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FUW Additional Evidence to Welsh Government on proposed agricultural pollution regulations to be implemented 1st January 2020

The following response to ADAS' Risk Impact Assessment (RIA) and additional available evidence has been considered by the Farmers' Union of Wales' Policy Department, with the longstanding views of the Union's twelve County Branches taken into consideration when referring to the Welsh Government's 2016 consultation on Nitrate Vulnerable Zones in Wales[1].

General Comments

Following lengthy involvement with the Wales Land Management Forum (WLMF) subgroup on agricultural pollution, discussing the proposed regulations to be implemented across the entirety of Wales in early 2020, the Farmers' Union of Wales fundamentally opposes the proposed regulations. The FUW has historically stated that a pan-Wales approach to agricultural pollution is unscientific, lacks sufficient evidence and would impose rigorous restrictions upon farmers in areas which are far below the threshold for nitrate vulnerable zone (NVZ) designation. Upon consultation with FUW members in 2016, members unanimously and strongly opposed the proposal of a whole-Wales approach, and thus the Union will stand by this view today.

Alternative approach

The Union believes that the five key themes developed by the WLMF subgroup, which includes the availability of better advice and guidance to farmers; an improved range of investment incentives, developing a voluntary farmer-led approach to nutrient management, ensuring the formal regulatory regime is sufficiently robust to achieve the outcomes required and identifying and promoting innovation are a sound basis for eliminating agricultural pollution in Wales without the need for excessive regulation.

A draconian approach applied to all Welsh farmers is unfair, as in the view of the FUW, no substantial evidence is available to suggest that a pan-Wales approach will be more successful than designating either targeted NVZ's, where there is sufficient evidence to do so, or the adoption of the five prongs of the WLMF referred to in the above paragraph. Welsh Government representatives within the WLMF subgroup have emphasised the risk of European Union (EU) infraction proceedings if the proposed regulations are not imposed. Despite this, the Risk Impact Assessment (RIA) undertaken by ADAS on behalf of the Welsh Government does not provide any evidence which suggests that the implementation of a whole-Wales NVZ will suitably improve water quality to a level which prevents the risk of infraction, or how long it is expected to take for water bodies currently failing to meet the Water Framework Directive[2] 'Good Status' to improve to a sufficient level.

[1] Welsh Government. 2016. Nitrate Vulnerable Zones Consultation. Available from: https://drive.google.com/drive/search?q=nvz%20consultation
[2] European Commission. 2019. Introduction to EU Water Framework Directive. Available from: https://ec.europa.eu/environment/water/water-framework/info/intro_en.htm

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Timelines and transition periods

The FUW notes the plan to introduce the regulations on the 1st of January 2020, with a decision expected from the Minister in late November 2019. The Union would seek to ensure that farmers are offered a sufficient time-scale to comply with the proposed regulations through a lengthy transitional period for all of the proposed regulations, prior to any enforcement activities. The allowance of just one month to communicate to our membership the details of the regulations decided in November is an extremely short time-frame.

The proposed changes in regulation surrounding slurry and manure storage facilities may require significant transitional periods due to the prolonged planning application processes farmers will be required to fulfill prior to any building works on farm. The need for a significant number of farmers to apply for these changes would cause a vast increase in pressure on Local Planning Authorities, which may already be under significant pressure. Any delays in the planning process may have a substantial impact on the ability of the farmer to comply with the proposed regulations within the transition period provided. The increase in workload may also impact on specialist building contractors and those who supply building materials and therefore a sufficient time scale must be provided so that farmers are able to adapt existing or build new facilities and avoid non-compliance. The FUW therefore emphasises that implementation periods must be as long as possible so that producers are able to undergo the rigorous planning process, ensure that their plans are accepted and to carry out the required works within the time allowed in order to be compliant.

The Union also believes that the proposal of a closed period for the spreading of slurry and manure must be reconsidered as farming by calendar dates is impractical and as a consequence can lead to mass nutrient loading and potential pollution incidents when the closed period ends. If farmers resorted to slurry spreading en masse after the closed window there is a danger that contractors would, under pressure to meet client needs, resort to hasty and sub-standard practice which could further increase the number of pollution incidents.

