TALE VALLEY TRUST NEWSLETTER

www.talevalley.com

Tale Valley Trust

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BEAVERS ON THE RIVER OTTER

For a while there have been European beavers living wild in the Otter Valley and visiting the Tale Valley. Nearly 2 decades of TVT conservation work has prepared the way to welcome back this keystone species, and we look forward to their help in coppicing overgrowth and managing riverbank habitat. The Tale Valley Trust endorses the beaver project and is pleased to include the following from Devon Wildlife Trust -
It's now been a little over a year since Devon Wildlife Trust and the River Otter Beaver Trial partners released beavers back into the river Otter.

Five adult beavers were trapped in 2015 by the Animal and Plant Health Agency (Defra) and subsequently tested by a veterinary team from the Royal Zoological Society of Scotland. Before release we needed to ensure they were free from any disease which may pose a threat to people, livestock and wildlife. They all passed with flying colours!

Their first season on the river saw one female give birth to three kits. This year a different female has given birth to five kits! This is thought to be the maximum number possible; the river Otter certainly suits the beavers very well. There are currently two breeding pairs and their family offspring including a number of unpaired adults.

Adult beavers with a willow branch

Tale Valley Trust, Sarah Hogg, Yellands Farm, Whimple, Exeter, Devon, EX5 2QX
Telephone: 01404 822 886 Email: sarah@Yellandsfarm.co.uk

Whilst the beavers were held in captivity DNA testing was also carried out. Its first purpose was to confirm that these were indeed Eurasian beavers. We also wanted to explore the family connections and their interrelatedness. The evidence pointed strongly to the river Otter beavers being very closely related. If these animals are to be a founding population, which will be determined at the end of the five year trial, we needed to increase the genetic diversity as soon as possible. Simple in theory, but practice is much more challenging!

Firstly a licence needed to be secured from Natural England and with it all the supporting evidence and methods we would employ. We then needed to find a site where the beavers could be safely released, where neighbouring landowner support had been secured – just dropping them off in the river wasn't an option! Our first choice was so suitable that an existing pair in the river soon took up residence. As beavers are highly territorial we quickly needed a plan B. After much searching the perfect site was found – a series of ponds close to the river. Artificial lodges were constructed including bedding from their previous lodge to allow for a 'soft release' - along with infra-red CCTV to enable us to keep watch! Then we needed to secure a healthy UK bred pair of beavers which were unrelated. One beaver was sourced from our 3 hectare fenced trial area in north Devon and another from a private zoological collection. The release occurred in May 2016 and early signs are very encouraging. The beavers have stayed together on site and are slowly engineering their local environment and making forays into the river. This is being closely studied by the University of Exeter who are exploring the effects beavers have on water levels and also water quality.

The beavers on the river are generating huge interest with people travelling from far afield to catch a glimpse. If you are tempted to see them on the river please stay on public footpaths and keep any dogs under close control. Please send any records with notes of any distinguishing features (7 beavers have coloured ear tags) to beavers@devonwildlifetrust.org

The River Otter Beaver Trial is led by Devon Wildlife Trust working in partnership with The University of Exeter, Derek Gow Consultancy, and Clinton Devon Estates. Expert independent advice is also provided by the Royal Zoological Society of Scotland, Professor John Gurnell, and Gerhard Schwab, an international beaver expert based in Bavaria.

To become a DWT supporter or donate to our beaver appeal visit www.devonwildlifetrust.org

Beaver watch group at dusk, Escot Park

HIMALAYAN BALSAM ON THE TALE

2016 is the 11th year of balsam clearance on the Tale. All our volunteers past and present should be proud of their achievements. Through their efforts the river corridor no longer has an infestation of this invasive plant. Inevitably vigilance must be maintained and complacency is not an option, but with six or more volunteers, seven miles of the main river from Danes Mill to the confluence at Ottery is comfortably achievable in under seven hours.

Our second day, at the end of July was dry and sunny. Volunteers included riparian owners, valley residents, and even a lady from Leeds – a press-ganged house guest?! We split into two pairs and a trio, some working upstream and others downstream. Apart from one hidden stand of plants discovered in the corner of a paddock, out of the main river, we probably pulled less than 200 plants between us over the whole seven miles. Remarkable!

