their natural food supplies. There is also the suggestion of increased storm frequency, delivering more fine sediment run-off into rivers.

Can we modify river temperatures? Good historical records covering many decades are available for air temperature, but not river temperature. Uncertain predictions suggest our local chalk streams and rivers will become 2-3 degrees warmer in the next 50-100 years. The development of relatively cheap and reliable temperature-logging devices, capable of storing thousands of downloadable measurements, can now reveal the extent to which bank side tree-shading and channel orientation to direct sunlight modifies the daily rise and fall in river temperature, influenced by water depth, width and turbulence. So the influence of tree-shading is currently being investigated to guide future river restoration options and also confirmation is required on research by Wessex Water showing the stabilising influence of 10°C groundwater entering the river is not as extensive as one might anticipate. WCSRT is expanding its water temperature logging and collaborating on these and related topics with the Environment Agency, Wessex Water, Southampton University and Forest Research.

Currently, the WCSRT temperature loggers are installed at sites which offer scope to demonstrate how local factors modify the water temperature. This complements data from long-term monitoring sites maintained by other organisations and together we will establish where and how we can sustainably manage our river temperatures in the future. Each temperature logger costs around £70 and, inevitably, a few are lost during major floods, so please consider sponsoring a new WCSRT logger (cheque with covering note to 'WCSRT' – address in this Newsletter. Thanks).

Jon Bass

Saving Ratty

As a carefree teenager wandering Somerset trout streams, I thought nothing of seeing dozens of water voles scuttling for cover into their burrows. It's not like that now, by the end of the 20th Century, water vole site loss in Britain was estimated at 94%. The species, once common and widespread, is now far rarer and has fragmented populations throughout much of the British Isles. In 2008 water voles were afforded full protection in England and Wales by DEFRA through inclusion on schedule 5 of the Wildlife and Countryside Act 1981. Both voles and their habitats are included in this legal protection.

The principal reasons for the sharp water vole population decline during the last Century appear to be a combination of habitat damage or loss and predation by mink. Mink pose a serious threat because they are amphibious and can penetrate vole burrow systems (otters are too big to hunt underground tunnels and stoats and weasels may not like getting their feet wet).

Water voles are rat-sized, but have darker fur, a chubby face, rounder body and shorter tails. Both rats and water voles often swim.

Good water vole habitat is the rushy margins of rivers, streams, ditches and other wetlands. Food is comprised of grasses, rushes, sedges, reed and herbaceous plants: a dense vegetated waterside fringe (not necessarily a tall one) is water vole heaven. They need a lot of food – up to 80% body weight is eaten daily! Much of a vole's life is spent sitting up on its hind legs and choosily munching away on the most select sections of leaves & stems available on any given day.

Much of the discarded material bears characteristic bite marks, aiding vole survey.

Current speeds are generally (but not exclusively) relatively low and banks need to be suitable for excavation into burrow systems, although these voles will also build nest complexes in deep cover above ground. Runways are usually within a metre or two of water and flattened 'platforms' occur on the bank where voles routinely climb in and out of the water.

Photo: Tom Davis

Tunnels can be above or below water level and lead to chambers where voles breed in nests, sleep and generally pass the time of day.

With extensive flooding, such as that experienced on our rivers at the time of writing (January 2013), water voles must be facing serious problems – presumably seeking sanctuary on any higher ground which affords enough cover to protect them from the combined risks of winter elements and increased exposure to predation. Mortality must be high during winters like this one.

Water vole society is comprised of a mosaic of exclusive breeding territories defended by females which have latrines scent-marking boundaries. Males lead a happy-go-lucky promiscuous life, visiting females in breeding condition and may roam for hundreds of metres through their larger defended territories. As populations increase through breeding, youngsters disperse to try and colonise any available unoccupied habitat – a tough task along many managed rivers and streams.

The species is short-lived (very few survive more than two winters), females produce between one to five litters of young each summer and each litter may have six young: given the chance, water vole populations are very productive and resilient.

How can we give them this chance?

Water vole predators include fox, otter, stoat, weasel, brown rat, golden eagle, owls, herons, grass snakes, pike and, of course North American mink. The vole's amphibious, burrowing, part-nocturnal lifestyle means that, of all these dangers, only mink are able to turf whole colonies out of existence; and this they often do.

As a Rivers Trust, we have an excellent opportunity to help promote water vole conservation via riparian owners and river keepers through the combined provision of good habitat and humane mink control.

Continued Overleaf

Saving Ratty - Continued

We can also provide useful advice to water managers on the legal status of species and what needs to be done to allow habitat management / improvement projects to take place where protected species such as water voles may occur.

It is worth noting that good water vole habitat – a well vegetated river margin - also helps to prevent bank erosion and provides important insect food and marginal cover for trout and grayling, amongst other wildlife.

WCSRT is keen to promote and support active conservation projects for species such as the water vole: better and more extensive habitat + effective mink control = a potential widespread water vole recovery on our lowland river and wetland systems.

