

4. Biobeads and Nurdles

Littering the beach and the mouth of the river are thousands of tiny, mainly black and blue, plastic pellets. The Heritage Coast Centre (HCC) regularly organises volunteers to collect these pellets by hand, but it's a laborious and endless task. Pellets are of two sorts:

- Tiny round nurdles, used to manufacture all kinds of plastic goods. These are often washed ashore (most recently at Easter 2023 after a container load was lost at sea).
- Ridged biobeads, used in some sewage plants to help bacteria break down sewage.

What are we doing?

The HCC has been working on this problem for years and we've also been looking for a way to clean up these microplastics. (They are a serious problem for seabirds, fish and marine animals which like to eat them, cannot digest them and can die as a result.)



One of Joshua Beech's magnificent nurdle-sifting machines

We found Josh Beech – founder of the Nurdle Organisation – and invited him to Charmouth. He set up his company when he left university to clean up microplastics on Europe's beaches and built three kinds of specialist machine to do this work. He offered to help us. Because of particular problems at Charmouth, he's building a brand new machine to use here.

We then approached South West Water, talked to its managers and we're delighted that the company has agreed to fund the clean-up in full. Josh and his team will spend 4 days (24-28 January) cleaning the beach, returning two months later (10-14 March, 2024) to catch the microplastics they missed first time. Visits will coincide with Spring tides, but dates may change if a storm surge brings the chance to sweep up even more microplastics. In between, working with the Heritage Coast Centre, we will organise us a day of educational, river related events / talks, including an appearance from Misty.

What you can do: Visit www.riverchar.org for news of visit dates and come along and see the clean-up in action. To join the Lower Char Community Project or support its work – visit the website.

Look out for:

Please check details of all events at www.charvalley.org/riverchar and/or join our mailing list for details (email andrew@westhay.com)

- **Fri. 12 Jan 2024:** Social evening at Charmouth Village Hall for our volunteers and anyone interested in joining. 7-8.30pm
- **24-28 Jan 2024:** Major clean-up of microplastics at Charmouth beach/river mouth (Part 1). Come and see.
- **Thurs 25 Jan 2024** (10am-2pm) Working Party (upper river) + Nick Gray's DWT volunteers. Please join us.
- **Thurs 22 Feb** (7pm) Community Meeting at Whitchurch: work on the River Brit; Charmouth beach clean-up; geomorphology and Natural Flood Management. Please come.
- **Sat 2 March 2024** (10am-3pm): Natural Flood Management working party session on the River Char. Join us if you can
- **Sun 10 Mar** Community river day, Charmouth Village Hall.
- **10-14 March 2024:** Major clean-up of microplastics (Part 2).
- **Thurs 23 May:** A spring walk by the river in Whitchurch.
- **Thurs 4 July 2024:** A wildflower walk at Revelshay.
- **May 2025 – Charmouth Dragon River Festival.** Please help us. Contact Sandra ~ imoveintolife@gmail.com

How you can help:

- We are two community groups (one for the Upper Char and one for the Lower River) with a single, shared aim: **to clean up the river and help nature and wildlife regenerate in, on and around the river.** When funding allows, we hope to merge and become one group.
- The Upper River Group relies on support and funding (Upper River) from Ian Rees (Dorset National Landscape) and Nick Gray (Dorset Wildlife Trust) and from Char Valley Parish Council.
- The Lower River Group relies on funding it raises locally, including from Charmouth Parish Council and Wessex Water. (You can donate at www.riverchar.org)
- For more details, visit our websites below. To make sure you get details of future events, email andrew@westhay.com and ask to be added to our mailing list.



Nurdles and Biobeads in Dana's hand

CHARVOICES: The River Char Newsletter

– January 2024

We (the Upper and Lower River Char Community Projects) – working with local farmers and landowners, Dorset National Landscape (formerly Dorset AONB) and Dorset Wildlife Trust – have been busy with our mission to clean up our river. If you joined any of our events over the last year – thank you! This is what we've been doing together:

↔ **Charmouth River Dragon Festival:** We organised this extraordinary community festival last May to highlight the work we're doing on the lower reaches of the river, and on the coast, to address the related issues of flooding, sewage spills, persistent chemicals and microplastics.



Misty the Charmouth River Dragon

↔ **Public meeting in Wootton Fitzpaine:** Over 60 people came to our meeting last February, with talks on work being done with farmers in the Char Valley, the unseen impact on river life caused by dogs' flea collars and other insecticides, and the regulations on septic tanks and what happens when you sell your house.