Explosive seed pods can disperse up to 800 seeds per plant

The privilege and pleasure of journeying the river in this way is immense. There are very few riverside public footpaths in the Tale Valley. The river was teaming with fish and insect life, with several sightings of kingfishers, dippers, mallard and grey heron. The banks and field margins were alive with an assortment of small birds, and overhead buzzards were wheeling on the thermals. When you focus on finding balsam, finding signs of otters or water voles is not automatic as you can quickly start missing the plants. However a survey in late Spring by Mervyn Newman confirmed healthy populations of both. We did in addition spot evidence of beaver.

Beyond the Tale – balsam on the river Otter

At one point a roe buck took umbrage at invasion of his territory and had a good bark at the wader clad intruder – much to her delight. (Not too many deer in the middle of Leeds)! The river has a number of rough pastures and wetlands along its length, which in July sunshine are a sight to behold. The rich variety of plant life hosts an equally rich variety of insect life – in casual observation we saw red admiral, peacock, meadow brown, cabbage white, comma and painted lady butterflies.

It is not often that a necessary task is so rewarding but it certainly helps when cajoling new volunteers. Long may the enthusiasm for the river and its valley continue.

It should not be forgotten that it is through the support of the farming community, and their awareness of the importance of good water quality and habitat to the biodiversity of the valley, as well as allowing volunteer access through their land, that has enabled these projects to flourish.

And from a volunteer's perspective -
I've been volunteering for a few years now with the Tale Valley Trust, pulling Himalayan balsam from the River Tale in the summer months. We walk the River, wearing waders that are supplied. It is really noticeable how little Balsam there is in the River itself. Unfortunately, we have found a few horrendous patches just back from the River. I can appreciate that we shall always need to pull Balsam from the River, even though we see so little, as it would readily re-gain ground. Seven miles of the river is searched in one day now, monthly from June to September.

This year, I have also volunteered a couple of times with the Otter Valley Association. There is a big difference in detail, though not in approach. Himalayan balsam is so prolific in the River Otter that there are not sufficient numbers of volunteers to clear it all in the summer- so they are concentrating on the tributaries and ditches. Here we are not up to our knees in water - only ankle deep, so wellies will do. There is so much Balsam that I found that on the first day, fellow volunteers preferred to ignore or not search for the seedlings, concentrating instead on the fully grown plants to pull. My view is that every plant needs to be pulled to prevent future problems. On my second day, a concerted effort was made on boggy land. To look at the field initially was disheartening, but by the time I left, real inroads were being made. I do wonder at the big heaps left behind – they are all on wet ground, and it is likely that there will be growth of Balsam from these areas.

The aim, I think, is to have groups of volunteers dedicated to certain areas, but so far there are not enough of us. A point of annoyance was that a landowner had requested the Balsam to be cleared by the OVA, but with no input. I feel that landowners who do benefit when their land is clear of Balsam should contribute either by helping out and/or with provision towards equipment. With the OVA volunteers are all retired, whereas the TVT actively encourages all ages.

- Mo

MESSING ABOUT ON THE RIVER

Organising any outdoor event in our great British summer is always a gamble. 2014 was fine, picnicking weather, - 2015 was actually rained off and had to be cancelled. For 2016 the day started overcast but warm & still. Sadly by noon the wind had got up & chilling rain began dampening proceedings. The idea of the day is to get wet, and even muddy – but only if you can sit on the grass and dry off whilst enjoying the barbecue and an ice cream.

What is reliable is the wonderful support the event receives from like-minded organisations – notably the West Country Rivers Trust, (www.wrt.org.uk) Devon Wildlife Trust, (www.devonwildlifetrust.org), Devon Mammal Group, (www.devonmammalgroup.org), and this year special thanks go to the Escot Wildwood Trust (www.escot.wildwoodtrust.org) who sponsored most of the overheads of the event.