The figures presented by ADAS stated that currently 3% of Nitrogen applied is lost, and discussions with ADAS officials concluded in agreement that a closed period would not result in a significant improvement in water quality. Members previously commented that enhancing slurry technologies such as injecting slurry into the ground may reduce Nitrogen runoff, but more research needs to be undertaken in this field[3] and RDP support grants targeted to support the purchase of such equipment. The FUW believes that on-farm flexibility should be considered wherein farmers may spread slurry or manure if the weather and ground conditions are favourable, and according to crop requirements.

In the present circumstances, farmers may be financially unable to increase slurry storage capacity and if also restricted by slurry spreading dates, they may well decide to outwinter their livestock. As a consequence, the outwintering of livestock in unfavourable conditions could increase land poaching, soil erosion and defecation into watercourses.

We are all aware of seasonal weather pattern changes arising from global warming, causing prolonged dry spells such as the summer of 2018, sporadic extreme weather events, but also wetter milder winters, and it is in this context that the proposed 'farming by calendar' approach is considered impractical.

[3] Maguire, R.O., Kleinman, P.J.A., Dell, C.J., Beegle, D.B., Brandt, R.C., McGrath, J.M. and Ketterings, Q.M. 2011. Manure application technology in reduced tillage and forage systems: A review. The American Society of Agronomy. *The Journal of Environmental Quality,* 40 (2), pp. 292-301.

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Therefore, the Union believes that the proposed closed periods for the spreading of manure and fertilisers should be reconsidered.

Bovine TB

The regulatory requirements pertaining to a bovine TB breakdown continue to seriously impact upon the management of dairy and beef herds in Wales. According to Defra's bovine TB statistics, there were 680 disease restricted herds in Wales in the 12 months up to May 2019. The rules surrounding a bovine TB breakdown are complex and holdings under enforced movement restrictions must comply with the regulations. As part of these regulatory requirements, cattle keepers are often forced to make business decisions which require more animals to be retained on farm for longer periods.

Increased slurry production is an indirect consequence of retaining additional stock. A bovine TB breakdown places limitations on slurry management as keepers will be unable to spread slurry according to normal management and will be unable to export slurry off the holding in a bid to comply with slurry storage regulations. The difficulties placed upon cattle keepers suffering a TB breakdown will therefore be further exacerbated if closed periods and other limits on the slurry quantities spread are imposed by the proposed regulations.

Where potential conflicts between the proposed NVZ-style regulations and bovine TB rules arise, it is imperative that cattle keepers are given timely advice, which is communicated effectively and fully understood by all relevant Government departments. Cattle keepers must not be held accountable for breaches that arise due to conflicting pieces of legislation and the FUW would seek to ensure that this is fully understood and accounted for before the onset of any proposed NVZ-style rules.

Tenanted farms

The FUW regularly raise concerns about the impact of the proposed regulations on the tenanted sector. It may be impossible for tenant farmers to adhere to the proposed regulations, due to financial constraints imposed by the landlord. The FUW note that the outcomes of the Tenancy Reform consultation on tenancy law will have a profound effect on tenants ability to adhere to the new regulations.

A prime example of the hardship which will face tenant farmers includes evidence of a Union member who was recently visited by NRW on his dairy farm, and was informed that an investment of £25,000 would be required to meet the requirements of the proposed regulations. The farmer in question is a tenant on a Council owned farm, who have stated that they will offer no financial aid for the improvement works necessary, resulting in the tenant being responsible for the cost and ultimately leading to his exit from the farming sector.

We have also received testament from members in the upland beef and sheep sector who are already considering selling their cattle as the limitations imposed on them by the new regulations will make the business untenable.

The FUW trust that Welsh Government will take into account the life-changing effects the proposed regulations could induce to all farming businesses, especially tenant farmers and the availability of viable Local Authority farms is of fundamental importance to supporting succession within the industry.

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Other sector relationships

Additionally, it must be noted that the agriculture and the water utility waste sectors work in partnership to recycle biosolids from water treatment plants. The FUW are aware that the water sector have grave concerns about the effect of closed periods of slurry application on farm and increasing slurry storage requirements, as this will severely impact on the farms' ability to accept imported nutrients from the water sector. If farms were forced to reject biosolids from water treatment plants, we are informed that alternative solutions are both costly and environmentally detrimental.

The Union believes that the Government should consider the topic of nutrient loading to land in a holistic manner and that consideration of the effect of new NVZ style regulations on farms and other sectors should be considered together as one.

