

**1. Should the recommended new default standards be adopted as the basis for assessing status, decisions on whether or not to allow new discharges and identifying the likely scale of improvements that may be needed at existing discharges?**

- In general we support the statement above given the evidence of improved inter-calibration across the EU and with the biological standards. However, there remain a number of questions and concerns.
- The science generally seems to be well developed in terms of the nonlinearity of response to P, and the uses of relevant percentiles, etc. The utility of some of the ‘correlations’ is perhaps questionable though.
- A default standard will be simpler and also allow one to make use of predictive (water quality) modelling for impact assessments and options appraisals. That being said, the use of an equation requiring altitude and alkalinity data will make the computation of standards for comparison with modelling results more complex and more prone to miscalculation.
- The measurement of SRP should be more rigorous; requiring sample filtration and a well defined methodology including timing the addition of reagent and a specified interval for colour development. The definition of RP seems much too ambiguous. The use of ICP or ICPMS for total phosphorus is challenging with standard approaches often being inadequate and sophisticated ones being too empirical and complex. An agreement to define an analysis protocol based on colorimetry for rivers would be welcomed.
- It can already be seen through the river basin plans how influential the current phosphorus tests are in the reporting of water bodies with water quality pressures. Tightening the standards as proposed will identify many more water bodies in this way without understanding whether or not phosphorus is the principle cause of a poor ecological status, or whether this is controlled by other (and the combination of different) pollutants in the water body. A lack of consistent biological and water quality monitoring data makes this almost impossible to discern in most locations.
- It will be critically important that the principle of basing investment decisions on the evidence of biological impact is defended (and care needs to be taken in defining this and the relevant metrics). For the polluter/customer/taxpayer to continue funding such investment the monitoring must be in place to measure the (potential) effectiveness of that investment. It is acknowledged that hysteresis means long term (pre and post investment) monitoring programmes need to be encouraged possibly following a principle of adaptive management.
- It was apparent from the workshop that the combination of changes in the biological (specifically diatom) standard as well as the phosphorus standard and resultant improved picture of compliance was cautiously welcomed by the water industry representatives. The policy of responding to evident ecological harm rather than phosphorus concentrations alone certainly seems appropriate, but then should we not be encouraging a focus on biological rather than phosphorus monitoring?

- Finally, the intention of UKTAG to report on this consultation in June is understood, but unhelpful for PR14 planning.

**2. Should adjusted standards be used to assess status and take decisions relating to discharge control?**

- At the moment it feels like the adjusted standards need some further development and justification.
- There concern that some of the biological tests are deliberately seeking to remove aspects that respond to other pressures. Those other pressures are (from the correlations) clearly relevant to and highly influential on the biological indicator species, but if those pressures are not felt to be sufficiently relevant then why not focus on phosphorus measurements only (acknowledging this is counter to an earlier statement!)?
- As with the query on SRP analytical protocols, there needs to be a tightening in the requirements of biological monitoring and analysis, which still seem to be evolving.
- There is still much work to be done linking biology with chemistry. Given the possible costs of phosphorus removal at wastewater treatment works (and from other sectors), a robust link between the two should result in better value for money / cost effectiveness in the future one would imagine. However, it is not clear how influential the adjusted standard might be and whether, for example, the additional monitoring and analysis can be justified on a costs and benefits basis. Is there any indication that certain water body types would benefit more or less from this approach?

**3. Should default standards be adopted as the basis for assessing status and decisions relating to new discharges and adjusted standards used, where applicable, when planning improvements at existing discharges?**

- As noted above, it will be critically important that the principle of basing investment decisions on evidence of biological impact is defended. At the moment it feels like the adjusted standards need some further development and justification; however this approach seems reasonable in principle.