Nearly 120 people ventured down to the river. Activities included beaver dam building, gold panning, model raft building & sailing, and of course kick sampling for critters -

Annabel from WRT wrote: *Over the course of the day, several families spent time in the river kick-sampling and discovering the breadth of the aquatic life, even in a relatively short stretch. After a few minutes of sampling and sweeping with the nets, the haul was brought back to the trays so that we could all have a proper look. Fish species included: bullhead, minnow, stickleback, stone loach, and a couple of eels. Lots of different invertebrates were caught: Mayfly nymphs, caddisfly and midge larva, a leech, snails, freshwater shrimp, and two rather large and menacing dragonfly larvae (probably Broad-bodied Chasers).*

The enthusiasm and interest shown by the children was particularly rewarding. (One particularly enthusiastic 4-year-old refused to get out of the river, despite the near onset of hypothermia!). At WRT we feel very strongly that encouraging young people to find out about their local river and its occupants will encourage a passion for protecting that river, even potentially sparking a life-long interest. The choices that we all make every day can have an effect on the health of local watercourses, so the more we understand those impacts, the better the chance that we will make sympathetic choices. Events such as Messing About on the River offer a lot of fun for local families, and the opportunity to better understand the weird and wonderful aquatic world. Catch you in 2017!

'Beaver dam' building on the Tale

THE RIVER TALE WATER QUALITY MONITORING PROJECT

The river Tale plays an important role for everyone who lives in and around the Tale Valley. Through time the river has carved into the landscape to create the stunning valley we see today and remains a great source of pride for the valley's communities and a critical resource for its wildlife.

However, the Tale is not without its problems…

Over many years of water quality sampling, the Environment Agency has flagged up unusually high levels of pollutants (e.g. nitrates and phosphates) in the Tale.

In light of this, the Westcountry Rivers Trust teamed up with the Tale Valley Trust to improve understanding of water quality in the catchment.

As part of the Water Quality Monitoring Project, we monitored 15 sampling points throughout the Tale and its tributaries. The Environment Agency monitoring point is found just upstream of the river Tale's confluence with the main river Otter but, with multiple samples dividing the Tale into more manageable areas, this helped us to answer the question:

'Is water quality an issue throughout the river Tale and its tributaries, or are certain areas contributing more to high pollution levels than others?'

From this, we can start to identify key pollution source areas within the Tale catchment, where further work can be targeted. Where should we carry out future

monitoring, investigations, land owner advice and interventions, to make the most improvements to water quality in the Tale?

Between December 2015 and April 2016, we carried out 6 surveys during which we took water quality measurements at each of our sampling points using hand-held monitoring equipment. This repeated spot sampling technique showed not only how water quality changes through the catchment, but also through seasonal changes. Variations in weather and land use throughout the year can make a huge difference to where pollution can be found in our rivers, and yet…

High levels of pollution were found consistently at four sites of the Tale monitoring sites: Lashbrook, Payhembury Stream at Milton, Clapperentale at Escot, and Talewater.

A novel approach to visualising the data was developed for the river Tale Monitoring Project by the Westcountry Rivers Trust. Often the complexity of monitoring data makes it difficult to interpret and communicate effectively but the 'scorecard' approach we have taken highlights how often the monitoring results for each site exceeded the median value across the catchment. Each site has been given a score from 1-15 depending on how it compares to the other sites, with 1 assigned to the least polluted and 15 to the most polluted for each of the water quality measurements focused on during our monitoring:

- General water quality – indicated by conductivity
- Phosphate – found in treated sewage effluent, farm run-off and domestic sewage
- Suspended sediment – sediment that is carried by a river causing brown, cloudy appearance
- Tryptophan – associated with silage liquor, cattle and pig slurries and human sewage

The overall score gives the average of these scores.

Site No.	River and site name	General WQ	Sediment	Phosphate	Tryptophan	OVERALL
10	Lashbrook @ Lashbrook	12	12	14	14	13.0
7	Payhembury Stream @ Milton	15	11	13	12	12.8
12	Clapperentale @ Escot	13	10	11	15	12.3
8	Talewater @ Talewater	14	6	15	13	12.0
11	Tale @ Escot	11	7	12	7	9.3
9	Tale @ Talewater	8	8	9	9	8.5
13	Tale @ Taleford	7	13	6	8	8.5
14	Tale @ Cadhay Bridge	5	15	2	11	8.3
5	Luton Stream @ Luton Bridge	10	4	7	10	7.8
2	Tale @ Colliton Bridge	2	14	3	4	5.8
6	Tale @ Tuck Mill	6	3	8	5	5.5
15	Otter @ Cadhay Bridge	4	5	10	2	5.3
4	Tale @ Danes Mill	3	2	5	6	4.0
1	Tale @ Broadhembury	9	1	4	1	3.8
3	Tale @ Colliton Moor	1	9	1	3	3.5

