

Additional Written Evidence Provided by Peter Lloyd

This is additional evidence to my previous submission of 3 February 2021 (ref WQR 0026), and is provided in response to some of the statements made by Sir James Bevan to the Committee on June 23.

Importance of Monitoring

Monitoring is an essential component of the Environment Agency's strategic approach to the protection and regulation of the water environment. Many questions that have been raised at the Environmental Audit Committee sessions are related to the need for some form of effective monitoring.

As mentioned in Question 217 by Duncan Baker:

“if we cannot measure it, we cannot manage it”.

Unfortunately, the existing Environment Agency chemical water quality monitoring is not producing relevant and reliable information, and the proposed new system is not compatible with the requirement to have an effective monitoring strategy.

Inadequacies of the Existing Chemical Water Quality Data

Reference was made in question 217 to the apportionment of different sources of pollution that have a detrimental effect on rivers.

Question 217

Sir James Bevan

“The first thing is to give you the figures that we have in terms of what kind of pollution is impacting on water bodies. The figures that we have are that farming and rural land management is impacting, in some way, about 45% of our water bodies—and that, as you rightly say, is mostly through diffuse pollution, which is very hard to trace and to deal with—and 44% of water bodies are being impacted by the water and sewage companies. That is mostly point source pollution, including treated sewage and the untreated sewage that sometimes comes out of overflows. Urban and transport pollution, which I am sure we will get on to in a minute, is impacting 18% of our waters. Statistically, the largest sector that is impacting our waters, in one way or another, is the farming sector”.

No mention was made of the considerable doubt that should be attached to the validity of these percentage figures. This is because the data that has been used to derive these figures has been obtained from random samples, which take no account of the variation in quality that occurs due to weather and river flow. For example, many of the most polluting discharges from sewerage overflows, urban run-off and agricultural sources only occur at times of rainfall. There is, therefore, only a small chance of random samples coinciding with significant rainfall events. It is also a fact that many sewage treatment works discharge worse quality effluent during the evening and overnight when samples are rarely, if ever, taken.

The data provided from this kind of monitoring and the results from modelling that use this data can therefore be extremely misleading.

The new monitoring scheme that the Agency is introducing is based on the GRTS (Generalised Random Tessellation Stratified) system and is now referred to as the River Surveillance Network. This system utilises random sampling points which will produce data that is even more misleading, because it will not be possible to differentiate between different types and sources of pollution that occur at different locations, and factors such as weather conditions, time of day and river flow, which significantly contribute to changes in pollution levels.

Risk Based Priorities

Sir James Bevan emphasised that the Environment Agency adopted a risk-based approach to ensure that resources are used most effectively.

Question 207

Sir James Bevan

“As a regulator, we try to be risk-based and proportionate, and prioritise those areas or issues that we know are likely to cause the biggest harm to the environment”.

Question 227

Sir James Bevan

“The first thing we do is focus more on the poor performers than on the good performers. That is a sensible thing to do. The second thing we do is focus our limited resources on those assets or those incidents where we believe there is the biggest risk of environmental harm”.

This approach makes absolute sense, especially at a time when there is pressure on funding.

However, the Agency’s new programme of monitoring that utilises randomly selected monitoring sites and random working day sampling times, takes no account of the need to monitor at the right places and the right times in order to capture the most important and relevant data.

This flaw in the monitoring strategy means that the whole concept of risk-based priorities is jeopardised, because without reliable data it is not possible to make an assessment of risk and to establish priorities.

Resources and People

The question of Agency funding has been raised many times, and Sir James Bevan stated that staffing levels were insufficient to carry out the tasks that were required.

Question 205

Sir James Bevan

“the key point is that given the length of the river systems in this country, having only a few hundred people to oversee them is a pretty tall ask for the excellent staff that we have doing those jobs”.

Question 226

Sir James Bevan

“we have been able to do fewer and fewer farm inspections over the last several years”.

There will never be sufficient funding to carry out everything that is desirable, which makes it essential to have a sound strategic approach based on risks and priorities – as mentioned above.

It is also important to be able to trust that the Agency will always make the best possible use of whatever funding is available. Taking the case of the recent Strategic Monitoring Review, that was carried out by the Agency over a 5-year period, at a cost of well over £1M, this does not appear to have satisfied the criteria of having being carried out efficiently and of producing worthwhile data. Despite many requests, no detailed information has been provided on the work carried out by the review. One of the results of this review has been to introduce 1,600 new, randomly selected, monitoring points, which has required staff to be diverted from their existing tasks in order to identify and locate these new sampling points.

Use of Improved Monitoring

The deficiencies in the existing monitoring strategy have been well known and documented for many years.

Question 213

Sir James Bevan

“We need to reinvest in better and more modern monitoring”.

Continuous monitoring equipment has been successfully used in many locations for over 30 years. It is readily available, and is widely used by the Agency for local investigations but, for some unknown reason, it has not been used as part of the national surveillance monitoring programme, despite its obvious advantages for this purpose. It was anticipated that the Agency monitoring review would put forward plans for making better use of this option on a national basis, supplemented by targeted monitoring when necessary. Instead, the monitoring review has resulted in the implementation of a completely inappropriate and out-dated scheme of surveillance monitoring. This does not appear to be an approach which is compatible with the statement made by Sir James Bevan.

Agency Response to Criticism Regarding the Strategic Monitoring Review

It is surprising that the Agency chemical water quality monitoring strategy does not align with statements made by Sir James Bevan.

It is useful to note how the Agency has attempted to respond to criticism of the new River Surveillance Network.

Statistical approach

The Agency claim that the system will produce statistically valid results, but has not explained how useful and relevant the data will be, or how it will be used and what will be the benefit. There is a difference between data being statistically valid and the data being of any use in supplying the information that is required. It is also claimed that there must be no bias in the selection of sampling points – hence the use of random sites. This ignores the fact that a hugely significant bias is introduced by confining sampling to the working day, when it is known that worse conditions often occur outside of this time. This fact alone destroys any claimed validity for the monitoring scheme.

Other forms of monitoring

The agency has claimed that the new River Surveillance Network is supported and supplemented by other forms of monitoring. It is true that there are other forms of monitoring in place, but there is no information regarding the role of each monitoring component and how the system is integrated to provide the data that is necessary. The River Surveillance Network needs to have a clearly defined role and purpose in the overall strategy, especially because the system is very demanding in terms of resources, and will consume a large portion of the monitoring budget. Criticisms of the scheme cannot be dismissed by claiming that other forms of monitoring compensate for the inadequacies of the scheme, because questions still remain regarding the purpose and benefit of the River Surveillance Network and there is a need for a cost benefit analysis of other options.

Provision of data to identify national trends

Another claim made by the Agency is that the new system will provide national data on long term river quality trends, but it is clear that for the most important and most likely trends, it is necessary to target monitoring to particular times and locations, and that the random nature of the proposed monitoring will not achieve this.

Further more detailed information is provided in the submission of evidence produced in February 2021, ref WQR 0026

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