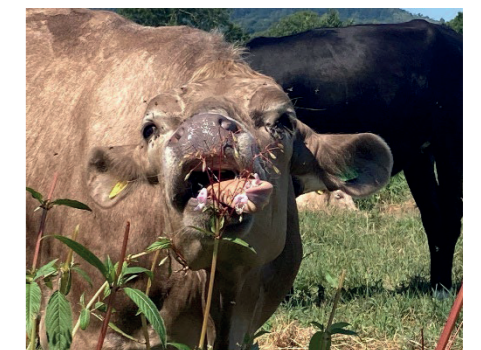
↔ **Water quality testing:** On the lower river, Julie Leah coordinates our efforts to use Riverfly kick testing and Citizen Science Investigations (CSI) to monitor river water quality. John Kenward joined us in 2023 in testing the water higher up the river. John has offered to coordinate our monitoring efforts there and we hope to find more volunteer citizen scientists. **Please let us know if you'd like to get involved.**

↔ **CROWD (Clean Rivers of West Dorset):** We organise bi-monthly meetings of the CROWD group. Held in Wootton or Charmouth, they're regularly attended by Wessex Water, the Environment Agency, our MP (Chris Loder), Dorset National Landscape and representatives of the rivers Char, Winniford, Simene, Brit, Asker, Mangerton and Bride. We are pushing for an Integrated Monitoring Strategy on our local rivers, and for nature-based solutions to help to address the region's water quality problems.

↔ **River walks to help residents get to know the river and local farms better:** Last year we held guided walks, usually led by Nick Gray (DWT) and Ian Rees (Dorset National Landscape), at Babers Farm and Louma (formerly Spence Farm).

↔ **Himalayan Balsam:** We had a working party to root out Himalayan Balsam at Stockham Bridge in July 2023, when we also discovered heifers are particularly partial to munching on freshly pulled balsam.

↔ **Daylighting and Natural Flood Management:** A working party near Shave Cross last January opened up the river canopy to let in more light (which helps plant and animal life in the river). In November we built seven new leaky dams at Babers Farm to slow the flow of the river after rain. This helps lessen sudden flooding lower down the river.



Heifer meets balsam. Photo: Dana Assinder

↔ **Working with farmers:** Where we have restored rivers, it is in partnership with landowners and farmers. Dorset National Landscape and Dorset Wildlife Trust work closely with farmers to restore river habitat, help them better understand the funding currently available to them for nature-based solutions and address those practices that have an impact on the river.

↔ **Coastal Resilience Fund:** Charmouth and Swanage have been jointly allocated around £3 million by this fund. We are in early conversations with the project managers to try to ensure that some of the money is spent on nature-based solutions alongside the river, helping to protect the vital infrastructure and housing there (including the Sewage works) from flooding as sea levels rise and weather patterns change. Concrete defences alone are not an efficient or permanent solution to extreme weather events, and are directly damaging to wildlife ecosystems.

Things to Know and Ways to Help

1. Sewage. The sewage scandal has been hitting the headlines regularly. More than 384,000 raw sewage discharges into rivers and coastal waters were reported by water companies across England and Wales in 2022, lasting 2.3 million hours. (That's 262 years!)

The River Char is not immune. During heavy rain, untreated sewage frequently spills into the sea just off Charmouth Beach and also directly into the Char. 18 months ago we visited Wessex Water's Sewage Treatment Works (STW) on Catherston Lane to ask how and why this happens.

We learnt that Charmouth's sewage system is a 'combined' one, carrying both sewage and surface water to be processed at the STW. The treated effluent then flows 1.25km out to sea in the long sea outfall pipe, where it gets diluted by sea water.

What happens when there's a storm?

Very heavy or persistent rain falling on our roofs and driveways can overwhelm our (antiquated) combined sewage system. When this happens, storm overflows operate automatically, diverting untreated, screened sewage into the river or out to sea, to prevent it from backing up into our homes.

There are three sewage overflow points in Charmouth: one at Newlands Bridge, one by Mill Bridge (200 yards west along The Street) and one at the STW itself. At Newlands Bridge and at Mill Bridge, sewage spills straight into the river. At the Works, it mixes with the treated effluent and is carried out to sea in the long sea outfall pipe. (There's debate between DEFRA, the Marine Conservation Society and Surfers Against Sewage about how big a health risk it is then).

What you can do: If you've got a septic tank/sewage treatment plant, you can help keep the river free of sewage by maintaining your tank and getting it emptied regularly. (See www.charvalley.org/sewage).

