



Wye and Usk Foundation (WUF) response to the Assembly's Environment and Sustainability Committee's evidence session as part of a short inquiry into water quality in Wales.

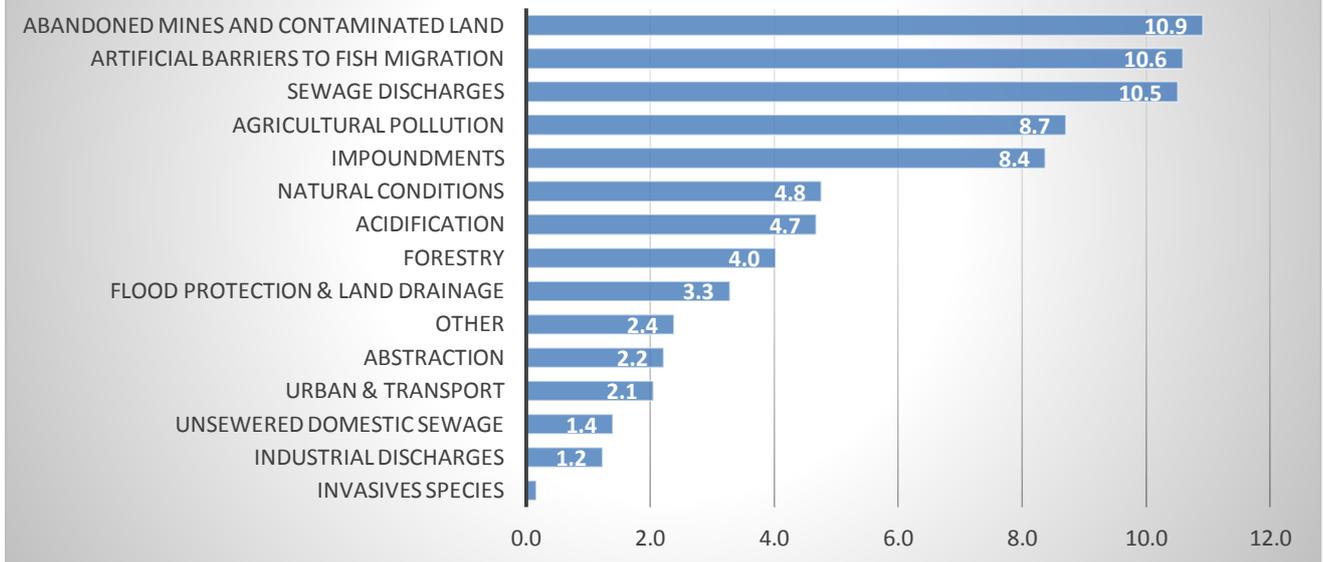
Background

- 1.1 WUF was formed in 1995 to meet a need in fisheries and riverine management – the actual delivery of improvements such as habitat restoration, fish passes, water quality etc. WUF restores two of Wales' best known salmon rivers, both EU Special Areas of Conservation, covering 6,480 Km² (including Herefordshire). We have raised and spent over £10m since 1998 and have engaged and trained our own skilled workforce. Our fisheries letting scheme brings in an additional £1.75million pa to the rural economy and we have created and sustained an estimated 65 FT job equivalents. Land use issues are now comprise our current challenge.
- 1.2 WUF is part of a wider network of rivers trusts in Wales, working under the umbrella body Afonydd Cymru
- 1.3 Implicit in our aspiration for the economic and ecological restoration of these rivers is that there is very good water quality in the two SAC Rivers. The issues faced by these and other rivers and waterbodies in Wales are:
 - The effects of acidification
 - Pesticides
 - Phosphates
 - Sediment
 - Organic pollution
 - Mine water
 - Other substances (via water treatment works: eg plasticisers and pharmaceuticals)
 - Exacerbation of above issues by abstraction
- 1.4 Water Quality is crucial in achieving standards in a number of EU Directives: The Water Framework (WFD) Drinking Water, Bathing Water and the Habitat Directive (which also has water quality standards). Our comments will primarily be addressing the question of WFD and water quality.

2. Progress towards meeting statutory obligations

The WFD places obligations on NRW to monitor water quality in two areas: Physical/chemical (eg pH, BOD, Phosphate and pesticides) and Biological (fish, invertebrate, macrophytes and phytobenthos). It should be acknowledged that undertaking this level of monitoring for all the waterbodies in Wales at appropriate intervals is a very considerable undertaking, particularly for NRW in its current post merged state and given budgetary constraints. However, without this level of undertaking, the status of water quality in many locations remains unknown and the effects of any actions or changes cannot be assessed fully. An overview of the known causes of WFD failure in Wales is included below:

Reasons for not achieving good status 2014 % of all water bodies



We are able to cite examples where there has been significant progress as a result of project activity in the Wye catchment. However, levels of phosphate and low fish densities are the most common monitored reasons for failure as distinct from the causes above. This will become more significant as new more realistic targets for phosphate are adopted.

