DRiPS
DARENT RIVER PRESERVATION SOCIETY

The voice of the River Darent

www.darent-drips.org.uk

No 39 Autumn 2023

Visit our New Website

DRiPS is proud to have just launched its new website to replace the tired old thing that your chairman created 10 years ago. And we have a fresh new logo (above) which captures the essence of our river - verdant foliage, the stream, fish and the geology of the Darent aquifers. Next page...



2023 has been a difficult year for rivers all over the UK. Government cuts to the Environment Agency over rhe last few years mean that this great organisation is unable to fulfil its role as guardian of our environment. Water companies employ some fine people but they are losing the trust of the nation. Come and meet our speakers at our November meeting.

Laura Trott MP meets DRiPS committee



Trevor Caman, explains to Laura Trott how the river has changed during his lifetime, and how it has about one third of the flow from his earliest memories.

Trevor has encyclopedic knowledge of the Darent having managed the river with the NRA and the Environment Agency until his retirement. He remembers the 1990s when whole sections of the river had been drying out every summer and the EA's Darent Action Plan which followed. In addition to flow issues, there are now concerns about poor water quality, with the steady accumulation of microplastics and "forever chemicals" from road and motorway runoff. We provided Laura with a briefing note ahead of the meeting and she promises to support our call for new reservoirs and better planning and building regulations that help families to save water and nourish green spaces.

Natural England and Water Neutrality

Two weeks later, the government caved in on its promises to support Natural Engalnd, declaring that the mitigation of pollution should not be the housebuilder's responsibility. We felt that landowners and the construction industry had been learning to cope with the rules and to work together. Who will now plan and enforce these measures - the EA certainly won't have the resources.

DRiPS Meeting
Wed 8th November
OTFORD
Presentations from Thames Water.
See back page

Explore the river on our new website



Jackie Imas, DRiPS secretary, has been working with Pinsah Designs to create a new website that we expect wil delight and inform. We hope its fresh, modern design will help to spread the word about the Darent's ecology and the threats it faces.
The picture shows water crowfoot (Ranunculus) which supports the larvae of Simulium black fly or reed smuts, which feed by filtering bacterial and algal matter from the water column. A healthy stand of ranunculus will house up to 200,000 of these individuals per square metre. It is this relationship between ranunculus and simulium which is responsible for helping to maintain the gin clear water that we associate with healthy chalk streams. With climate change, pollution and the growing demand for water, our work is as important as ever.

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D is for Diversity - everywhere on the Darent

Chalk streams are all different and the Darent changes every few miles. Rising in Westerham on Greensand and sandstone, it broadens into lakes at Chipstead and the Sevenoaks Wildlife Reserve and then turns north at Otford and into the chalk. Then it enters the magnificent Darent Valley, seen at its finest in Shoreham, Lullingstone and Eynsford. Then into more still-water lakes at Horton Kirby, Sutton at Hone and Brooklands. Just outside Dartford (Darent-ford?) it is joined by the Cray and they meander through brackish habitats of the marshes to meet the tidal barrier at the Thames. Sorry, we missed out the Honeypot and the Watercress streams.

In these interconnected habitats, there will always be something that likes living there, and it will be part of something's food chain. Unfortunately American crayfish, mink and mitten crabs mean that food chains aren't what they were. Perhaps the metrics by which we measure the health of the river are too simple to ensure we really understand how it all hangs together.

Climate Change and the Darent

Be it CO2, the Jetstream or El Nino, the environment is changng faster than anyone expected. We must expect longer droughts and more extreme rainfall. To cope, we need more dedicated wetlands. DRiPS feels we need to conserve every habitat on our precious river.



If you are interested in the science of soils and aquifers, geology, botany and river life, and want to help DRiPS help improve the public understanding of how all these things are joined up in nature, please get in touch by email or Facebook.