Nick Giles

The Nitrate Time Bomb

Photo: Paul Murphy (Teagasc)

For more than 40 years the steady continuous rise in nitrate concentration in chalk groundwater was recognised but not addressed. In Wessex this nitrate is mainly derived from fertiliser application to tilled land with transfer to groundwater delayed by the slow travel-time through the underlying chalk. The signatures of atomic-test contaminants showed the delay in re-emerging water can be typically 20-30 years. Unlike phosphate, there is virtually no retention or breakdown of nitrate in the chalk before the increasingly enriched groundwater re-emerges from springs and boreholes.

Whilst nitrate concentrations remained well below the limits permitted for safe drinking water there was little pressure to address the problem throughout SW England. In eastern England, where chalk groundwater was contaminated at a faster rate, nitrate concentration in borehole water and fenland rivers rose more rapidly. Many important sources of groundwater became unusable for drinking water except where there was scope for blending with less contaminated water nearby. Unlike phosphate, the costs of nitrate-stripping make this technology uneconomic for the present.

There has been a belated push to designate Nitrate Sensitive Zones and operate reduced and well-managed nitrate inputs. Neither provides a 'quick fix', but static or even declining nitrate concentrations have recently been recorded at some boreholes, possibly associated with lower fertiliser applications in response to rising costs. However, national studies suggest the much smaller airborne nitrate contamination is sufficient to reduce biodiversity across the UK's wider landscape. So we see handicapped rivers, as well as the prospect of higher costs for our drinking water, mainly driven by the legacy of applied quick-release nitrate.

Where highly organic river sediment deposits lack dissolved oxygen there is now encouraging evidence of nitrate breaking down to release inert nitrogen gas. The down-side is the release of associated and more toxic ammonia and nitrite. Fortunately, the latter are oxidised relatively quickly once released into the open water, but perhaps they are contributing to the high death rates seen in the eggs of salmon and trout, particularly when spawning redds trap fine sediment after storm events. WCSRT will support all effective measures that deliver real benefits to our rivers, e.g., via the Catchment Sensitive Farming initiative.

Jon Bass

Cormorant diet

A recent (2012) CEFAS/Environment Agency study of tagged salmon smolt survival on the lower Hampshire Avon recorded severe mortality - nearly 90% - for migrating juvenile salmon en route for Christchurch harbour and the North Atlantic. The lower Avon differs from other chalk streams in having long, relatively slow sections between Salisbury and the sea where a variety of environmental factors may be negatively influencing smolt survival.

These factors include potentially predatory coarse fish stocks (pike, perch, chub) and fish-eating birds such as heron and cormorants. A joint plan between WCSRT and the Environment Agency hopes to increase knowledge of predator diet via the collection and analysis of cormorant food pellets which are regurgitated by birds at their night time roosts.

The first step in this process is to obtain monthly samples of cormorant pellets from a range of roosts along the lower Avon valley and subsequently to analyse them for content. It may be that most cormorants are feeding at inshore marine locations, or on local gravel pits and other lakes, rather than on the lower Avon. The results of the study will shed light on this question and seek to establish whether salmon smolt remains turn up in pellets during the spring time smolt run.

Nick Giles

COARSE FISHERY BOOSTS FOR DORSET STOUR

Historically, the lower Dorset Stour has been impacted by a combination of serial impoundments and deep-dredged river sections, often leaving fish with few places to spawn or to survive in sheltered habitats as juveniles.

The Trust is working with Trustee Peter Reading, The Environment Agency Blandford Team, The Barbel Society and Christchurch Angling Club to develop a coarse fish production project on the Dorset Stour at Wimborne.

We hope, in 2013, to excavate a new fish fry shelter bay along 50 metres of bank, linked to the river via under ground pipes and, at the same time, to raise a section of low-lying bank to improve angler access in the process.

Further back in the riparian meadow a wildlife wet scrape will be built to encourage site use by a wide range of wildlife, including dragonflies, amphibians and birds.

Key fish species which we hope will find shelter in the new fry bay will include roach, chub, dace, perch and probably barbel, too.

It is our intention that this small-scale project will lead to many others, combining to create a series of sheltered habitat zones for coarse fish, thereby enhancing the sustainability of the important coarse fisheries of the Dorset Stour.

Nick Giles

Photo & Fish Courtesy of Graham Rawson www.wildflies.com

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 corridors and catchments of the Wessex region.

OUR VISION is of healthy rivers which are valued and nurtured by the community and which exhibit:

- Sustainable and naturally abundant wildlife
- High water quality and sustained natural flows
- Fully functioning ecosystems which link the rivers with their valleys
- Resilience to climate change and future stresses associated with social and economic development

CHALLENGES such as pressure from agricultural, aquaculture, transport and housing development in the region have placed significant strain on the river environment over the last half-century or so. River channels have become degraded through dredging for agricultural 'improvement' and engineering for flood management. Flows have been impacted by abstraction for public water supply. Water quality continues to be impacted by agricultural run-off, pesticides, discharges from watercress beds, fish farms, sewerage systems, and septic tanks. Spawning gravels continue to be affected by siltation. Aquatic fly life has seriously declined. The numbers of salmon running to spawn are gravely depleted. Native Crayfish have been virtually wiped out and non-native species are threatening the integrity of the habitat.

HELPING US If you are as concerned as we are about the rivers of our region and you would like to assist us either financially, by volunteering to help or simply by becoming a Supporter of the Trust, please get in contact with us.

Wessex Chalk Stream & Rivers Trust

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