3. Current Sources of pollution of particular concern

Agricultural Pollution, often incorrectly described as diffuse, is a broad heading that includes pesticides, raised phosphate levels (P), sediment and organic pollutions. Of considerable concern are raised levels of P from the massive unregulated and unplanned expansion of poultry units. Poultry manure contains 5 times more P than cattle manure. It is, and will be a significant cause of WFD deterioration and failure in the future. Planners seem unwilling to resist the rapid advance even when confronted with evidence from NRW that a site would breach SAC water quality limits. There are often insufficient constraints placed on the management of units and the risk of water pollution is not given due proper attention. Until recently NRW seemed unable to provide the perhaps obvious evidence that in combination, multiple units will act in concert, to cause deterioration in water quality and ecological damage. Pictures ahead show the upper Wye at Erwood and Wye at Monmouth turned green by an algal bloom last July. This is diagnostic of P failure and could also land WG with infraction discussions.



Above: Algal Bloom Upper Wye at Erwood



Above: Algal bloom lower Wye at Monmouth

Likewise the increasing use of crops such as **stubble turnips, maize, potatoes and winter cereals** planted on unsuitable land, without taking into account the effect of these actions on soil structure. This results in massive rates of run off and soil loss (see right) with consequential degrading of ecological status of our rivers and the future productivity of our land. Anaerobic digestion is also increasing, supported by government tariffs. Wales's high rainfall and altitude (giving harvesting when soil is saturated) is incompatible with safely growing the maize used as feedstock. A similar conflict exists around Glastir, requiring arable crops on pasture land without specifying that they should only go on ground that is safe for that crop.



There are serious issues with widespread soil compaction in both the livestock and arable sectors leading to increased unfiltered overland flow ending up in rivers, exacerbating flooding and diffuse pollution issues. The problem is particularly acute in the east of the country. This has led for example to a 5 fold increase in the annual amount of sediment and agricultural sourced phosphate depositing in Llangors lake SAC in 2000 when compared to the rates pre 1975.

At a similar level of concern is the management of **dairy units**. It is quite possible that the amount of slurry in some counties exceeds the available area over which it might be **safely** spread resulting in Eutrophication of tributaries, lakes reservoirs and rivers. There are plenty of examples in Pembroke, Carmarthen and Powys.

Farming infrastructure in Wales has suffered underinvestment for some time. The current passive approach created by poor cross compliance rules that should protect water quality and even poorer enforcement of them means that there is a massive problem to correct the situation.

Forestry Problems. **Per hectare**, commercial forestry at present is a greater cause of pollution than even agriculture. The siting of forests, tracks, spraying with toxic chemicals on efficiently drained soils and the huge upheavals during clear felling cause one set of problems (flashy flows and high sediment delivery and high Nitrogen levels) while the siting of spruce trees in poorly buffered catchments exacerbates the effects of acid rain causing another type of failure. The oft repeated "Its Getting Better now our heavy industry has gone" while true should be tempered with "still a long way from satisfactory" Planting on peat is bad enough; replanting on peat is a serious blow to our Climate change ideals. It happens.



Planting on peat (above) and sediment transfer following clear felling.



The issue of mine water is also a serious and long term problem outwith WUFs current remit.

4. Actions taken

Actions taken to address agricultural impact on water quality have met with some success. Part of the problem is that the infrastructure of many units (farms) fall well short of the required standard in respect of effectiveness and reliability and too many farmers have ceased to manage their soils for long term sustainability.

NGOs such as WUF and other rivers trusts spend almost their entire time and budget in efforts to resolve WFD issues and have made very significant strides in resolving barriers to fish migration, Acid rain and more recently a successful programme that curbs agricultural pollution. NRW operate in this area too. Given how short of funding we all are, we feel a much more cooperative strategy could be achieved in Wales. In Herefordshire (no less strapped for cash!) we split the county with EA: WUF working in the west, EA in the east and as a result were able to deliver twice as many improvements to water quality in half the time.

We therefore commend to the committee the example of the Wye Catchment Partnership and WUF's work with farmers in Herefordshire. Together they specifically act to resolve Wye water quality issues and engages with agriculture, industry, NGOs statutory bodies both sides of the border. It has successfully raised additional funds and actions that are focussed on improving water quality.

As previously mentioned we believe the planning system is not operating properly in three principle areas:

- The compound effect is not being considered
- Sites are being consented that will inevitably cause water pollution
- Planning conditions to protect water are not being enforced

Finally if the RDP can be structured such that it supports a delivery mechanism for all farmers in need, rewards farming sustainably and productively, and withholds payments from those that are not, practices will improve immeasurably and all ecosystems services will be enhanced.

5. Monitoring and Enforcement

In our experience monitoring on the Welsh side of the Severn River Basin District is not very far short of adequate. Fish are the most easily monitored biological element but WUF has been using Phytobenthos – diatom analysis as this is much more useful at detecting change in sediment/organic pollution and phosphates over a medium term. Wales has the world's leading expert on the subject based at Cardiff Museum. This area could usefully be developed.

Enforcement has been the missing ingredient **most notably the enforcement of cross compliance breaches that impact on water quality, and the enforcement of planning conditions.**

Dr Stephen Marsh-Smith OBE

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