CROWD: Clean Rivers Of West Dorset

Notes and action points from the meeting of 8th August 2023, Wootton Fitzpaine Village Hall

- **Environment Agency: Analysis & Reporting (Wessex):** Fiona White, FW; Jon Taylor, JT
- **West Dorset Rivers and Coastal Streams (Catchment Officer):** Ian Rees, IR
- **River Char (River Char Community Project, RCCP):** Andrew Carey, AC
- **River Char (River Char Community Project, RCCP):** John Kenward, JK
- **River Char (Lower Char Community Project, LCCP):** Julie Leah, JL
- **River Char (Lower Char Community Project, LCCP):** Dana Assinder, DA
- **River Winniford (Winniford River Action Group, WRAG):** Lee Ramsden, LR
- **River Winniford (Winniford River Action Group, WRAG):** Peter Stapleton, PS

Environment Agency Monitoring in Wessex

Who? 14 staff over 2 sites, Blandford & Bridgewater.

What? An investigation and response team - looking at invertebrates, plants, river habitat (surveys - 1km lengths), investigating river modification. The focus is on ecological health of rivers - their quality for fish, plants, etc. Not monitoring for human health issues unless it's a designated bathing water (DBW)

- Analyse ecological samples collected by national field monitoring team.
- Analyse bathing water data.
- Identify problems and target investment.

Water quality: Team deploy sondes and auto samplers. EA working with these currently on the Asker, Brit and Simene. Sondes record for a 24 hrs period or a week = time based events. Auto samplers are being used to test for sediment.

EA's work is directed by the Monitoring Commission. This directs all teams across the country. 65% of the work is defined by national Defra policies. 35% left for more locally focused work. This is usually on protected areas.

Marine monitoring. Fiona's team only looks at coastal bathing water quality. There is a separate national marine monitoring team.

How to get the EA's attention? If water quality is shown to be falling, resources are directed to target improvements. But how, in absence / decline of EA monitoring, to show water quality is falling? = Perennial problem of under-funding. EA generally makes a risk-based decision. Therefore *E. coli* etc is not monitored in rivers, unless DBW

Specific Qs

- Long Sea Outfalls – EA historically sampled adjacent waters twice a year. Not any more.
- What does EA monitor locally and how? Different directives dictate looking for different elements.
- Ecological analysis - what & how? Each species provides a certain score. Presence of high scoring insects (e.g. Riverfly species) give an indication of better water quality.
- How to find out what CROWD rivers are monitored for and where? FW sent data and links *(see below)*.
- Charmouth Beach is monitored weekly – find out why? (Jim Flory told us that, if a beach is classed as excellent it's tested every two weeks.

When does EA test?

Water Framework Directive (WFD) testing tends to be regular but long duration sampling. Every 5 years - sometimes more frequent if involved in other schemes e.g. Catchment Sensitive Farming (CSF) = more flexible approach to testing.

How are monitoring points chosen?
WFD - generally mid to lower river reaches. Target on drops in water quality, to find the cause. Linked to fish directives.
CSF initiative. EA samples inc. bacterial. Funded through Defra land grants, etc.

Where to view data? - refer to Fiona's list, below. Includes
EA water quality archive. Search for sampling points
Freshwater data on open WIMS and Catchment Explorer
Useful web site for Chems UK Tech Advisory Group - TAG

Rivers that slipped the WFD net in 2014. New EA networks are being set up. Inc **Small Streams Network.** CROWD streams might be included here, eg Winniford

Citizen Science (CS). EA work is always limited by funding. Referencing Environmental Improvement Plan '23 targets - there is a move in EA to look at making better use of CS.

CaBA website. Useful resource = Loads of data, tools and help on CSI.
And CaSTCo. (see Simon Browning's presentation on CROWD page)

Riverfly monitoring - currently the most useful CSI from EA perspective, as it is consistent. EA is open to:
- Recommending good places to monitor to help to fill in the gaps
- Helping on data analysis and interpretation

Need consecutive samples to be able to make informed decisions and target response. River fly Trigger levels are set, which EA does respond to.