Let us together try to be the Voice of the Darent

HIMALAYAN BALSAM versus THE FUNGI

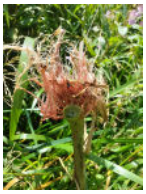
90% of plants need a fungal partner to grow well. The plant makes organic molecules by photosynthesis and supplies them to the fungus in the form of sugars or lipids, while the



fungus supplies the plant with water and mineral nutrients,



such as phosphorus, taken from the soil. Enter Himlayan Balsam, whose roots can really take over. And seed pods from one plant can explode and fling 2500 seeds 5 m away. It doesn't need any help from fungi! In fact its roots deliberately degrade fungus in the soil. Best to uproot it and crush it before the seeds ripen.



It will rot and soil will soon be bare.

But don't disturb the Great Willowherb growing nearby. It's a native plant on the Darent and one of the few species capable of recolonising the riverbank.

Nature's brilliant Infrastructure
Can it cope with our waste?

Waste is a man-made commodity. We grew up to believe that we could “throw things away” and “put it down the drain”. But now we have realised that there is no place called “away” and the drains are connected to the sea, and the health of the sea is critical to the health of the planet.



You will have noticed that there is absolutely no waste in Nature. Everything that is discarded by one creature organism is food for something else. Nature has created the ultimate “circular economy”.

In addition to herbivores and omnivores, we need to take care of our **detrivores**, creatures that eat only detritus. Examples are worms, millipedes, dung beetles, woodlice, slugs. All members of the Dung Diner's Club. And we must not forget the **decomposers** like bacteria and fungi. They don’t eat their food, they decompose it externally and seem to consume nutrients on a molecular level. Waste is BIG BUSINESS. The stuff produced by us humans is overwhelming landfill and destroying ecosystems that we rely on, for fishing, tourism, and so forth, destroying our implicit contract with Nature. Our manmade sewage plants deserve the finest science.

DRiPS has purchased test kits to help the Kent Wildlife team to measure levels of Phosphates and Nitrates in the Darent



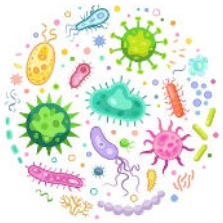
Stuart Merrylees (chair) had the idea last summer to collect 150 litres worth of drinks bottles, just to see what it looked like. As everyone knows, that's the **national average daily consumption of water per person.**
It's the same volume as two really big bathfuls. Almost a third of it goes down the toilet - into the sewage system. If enough of us change our behaviour a bit (the old adage "*if it's yellow, let it mellow*") we can not only save water but we can reduce the load on the sewage system.

Sewage is a valuable resource - it's GREEN GOLD

When you have an idle moment, start making a list of all the stuff that a sewer has to cope with. Here we go:-

Uric acid and pooh with protein and fat and bacteria from the gut, antibiotics, viruses. Wetwipes. Ammonia, phosphates, nitrates, methane, microplastics, microparticles from tyre wear and brake linings, shampoo, toothpaste, detergent. And forever chemicals (PFAS)

Then watch an old BBC programme called the *Secret Science of Sewage*. It's still on YouTube and you can google for it.
Much of the above stuff is full of nutrients and can be used to make fertilizers, generate energy and reveal medical secrets that could transform healthcare. Analysing sewage will not just help us track down what's found its way into our city drains but help microbiologists identify possible new antibiotics.



So who does good research on sewage and is the UK using the best technology? What is still left that can't be removed? We're sorry to go on about this, but if mankind is proud to be part of nature, it's time we understood how to play our part. Surely, you say, this is all someone else's problem. Do I really need to know? Come to the meeting and find out more.

Join DRiPS for just £10 a year for indivuals or £20 for organisations

DRiPS Autumn Meeting

Memorial Hall
Otford TN14 5PQ
Wednesday 8th Nov



7.30pm
Doors open 7.00pm
Short AGM

"How we must look after the Darent"

Speakers from Thames Water



Jamie Riches (Chief Hydrologist)

Graeme Kasselman (Wastewater)

Non-members welcome
Enquiries 01959 563296