

Farmers' Union of Wales response to a Senedd Economy, Trade and Rural Affairs Committee inquiry on the impact of the Water Resources (Control of Agricultural Pollution) (Wales) Regulations 2021

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About the Farmers' Union of Wales

1. The Farmers' Union of Wales (FUW) was established in 1955 to exclusively represent the interests of farmers in Wales, and since 1978 has been formally recognised by the UK Government, and subsequently by the Welsh Government, as independently representing those interests.
2. The FUW's Vision is thriving, sustainable, family farms in Wales, while the Mission of the Union is To advance and protect Wales' family farms, both nationally and individually, in order to fulfil the Union's vision.
3. In addition to its Head Office, which has thirty full-time members of staff, the FUW Group has around 80 members of staff based in twelve regional offices around Wales providing a broad range of services for members.
4. The FUW is a democratic organisation, with policies being formulated following consultation with its twelve County Executive Committees and eleven Standing Committees.

Background and summary

5. The FUW has always maintained that one pollution incident is one too many and that action needs to be taken to tackle water pollution in Wales, and that in order to do this Welsh water pollution incident data should be analysed in order to design a tailored and targeted approach that focuses resources where they are most needed and will have maximum impacts.
6. To this end, we have been active members of Natural Resources Wales' (NRW) *Wales Land Management Forum Agri-pollution Sub Group* since its inception in January 2017 and fully supported and contributed to the comprehensive report and recommendations submitted by the Group to the Welsh Government in April 2018.
7. The data presented in this evidence demonstrates that agriculture is among a range of industries and sectors where action needs to be taken to address water pollution incidents, but that it is by no means consistently the main contributor and in many years and regions of Wales, incident levels caused by agriculture fall well below those attributable to other sectors.
8. For example, in 2016, 2017, 2019 and 2020 water pollution incidents attributable to the water industry across Wales were higher than those attributable to agriculture.
9. The data also demonstrates that in many Welsh water catchment areas, no water pollution incidents have been attributed to agriculture since 2015, while in scores of

others the number of incidents attributed to agriculture are dwarfed by those attributed to other industries and sectors.

10. For example, 49% of water catchments across Wales had 2 or less water pollution incidents relating to agriculture during the 5 year period from 2016-2020, 9% of which did not experience a single incident.
11. The FUW fully recognises the need to reduce nitrate as well as other forms of agricultural pollution and notes that Natural Resources Wales (NRW) analyses of nitrate levels in Welsh water catchment areas led them to conclude that 8% of Wales should be subject to Nitrate Vulnerable Zone (NVZ) restrictions under the 1991 EU Nitrates Directive¹.
12. The Economy, Trade and Rural Affairs Committee will no doubt be aware that the Water Resources Regulations 2021, which apply to the whole of Wales, are effectively a direct copy of the NVZ regulations, albeit with a key derogation removed.
13. The FUW would also draw to the Committee's attention the assessments of the impacts of NVZ regulations in areas designated as NVZs for between 12 and 15 years, which found that 69% of areas showed no significant improvement in surface water concentrations even after 15 years, and that, in comparison to a control catchment, 29% of NVZs shows a significant improvement but 31% showed a significant worsening².
14. That research also found that the average improvement due to NVZ designation was 0.02 ± 0.08 mg N/l/yr, but this was "*not significantly different from zero*".
15. The Welsh Government's Regulatory Impact Assessment (RIA)³ acknowledges that the regulations will cost Welsh farmers as much as £360 million in infrastructure costs alone – around £100 million more than the Total Income from Farming in Wales in 2019, and £38 million more than the Total Income from Farming in 2020⁴.
16. This equates to an average cost per active Welsh holding of £14,600, which rises to £37,700 when only holdings with cattle are taken into account.
17. Compliance costs may in fact be as much as 20% higher than estimated in the RIA as the price of building materials has risen sharply in the past year, with some materials having more than doubled in price - increases reflected in ever changing quotes provided to farmers for infrastructure improvements.
18. The FUW therefore maintains that the 2016-2021 Welsh Government's decision to ignore the proposals put forward in the April 2018 *Tackling Agricultural Pollution* report,