Used to collect gross pollution levels/incidents. EA agrees it's a blunt instrument, but reliable.
JT: feels RF monitors could do with more support at the start. He has offered us help and support on where to test for riverfly via his EA team.
IR: Wessex Water funding for Brit monitoring will also offer support for site choice. And Angus at Wildlife Trust.

Riverfly monitoring currently best connects us to EA. It is regarded as evidence by them. But there are changes on the horizon to integrate other CSI - ref CaSTCo / Jim Flory

Chemical analysis is much more complex. Accuracy of CSI data can be questionable.

Q: How can CSI chem analysis be more robust? Hanna egg? Sondes? *Ref FW's comments below*
Chemical analysis by EA. The Environment Act has provided substantial new EA funding.
- New Networks are being put in place -
- River surveillance network. Random selection of sites for testing
- Small streams initiative - will look at small streams, lakes, salt marsh, fish, soil monitoring
- Ubiquitous chemicals. Dealt with by a national team which contributes to gov't clean and plentiful water and chems targets. Solutions will include end of pipe and source control

More monitoring data will help to identify source of pollution. Improves effectiveness of end of pipe controls. Sediments will be tested for bio accumulation.

FW's suggestion. Issues around septic tanks - could CSI/ river groups promote this issue with parish councils *(RCCP does this)* and investigate this issue?

Q: What is available on EA website re what they are doing on monitoring? Fiona will talk to EA Comms and Engineering Teams and report back. One eg - Chemical catchers are being deployed on Hampshire Avon.

Q: How can EA help us? Data and Evidence Officer about to be appointed. New role in EA. Let's ask them the question. And will they be involved in catchment reports? FW thinks Likely.

Group aim: We'd like to develop a strategy that actively helps to build a picture of sub- and whole catchment health.
IR: how can we refine, question, improve and make the work we do at grassroots as relevant and useful as possible?

LR: Q on turbidity - Why measure it? EA answer: don't know..
LR: Q on bacterial testing. Fiona will take this away and obtain an answer from EA chemists.
AC: Q on sonde: can we fund one? To help us determine where is the pollution coming from.

Fiona subsequently sent a copy of her presentation and a document with the links to the websites where we can view the data collected by the Environment Agency and the website that offers training in data analysis and interpretation.

She also attached a "P information sheet for citizen scientists".This was produced for citizen scientists on the River Wye, but contains some useful information pertinent for CROWD rivers too. This includes a comparison of three phosphate test kits, including the Hanna egg that was discussed. Different rivers have different targets of phosphorus set depending on alkalinity and altitude. The standards for rivers can be found in Table 5 in page 18 of The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015 (legislation.gov.uk) (these standards aren't very citizen science friendly)

She also provided the following answers to our questions in her email:

Monitoring of marine outfalls
"We no longer monitor the sea outfalls. Wessex Water monitor the final effluent from their sewage treatment works and supply this data to us. It is available to view on the EA Water Quality Archive (i.e. Open WIMS Data).
The timing and duration (not volume) of storm sewage spills from sea outfalls is recorded by Wessex Water and reported to us in summary form on an annual basis. This data is also available online: Event Duration Monitoring - Storm Overflows - Annual Returns - data.gov.uk."

E.coli testing and the monitoring of coliforms
"The EA does not measure these anymore as they were found not to be a useful indicator." *(We are following this up as it contradicts what she said, and what we know about EA Bathing Water testing.)*

Would it be worth the group purchasing a SONDE and if so where would be useful to deploy?
"Having chatted with a few colleagues, we are a bit concerned that this would end up being disproportionately expensive for the group. SONDES require regular maintenance, servicing and calibration in order to maintain data accuracy, which ends up costing quite a lot. In our area we are allocated a set number of Sondes that are returned and exchanged monthly to ensure the accuracy of the data collected. The information collected is used to help inform where our Environment Management team should focus some of their resource, as well as helping us to gather an overall picture of what is happening in a particular area. It can be challenging to suitably resource all investigations arising from these Sonde deployments and other citizen science activities, such as Riverfly, can prove to be more effective in enabling us to take action.

We would be very interested in supporting Riverfly monitoring on your rivers and can help advise where would be helpful to monitor. Please do let us know when you are ready for some input and support."