Voluntary farmer led approach

One of the five key recommendations made to Welsh Government by the WLMF subgroup on agricultural pollution was to adopt a voluntary, farmer-led approach which is currently being led by NFU Cymru in collaboration with FUW, NRW, DCWW and WAG.

The voluntary approach aims to create a nutrient management approach for farmers across Wales and in all sectors of agriculture. It also aims to deliver water quality improvements by reducing nutrient enrichment caused by nitrates, phosphorus and soil particles. If adopted, it would adopt an 'earned recognition' framework and fulfil the commitment of the Cabinet Secretary for Energy, Planning and Rural Affairs to *'explore options for providing land managers with flexibility, where these would achieve the same or better outcomes than a regulatory approach'.*

Consistency

The FUW request that the Welsh Government take the lead on discussions and demonstrate how the new proposed NVZ style regulatory framework can work alongside payments for the delivery of public goods, including enhancing water quality, but retains sufficient space for farmers to actively engage with a voluntary approach and receive payment for additionality.

In conclusion, the FUW strongly opposes the regulations proposed due to the belief that the measures imposed are draconian and disproportionate, enforcing the majority of Welsh farmers which farm in less favourable areas (LFA), with waters far below the NVZ designation threshold, to adhere to superfluous regulations. The Union also emphasises the cost to Welsh farmers imposed by the regulation, with a marginal environmental benefit supposed. The cost of such rigorous legislation, based upon inadequate evidence, would be reckless and damaging to the agricultural industry in Wales at a time when global competitors may well export produce to the UK which has been produced under a less stringent regulatory framework.

Risk Impact Assessment

The aim of the Risk Impact Assessment (RIA) document by ADAS, commissioned by the Welsh Government was to determine the social, economic, cultural and environmental impacts that the proposed regulations would have if implemented across the whole of Wales. The FUW does not believe that the aims of this document have been met, as various important considerations have not

been included and therefore the Union fears that the various impacts and costs of the proposed regulations may have been underestimated.

During bilateral discussions between the FUW and the Welsh Government during the Royal Welsh Show, a Welsh Government spokesperson stated that *"the problems of a hill farmer are different to those of a dairy farmer, and we must recognise that"*, yet adopting a blanket-approach to regulation across the entire country does not fulfill this statement. The Welsh Government spokesperson suggested that the WLMF subgroup were aiding the Government in *"filling in gaps"* in the Risk Impact Assessment (RIA) undertaken by ADAS. The FUW, as detailed in this response, have grave concerns regarding the limitations of the RIA, and alongside other members of the WLMF subgroup are not comfortable with the presumption that we have collaborated in creating this document, when it is a Welsh Government commissioned piece of work and one which the Union does not believe fulfils its intended purpose.

Financial considerations

The FUW believes that the draft RIA document presented to the WLMF subgroup on the 16th of July was significantly lacking in information regarding the social, cultural, economic and environmental implications of the proposed regulations. The figures used for the measurement of reduction in emissions had substantial ranges, for example the figure used for ammonia was £6,046 per tonne yet the full range was £1,133 to £18,867 which is possibly a significant difference. The RIA also states that *"when measures proposed are implemented individually, the reductions for all pollutants are relatively small, generally less than 1%*". The WLMF subgroup requested to see the error bars on the 1% result, as it seems that this is a marginal environmental benefit when compared to the *"additional cost to farmers of £393 million"* which could easily be underestimated due to the variation in figures used.

The draft RIA possibly underestimates costs to the industry in several areas, and does not consider the cultural effects the proposed regulations may incur. This may include negatively impacting on the Welsh language in rural areas as families may well decide to relocate to another business sector and area, rather than comply with the extreme measures forced upon them. The proposed regulations could also be detrimental to the heritage of Welsh family farms which have been maintained for several generations, as the regulations would impose costly investment which may not be economically viable for small, family-run businesses.

The social effects of the proposed regulations must also be considered, with approximately 52,200 individuals working within the agricultural sector in Wales alone it is a considerable source of income for the people of Wales[4]. Of the 24,402 farm holdings in Wales, 14,424 are classed as '*very small - holdings with small amounts of agricultural activity*' yet as the proposed regulations would apply to 100% of Wales, many of these small holdings would be greatly affected by the rigorous regulations. In the RIA commissioned by Welsh Government, Table 3-5 states the types of farms in Wales and whether they reside within or outside of an NVZ. The figures in these tables are evidently underestimated, as 11,434 farms are stated as 'Non-NVZ' and 2,183 are 'NVZ' farms, which equates to 13,617 farm holdings in Wales yet the most recent data available from Welsh Government states that there are 24,402 farms in Wales, thus suggesting another underestimation of the effect and of the costs of the proposed regulations [4].