If you're on mains, look at ways to keep rainwater from your roof or driveway out of the sewage system. Wessex Water offers discounts for customers who do this. (See <https://bit.ly/home-water>)

If you see sewage in the river or in the sea at Charmouth, take photos and immediately call Wessex Water on 0345 600 4600. Give an exact location and description. Follow up with an email to them at customer.services@wessexwater.co.uk (copied to rivercharmonitoring@gmail.com)

For more on everything in this newsletter, see our recent articles in Charmouth's *Shoreline* magazine (<https://bit.ly/shorelinemag>) and our Lower Char Community project website: www.riverchar.org

These overflows happen in heavy rain about 15 times a year at Newlands Bridge, about 60 times a year from the STW, and rarely from Mill Bridge. Clearly the overflows from Newlands Bridge are worse because, here, untreated sewage and inadequately screened sewage goes into the river very close to the beach, which is why it's extremely unwise to go in the river or sea after heavy rain.



The river at sunset. Photo: Dana Assinder

What are we doing?

We have been working closely with Wessex Water to find solutions. (Of course, the company has many legal and regulatory obligations, but our efforts have probably helped!)

The news is very good:

- Wessex Water's 2025-30 Business Plan (still subject to government approval) now includes work to increase storm water storage at the STW, designed to reduce spills there from 60 to less than 10 per year.
- At Newlands Bridge, Wessex Water was due to install an improved screen in December 2023. It's also working to cut the amount of surface water from Newlands Holiday Park that gets into the system – so that spills at Newlands Bridge could soon be eliminated entirely.

This is all great news for surfers, swimmers, paddlers – whether they are finned, winged, or 2, 4, 6 or 8-legged.

2. Environmental River Monitoring

River monitoring to assess water quality is in full swing on the River Char. On the Lower River, four monitoring points are being checked regularly, two near Newlands Bridge [one of these is at the site of the storm overflow], one at the beach bridge over the Char and one down at the mouth of the river.

What are we doing?

- The West Country Rivers Trust Citizen Science initiative lets us test for turbidity, dissolved solids, ammonia, nitrates and phosphate levels. When done monthly at different points on the river, the tests give us a good idea of problems upstream, including organic compounds and chemicals entering the river from agricultural run-off or from human sewage (including from faulty septic tanks).
- The Riverfly Partnership's kick testing scheme helps us record numbers of different species of invertebrate like mayflies, caddisflies and stoneflies. When done monthly at different points on the river, the tests give us a good idea of recent pollution incidents at different points on the river.



Cased Caddis Fly larva from the River Char

What you can do: If you could make time once a month to do tests like this (you'd be given training and supplied with equipment), please get in touch with Julie Leah - rivercharmonitoring@gmail.com (lower river) or John Kenward - johnkenward@icloud.com (upper river).

Nick Gray's word of the month: **AVULSION** ~ the rapid abandonment of a river channel and the formation of a new river channel (as the Char does from time to time at the beach). Avulsion is generally discouraged by landowners, as rivers often form property boundaries. Imagine the Char, overnight, discreetly upping and flinging itself into a new watercourse.

3. Bacteriological River Monitoring

Until recently, the Environment Agency (EA) regularly measured bacteria – *E Coli* and Intestinal Enterococci – at the pool of the River Char (near the beach). 20 measurements were made from Sept 2018 to Sept 2019.

E Coli levels ranged from a low of 480/mL to a high of 18,000. They averaged 3,135 – more than three times the acceptable upper limit of 900/mL.

Intestinal Enterococci levels ranged from 27 colonies/100ml to 29,000. They averaged 2,750 – more than eight times the acceptable upper limit of 330.

Intestinal Enterococci and some strains of *E coli* are associated with urinary tract infections, gastroenteritis, diverticulitis, meningitis, colitis, Crohn's disease.

That's why we pressed for the new sign at the river mouth, warning the public against bathing, paddling or playing in the water. This was organised and paid for by Charmouth Parish Council who are fully supportive of our campaign to create a clean river and bathing areas, to reduce water consumption in our houses and increase surface water capture in our gardens.



The sign at the pool of the River Char. Photo: Dana Assinder

What are we doing?

Budget constraints mean the EA cannot re-start testing on the river (although public pressure has led to its testing the River Lim at Lyme Regis). We have asked Wessex Water to test the water in the pool at the river mouth, or support us to do so. We are also launching a campaign via CROWD (Clean Rivers of West Dorset) to get bacteriological tests re-started here and in the pool at the mouth of the River Winniford in Seatown.

If you want to help: If you have skills or knowledge in this area, please contact andrew@westhay.com