

WSA Citizens Science Newsletter

Wye Salmon Association (WSA) has run its Citizens Science scheme, monitoring river water quality, since June 2020, a period of just over three years.

In that time, our 48 volunteers have sampled 149 sites at various times in the Wye Catchment, compiling a database of over 5500 records, containing over 18400 individual measurements of such items as phosphate, nitrate, pH, TDS, temperature, and occasionally ammonia. Our research and scientific volunteer members have used this information, along with other freely available information to produce five comprehensive technical reports, drawing conclusions and making a series of recommendations. If adopted these could help improve water quality in the catchment both sides of the England/Wales border. This data and the associated reports have been made available to NRW, EA, NMB, Afonydd Cymru and Dwr Cymru.

The Citizens Science movement, in which WSA play a significant part, has proven the need for action on water quality, the status of which is unlikely to change unless positive actions are taken to resolve the many and well understood issues. After three years it is time to review our use of valuable resources and consider a 'hot spot' sampling methodology rather than a catchment based one.

There is undoubtedly significant value in mass sampling, it is still important to be conscious of the overall health of the river, and understanding where water quality is good is as important in understanding where it is bad, helping regulating agencies identify and recognise problems. It is also a vital public relations exercise, supporting the many campaigning activities, keeping the issue in the public eye, and maintaining pressure on the regulatory authorities.

We therefore need to continue monitoring and do so until such time as the regulatory authorities advise that actions are in place that demonstrably improve water. Information WSA would expect our citizens science catchment monitoring to confirm.

However, if you are monitoring in a non-hot spot area, identified by your test results being consistently low or zero, we would suggest you reduce your frequency of testing to once a month, only reverting to weekly if it rains heavily, there are changes or visible signs of pollution in the river or if requested to do so by us.

In the meantime, WSA researchers will continue their efforts, using a bottom- up approach, to identify, document and bring to the attention of the authorities these 'hot spots' arising from analysis of your data. We have identified several locations and have more to work through (see samples attached). In some instances, these will require further detailed sampling by our volunteer team. We will be in contact with those volunteers as soon as possible to discuss a way forward. If you consider the data, you are collecting to be identifying a 'hot spot' please let us know. We will shortly circulate more information on the hot spots.

We thank you, our volunteers wholeheartedly for your efforts in tackling such a long-term study of Wye Water quality and encourage you to continue.

Please continue to sample and upload your data through your smartphones to our online EpiCollect dbase. We will of course continue to supply, free of charge consumables upon request. If you have lapsed or know someone who wishes to join our efforts, just drop us a line on enquiries@wyesalmon.com.

We look forward to when you our volunteers' efforts are rewarded with a positive outcome for the river, it's environment and ecology.

WSA

Ref ID:001. Investigating very high phosphate (P04) readings at sample site WSA053, river Llynfi, Llynfi Bridge Llangorse during period 12/12/2020 to 28/05/22.



Results of routine WSA sampling by volunteer Joe Gooch (Now replaced by Stuart Smith Mob: 07789133263 or stuartsmith@wyesalmon.com)

▪ Site WSA 053 Typically 0.43mg/l. Site WSA 052 at Bridge, Llangors Lake Car Park some 600m upstream typically 0.15mg/l.

Origin of high phosphate (P04) at WSA053

Unknown

High output from Llangors lake

Static van misconnects in holiday park

Afon Towel joining Llynfi from Llanfihangel Tal y Llyn

Field run off

Action agreed

17/01/23 At joint NRW/WSA meeting Jenny Phillips, NRW agreed to investigate the location for any signs of contamination entering the watercourse.

Results

28/03/23 NRW identified manure heap in very close proximity to water course which had been stored and added to for some time. Issued a warning letter and the heap has since been removed when attended the site as a follow up. This would fit in with the fact that

the levels were not fluctuating with the seasons.

Status

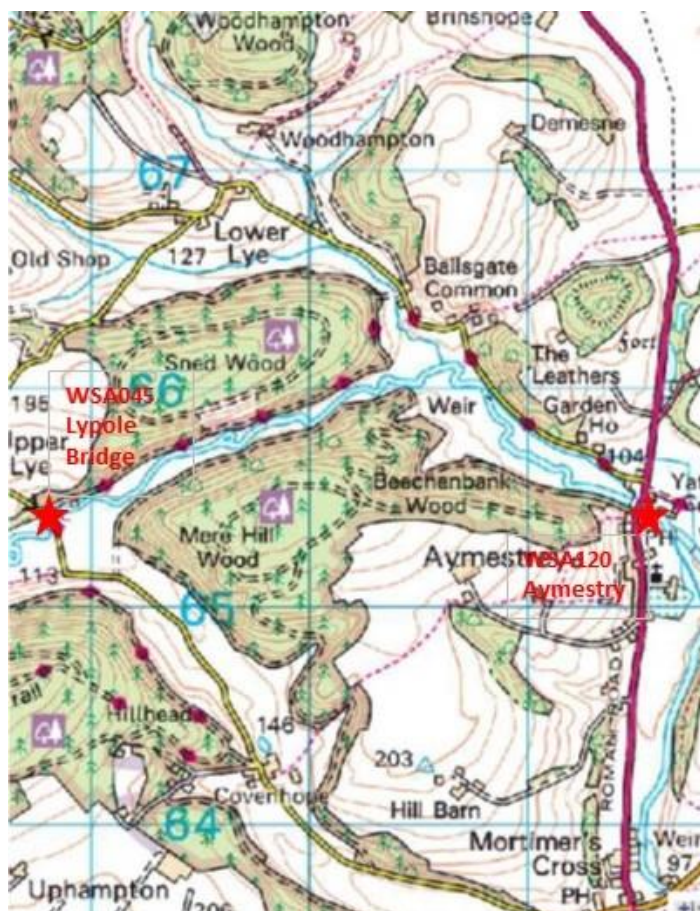
23/05/23 WSA commented the additional P load between the car park and Llynfi Bridge was a fixed flow signal. Not obviously consistent with a manure heap. It will be interesting to see what happens. I suppose if it was being topped up frequently, it might cause a roughly constant 'leak' as the liquid content drained off.

23/05/23 Jenny Phillips commented according to the officer that attended site there was visible pathway to the water course so even over dry periods there will be a constant trickle.

03/07/23 Site WSA053 recorded as 0.21mg/l, WSA052 recorded as 0.03mg/l. Still significant discrepancy. Audit over 10 weeks to clarify.

30/07/23. SS. Readings taken, still high.

Ref ID:009. Investigating very high phosphate (P04) spike readings on Lugg at Lyepole Bridge (WSA045) and Aymestry (WSA120) since 24/04//22



Results of routine WSA sampling by Helen Hamilton (01568 709155, marchesplanning@gmail.com)

Spikes at Lyepole WSA045 peaking to 1.6mg/l and in Aymestry WSA120 peaking to 1.37mg/l, especially after heavy rain and muck spreading. See attached, anoted, charting of results.

Origin of high phosphate (P04)

Difuse pollution. Definitely see spikes at Lyepole and in Aymestry, especially after heavy rain and spreading. One noticeable spike at Aymestry last year when poultry muck had been spread upstream. Something else that strikes me is that there is always a notable temperature change between Lyepole and Aymestry – about 2 miles apart – with Aymestry a degree or so warmer than Lyepole

Action required

EA to be requested to investigate.

Status