[4] Welsh Government. 2019. *Farming Facts and Figures, Wales 2019*. Available from: https://gov.wales/sites/default/files/statistics-and-research/2019-07/farming-facts-and-figures-2019-492.pdf.

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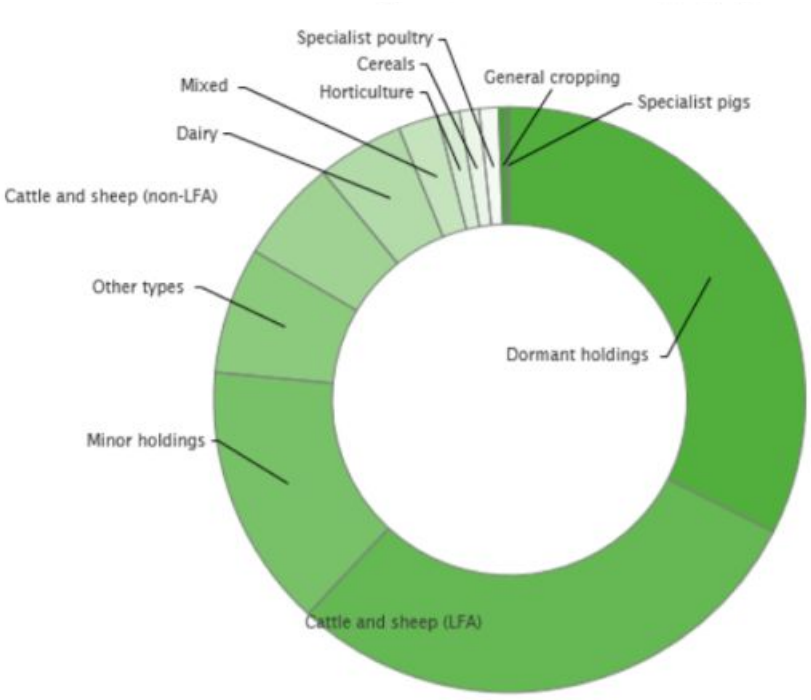
As demonstrated by the figure below, dairy farms make up around 5% of Wales' farm holdings[5]. As 80% of Wales is classified as an LFA, this suggests that only a small proportion of Wales contains intensive farms of a high stocking density, with the number of substantiated agricultural pollution incidents occurring annually equating to less than 1% of Basic Payment Scheme (BPS) claimants in Wales. This suggests that a pan-Wales approach to agricultural pollution is entirely excessive and puts undue pressure on farmers within LFAs.

Figure 1: Welsh farm holdings by type.



(Source: Armstrong, 2016.)

The land classified in Wales as LFA is described as land wherein *"production conditions are more difficult, such as those where land, climatic and cultivation conditions are poor".* As this definition of an LFA describes 80% of the land in Wales, it seems inappropriate that farms with such land are subject to the draconian regulations proposed. The European Council Directive 91/676/EEC (the Nitrates Directive) defines NVZs as *"areas that drain into waters and which contribute to pollution"* and therefore surely only the areas which are actively causing pollution to waters should be designated as an NVZ and not the entirety of the country[6] (see statistical analysis under additional evidence).

[5] Armstrong, E. The National Assembly for Wales Research Service. 2016. *Research Briefing - The Farming Sector in Wales*. Available from: http://www.assembly.wales/research%20documents/16-053-farming-sector-in-wales/16-053-web-english2.pdf

[6] European Commission. 2018. *Report from the Commission to the Council and the European Parliament on the implementation of the Council Directive 91/676/EEC concerning the protection of waters from pollution caused by nitrates from agricultural sources based on Member State reports for the period 2012-2015.* Available from: https://ec.europa.eu/environment/water/water-nitrates/pdf/nitrates_directive_implementation_report.pdf

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The RIA should also consider the capability of farmers to finance these changes, with the average income of Welsh cattle and sheep farmers ranging between £24,000-£26,900 per year[7]. The substantial financial investment required to adhere to the proposed regulations (£393 million and above) could be detrimental to the businesses of many Welsh farmers, which additionally would severely affect supply chain businesses. During a meeting of the WLMF subgroup wherein a presentation of the RIA was given by the authors from ADAS, it was discussed that the figure proposed for the cost of additional slurry storage (approximately £78-£98 million) could in fact range up to £400 million, depending on how much additional storage farmers needed to meet the new requirements. This figure exceeds the total estimated implementation cost of the regulations as a whole, and if this range is accurate, the cost of the implementation of the entire proposed regulations could increase to £793 million, achieving an approximated environmental benefit of merely 1%.