¹ Council Directive 91/676/EEC

² The effectiveness of nitrate vulnerable zones for limiting surface water nitrate concentrations, Worrall *et al.*, Journal of Hydrology (2009)

³ Explanatory Memorandum to the Water Resources (Control of Agricultural Pollution) (Wales) Regulations 2021. 27th January 2021

⁴ Aggregate agricultural output and income, 2020. Welsh Government. 13th May 2021

and to instead implement decades old EU NVZ legislation on a pan-Wales level, stands in stark contrast to

- a. the recommendations of key stakeholders from all main sectors
 - b. the evidence on the efficacy of NVZ designations in tackling pollution
 - c. the data and evidence gathered by NRW on local pollution incidents in Wales and
 - d. the huge costs identified in the Regulatory Impact Assessment
19. As such, the FUW maintains its commitment to the recommendations and actions put forward by the *Wales Land Management Forum Agri Pollution Sub Group* in April 2018 and believes that the framework and approaches proposed therein remain as pertinent as ever and the best solution to tackling the broad and varying range of issues faced in different parts of Wales.

Water pollution in Wales

20. During the 5 year period from 2016 to 2020, there were 1029 substantiated pollution incidents (water and non-water related incidents) related to agriculture, equating to 16.6% of the total number of pollution incidents in Wales.⁵
21. During the same period, agriculture was responsible for 599 substantiated *water* pollution incidents out of a total of 3,592, representing 16.7% of all water pollution incidents. These comprised 496 (13.8% of the total) 'low impact' incidents; 78 (2.2% of the total) 'high-significant impact' incidents and 19 (0.5% of the total) 'high-major impact' incidents.
22. By comparison, of the total 3,592 water pollution incidents recorded during the period, 933 (26.0%) were caused by sewage material and 597 (16.6%) were from contaminated water, while the water industry was responsible for 21.9% of all water pollution incidents.
23. Comparisons of annual contributions to Welsh water pollution incidents from different sources are given in *Figure 1*, showing that agriculture is among a number of industries and contributors to water pollution, and that appropriate action is required across all pollution source categories.

⁵ Natural Resources Wales - Wales Environmental Pollution Incidents – Interactive Report