Westcountry Rivers Trust

Maps also help us to show the variations in each of the measurements across the catchment. The colour of each section of the river is coloured according to the nearest downstream monitoring point as this is the stretch of river that influences the water quality at that point.
In the Tale catchment, further attention is needed to understand why some stretches of the river are being particularly affected by certain forms of pollution and how this can be managed. However, it is the Lashbrook, Payhembury Stream, Clapperentale and Talewater that should be prioritized in further investigations, farm visits, interventions and discussions. This will help us to work towards resolving the pollution issues in the River Tale.

RIVERFLY TRAINING ON THE TALE

In September 2016 the Westcountry Rivers Trust ran a training workshop on the River Tale at Escot Park based on the "Riverfly" concept. This was on behalf of the River Otter Association's anglers that have an aspiration to make a difference.

This is citizen science really working for the good of the river, It's all about anglers and river custodians training to monitor the water quality of the river to help identity pollution incidents.

The process is a simple concept but does require some accredited training to assure data quality and recognition as a valid monitoring method. The citizen scientists learn to identify eight groups of invertebrates (the most commonly occurring species), such as caddis fly larva, mayfly nymphs and freshwater shrimps. They then set up a monitoring site and undertake a timed kick sample to record the abundance and presence of these invertebrates.

This data gives a regular snap shot of the health of the river as the aquatic species are susceptible to changes in water quality. The process is recognised nationally by the Environment Agency (EA) and fed into an online data base where the volunteer anglers can then notify the EA when an unusual recording is taken. Each site would have a "trigger" level which would mean further investigation is required.

This truly is partnership working, those who care about the river making a difference and long may it continue.

For more Information on the River concept see http://www.riverflies.org/ and to get involved on your catchment see:

http://wrt.org.uk/

Scott West
Fisheries Scientist
Westcountry Rivers Trust

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UPSTREAM THINKING PROJECT

Soil Aerator

I have recently started a new role with the Devon Wildlife Trust working in the wider Otter Valley on the Upstream Thinking project. I have been so impressed with the work of the TVT and grateful for the welcome you have offered me. I am born and bred Devonian and would like to think I know the County fairly well but the knowledge, time and welcome offered by the Trust has been invaluable and is something I am very appreciative of. I am sure there are parts of the Tale I would have never found if I had not been invited to join the Himalayan Balsam pulling this summer for example. It has been a real privilege and has been invaluable for the work of the project that myself and Yog Watkins from the West Country Rivers Trust deliver.

So what does the Upstream Thinking (UST) project mean for the River Tale and the wider Otter catchment, its wildlife and the water abstracted for homes and businesses? Drinking water from the Otter is abstracted by South West Water (SWW) via a series of boreholes in the lower catchment, before treatment at one of three Water Treatment Works: Dotton, Ottery St Mary or Kersbrook. The catchment is an important water source for SWW; hence the Tale and the Otter's selection as part of the Upstream Thinking project and SWW funding.

Upstream Thinking takes a land management approach to solving the problems affecting the quality of water in our rivers. Unwanted soil, silt, pesticides and animal waste in rivers increase the cost of water treatment. I know this is work all very familiar to the Tale Valley Trust

Myself and Yog offer free services to landowners in the Tale and wider Otter catchment, including advisory farm visits, soil tests, production of Integrated Farm Management Plans and assistance with applications for both Agri-environment funding and our own UST grant fund. Currently lots of farms and landowners are taking up the offer of using our Soil Aerator for free to reduce compaction enabling increased yields and reducing farmland run off.

This is vital and essential work and anything Tale Trust members can do to spread the word we would be most grateful for.

For more information please contact myself David Rolls (on 07976 513132 / drolls@devonwildlifetrust.org) or Yog Watkins (on 07854 145896 / yog@wrt.org.uk).

And finally, many, many thanks TVT for all of your amazing efforts.

TALE VALLEY LICHENS - *Devon Lichen Group Meeting January 2016*

A list of 120 lichens and lichenicolous fungi were recorded in Escot Park including 3 nationally rare (NR), 15 nationally scarce (NS), 7 of international responsibility (IR), 2 priority (P) 1 endangered species (E) and 1 new record for England. This is an impressive list for a small park.