The FUW question why these proposals will be introduced before Natural Resources Wales had completed their visits to all dairy farms in Wales, so that accurate figures and costings for the additional slurry storage required are available.

Additionally, the cost to the Welsh Government (WG) in enforcing the regulations was not considered in the RIA; this may be substantial as delivering advice and guidance to all holdings will undoubtedly be required by the industry. The cost of effectively policing the regulations by Natural Resources Wales (NRW) was not considered in the RIA and this again is likely to be significant. Indeed, considering the challenges that already face both WG and NRW, on several fronts, one wonders if the funding required will be available to support the industry.

The inevitable financial effects of Brexit, including a no deal Brexit, should also have been considered in the RIA, as business uncertainty makes planning increasingly difficult with potential disastrous consequences on farm profitability. The possibility of a 'no deal' exit from the EU on the 31st of October threatens to cause great upheaval to the agricultural sector, with increased tariffs on exporting agricultural produce set to significantly impact the beef and sheep trade. It is estimated the combined beef and sheep meat sector will see a 92.5% decline in EU exports, with the sheep meat trade almost entirely wiped out[8]. The uncertainty and possible diminishing of farm income from exports puts farmers in an even more precarious situation, increasing the likelihood that many will choose to exit the industry rather than comply with additional regulation, which may need substantial investment.

The RIA also fails to consider the impacts of introducing the regulations on the mental health and well being status of the farming community. This is surprising as "a healthy Wales" is one of the seven goals of the Wellbeing of Future Generations (Wales) Act 2015. Poor mental health within the industry is of genuine concern for the Farmers' Union of Wales, as the agriculture sector has one of the highest suicide rates, with more than one farmer a week taking their own life in the UK[9]. According to the Farm Safety Foundation, stress is often a key contributory factor in many of the accidents, injuries and illnesses taking place on farms.

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[7] Welsh Government. 2018. *Farm incomes in Wales 2017-2018*. Available from: https://gweddill.gov.wales/docs/statistics/2018/181220-farm-incomes-2017-18-en.pdf

[8] AHDB, QMS and HCC. 2019. The Andersons Centre. Available from: Welsh Government. 2018. *Farm incomes in Wales 2017-2018*. Available from: https://gweddill.gov.wales/docs/statistics/2018/181220-farm-incomes-2017-18-en.pdf

[9] Office for National Statistics. 2019. Available from: https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/adhocs/009519numberoffarmersuicidesbysexandcountryenglandandwalesages20to64yearsdeathsregistered2001to2017

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Stress is something that most farmers face at some point and is an important contributor to mental health problems. It can come from many sources such as financial pressures resulting from market fluctuations, livestock disease or poor harvests; but concerns about Brexit, policies, administration and legislation can also take their toll.

It is therefore imperative that this potential perfect storm threatening the agricultural sector is defeated; this includes ensuring that regulation is not excessive, disproportionate and burdensome, as this will undoubtedly contribute to a decline in mental health status within the agricultural industry in Wales.

Additional Evidence:

The FUW understand that the NVZ Directive sets out criteria for identifying polluted waters. These include:

1. Surface freshwaters which contain or could contain, if preventative action is not taken, more than 50 mg NO3/l nitrate (50 mg NO3/l corresponds to 11.29 mg N/l).

2. Groundwater which contains or could contain, if preventative action is not taken, more than 50 mg NO3/l nitrate (50 mg NO3/l corresponds to 11.29 mg N/l).

3. Natural freshwater lakes, or other freshwater bodies, estuaries, coastal waters and marine waters which are eutrophic or may become so in the near future if preventative action is not taken.

Of the above criteria, the FUW consider the chemical analyses of the surface water to be the strongest evidence of water quality in Wales, as this is information gathered from water bodies over the length and breadth of Wales. The sampled data is a random sample of the population and is a measured variable, the sampling strategy appears rigorous and includes replication, and the analyses is supported by laboratory techniques which are repeatable and are quality assured.