Importance of Parklands

Well-lit mature trees in open, grazed, situations are very important habitats, especially if the environment has remained relatively unchanged for centuries. Different lichens have individual requirements and ancient trees in open situations have a distinctive flora. Some lichens will only grow on unpolluted bark which is over about 300 years old. The past effects of acid rain over vast swathes of the UK restricted the area where many lichens could thrive even if ancient trees exist. Some of the species on ancient bark have the conservation category international responsibility because the UK has more ancient trees than any other European country. Six in this group were found at Escot.

Above. Looking at lichens on fallen twigs by the lake.

Right. The eagle's claw lichen (EN NS P).

This is one of the most important lichens found at Escot. It requires full sun.

Above. Ash with the eagles claw lichen, Anaptychia ciliata, growing on the trunk.

A hawthorn is growing from the base of a nearby mature ash. It is acting as a scrubber when wind blows the branches against the ash trunk and restricts the amount of light reaching the bark.

The opportunist 'weed' lichens can usually be found on twigs. They require high light intensity and their life span may not be long. Some at Escot were infected by scarce fungi which can be specific to one species of lichen. Fleas on fleas! These lichenicolous fungi can be another indication of a good site.

Lichens get their nutrients from whatever is in the air which is why they were so affected by acidity from industry. Nutrient enrichment is most likely to alter a lichen flora in the 21st century. Branch ends are affected by local changes in air quality before a trunk which is sheltered by the canopy and twig species have been used as indicators like canaries down the mine.

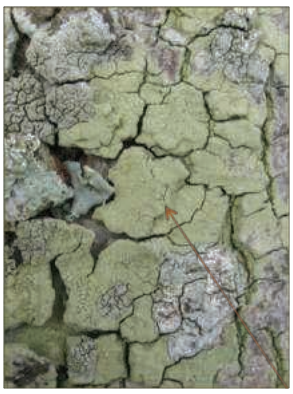
Lichens like light and many invertebrates need the warmth provided by full sun. Ivy will keep bark damp and shaded to the detriment of both lichens and many insects. Grazing animals will keep ivy from shading and cooling trees. Ivy is a valuable food source but as a common invasive

species it needs to be kept in appropriate places. A tree in the park where ivy could be restricted for the benefit of the lichen flora is beside the bridge in the picture below. This was the only site for Thelopsis rubella which is one of the species indicating ecological continuity.

Oak at SY08194 98337 with Opegrapha prosodea (NT NS P IR) and Lecanactis lyncea (IR) growing in dry under-hangs on the trunk.

Oak by the footpath track which is host to the mainly eastern lichen Pertusaria flavida (detail below left). Although not nationally scarce, Pertusaria flavida is not common in Devon. It requires well-lit basic bark of ash or sycamore or usually acidic barked trees receiving basic dust. There are only three recent county records.

An apparent new arrival in the UK, Parmotrema pseudoreticulatum (detail below right,) is on the main trunk of the below tree and is also abundant on the oak in the picture below left. Escot provided a second county record for this lichen which so far has been mainly found in Scotland but appears to be increasing.



This leaning tree (above) in the wetland area provided many of the scarce lichenicolous fungi at Escot including Lichenoconium lichenicola (NR) which was found on the common lichen Physcia tenella. L. lichenicola has been found in Scotland but this is the first English record.

Right. A young Brussels Lace caterpillar camouflaged on Physcia tenella on a twig in the wetlands.

The Thackeray oak

Above. Lecanographa lyncea

There appear to be two especially ancient oaks on the park. Lecanographa lyncea (IR) and Opegrapha prosodea (NT NS P IR) are on both but L. lyncea is also well developed on several other ancient trees. Schismatomma niveum (IR) was also seen on this tree. These lichens will only grow on ancient dry bark often in under-hangs sheltered from rain.

The new orchard will provide shelter from nutrients drifting from the adjacent arable fields.

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Tale Valley Trust was selected as one of 4 finalists in the 2015 Living Waterways Awards, (Natural Environment Category) and invited to London. The Trust came home with a Commendation. The winner was The Inland Waterways Association (IWA) Himalayan Balsam Campaign.