The designation according to criteria 3 above of identifying eutrophic waters is, by comparison weak, as the process appears to be one of identifying key indicators of eutrophic water, as opposed to a rigorous sampling and measuring strategy in 1 and 2 above. The FUW understand that a combination of the three criteria can designate the status of a water body, but one must query why an indicator in criteria 3 identifying eutrophic water, if accurate, is not supported by the measured sampling data above the threshold of 11.29 mg N/l.

The Farmers' Union of Wales analysed Natural Resources Wales' surface water dataset from 669 sites across Wales. Analysis of the TIN (Total Inorganic Nitrogen - calculated) levels of the most recent complete year (2018) included 13887 samples, and the following was observed and noted:

1. Only 2.7% of samples analysed exceed the NVZ designation threshold of 11.3 mg N/litre of Total Inorganic Nitrogen.

2. Half of all the samples analysed had less than 2 mg N/litre of Total Inorganic Nitrogen present.

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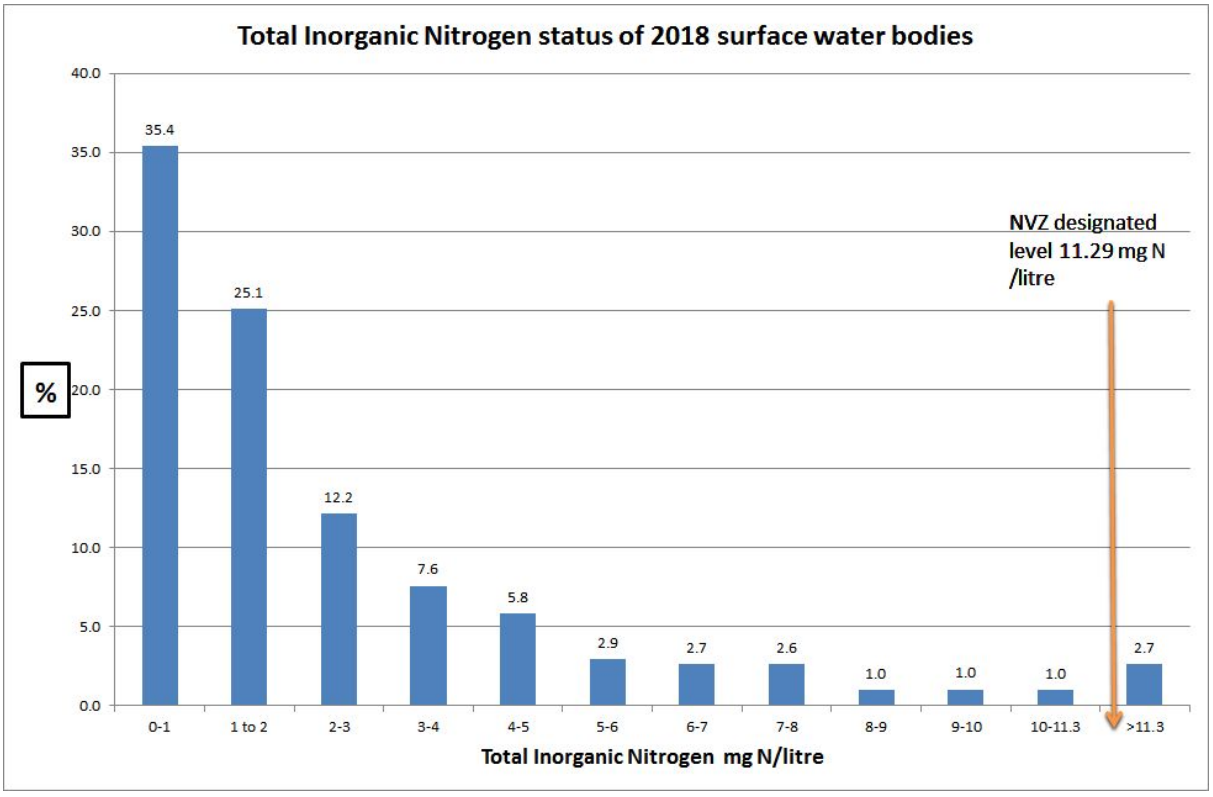

The FUW conclude that the above analysis of NRW data is strong evidence that the quality of surface water in Wales is in fact very good; therefore the expansion of NVZ regulations across Wales is both misguided, unwarranted and above all, would not deliver any substantial environmental benefits.