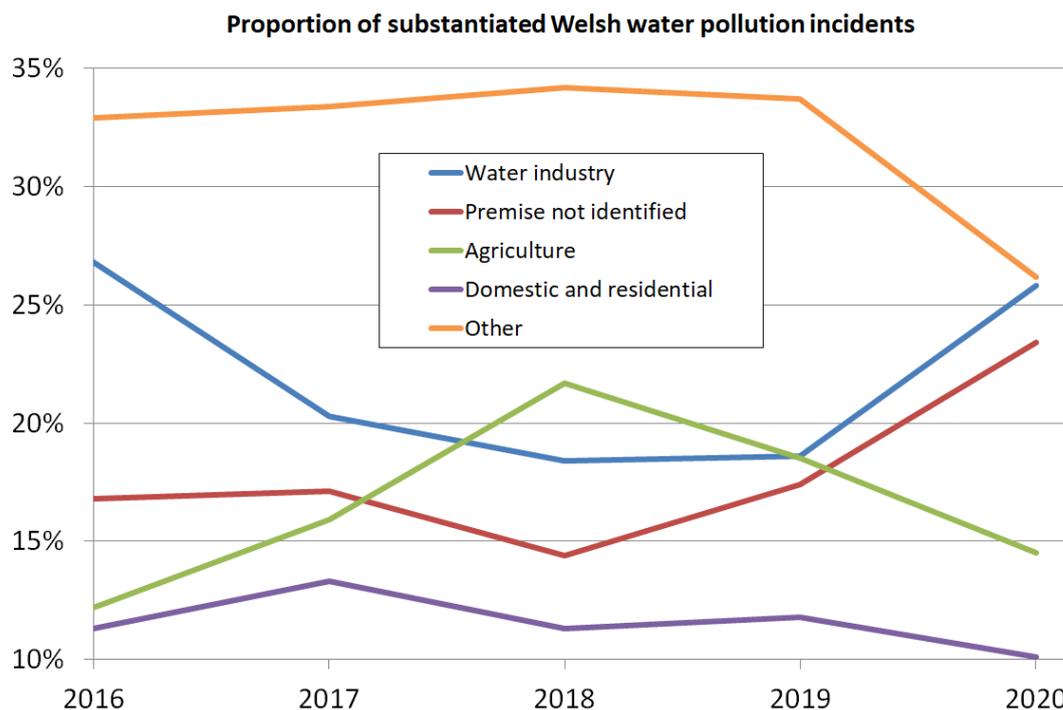


Figure 1: Annual Welsh water pollution incidents 2016-2020

24. It should also be noted in the context of Figure 1 and the high proportion of pollution incidents where a premise of origin was not identified, that for the vast majority of incidents the pollutant was not agricultural: For example, in 2020, 4 of the 106 water pollution incidents where the premise was not identified related to agricultural materials and waste, which is a fraction of the proportion related to, for example, contaminated water, oils and fuels.
25. It is also notable that while the focus of much media attention has been on agricultural pollution, it was revealed Dŵr Cymru revealed in April 2021 that raw sewage was dumped into Welsh rivers 104,482 times in 2020 for a total of 868,307 hours, with discharges happening across more than 2,000 water treatment works and sewer overflows across the Dŵr Cymru Welsh Water network.
26. Contrary to claims that there has been no long-term downward trend in agricultural water pollution, between 2018 and 2020 the number of annual agricultural water pollution incidents fell almost 30%, from 158 (21.8% of all incidents) in 2018 to 113 (14.5% of all incidents) in 2020.
27. Given such data, and the fact that agricultural pollution incidents have received much focus in Welsh Government statements and responses, it must be noted that NVZ regulations under the 1991 EU Nitrates Directive were never designed to tackle 'incidents' - as their names implies, the regulations were designed to tackle high nitrate levels in areas that are or could be high in nitrates from agricultural sources.

Regional variations in agricultural pollution

28. *Table 1*, below provides a breakdown of the total number of water pollution incidents and the proportion associated with agriculture in each Local Authority (LA) area during the period 1st March 2016 to 31st December 2020.

Local Authority	Pollution Incidents	Number Associated with Agriculture	Percentage Associated with Agriculture
Blaenau Gwent	46	2	4.4%
Bridgend	128	3	2.3%
Caerphilly	168	9	5.4%
Cardiff	148	0	0
Carmarthenshire	377	123	32.6%
Ceredigion	266	104	39.1%
Conwy	85	13	15.3%
Denbighshire	100	25	25.0%
Flintshire	130	11	8.5%
Gwynedd	315	27	8.6%
Isle of Anglesey	80	12	15.0%
Merthyr	61	1	1.6%
Monmouthshire	153	39	25.5%
Neath Port Talbot	98	1	1.0%
Newport	92	9	9.8%
Pembrokeshire	208	104	50.0%
Powys	335	67	20.0%
Rhondda Cynon Taff	287	4	1.4%
Swansea	156	7	4.5%
The Vale of Glamorgan	101	15	14.6%
Torfaen	86	3	3.5%
Wrexham	137	16	11.7%
TOTAL	3557	595	16.7%

Table 1: Breakdown of the total number of water pollution incidents and the proportion associated with agriculture in each Local Authority (LA) area during the period 1st March 2016 to 31st December 2020. (NB: Variations between figures are due to minor anomalies in how NRW record data on pollution incidents where no premise is identified).

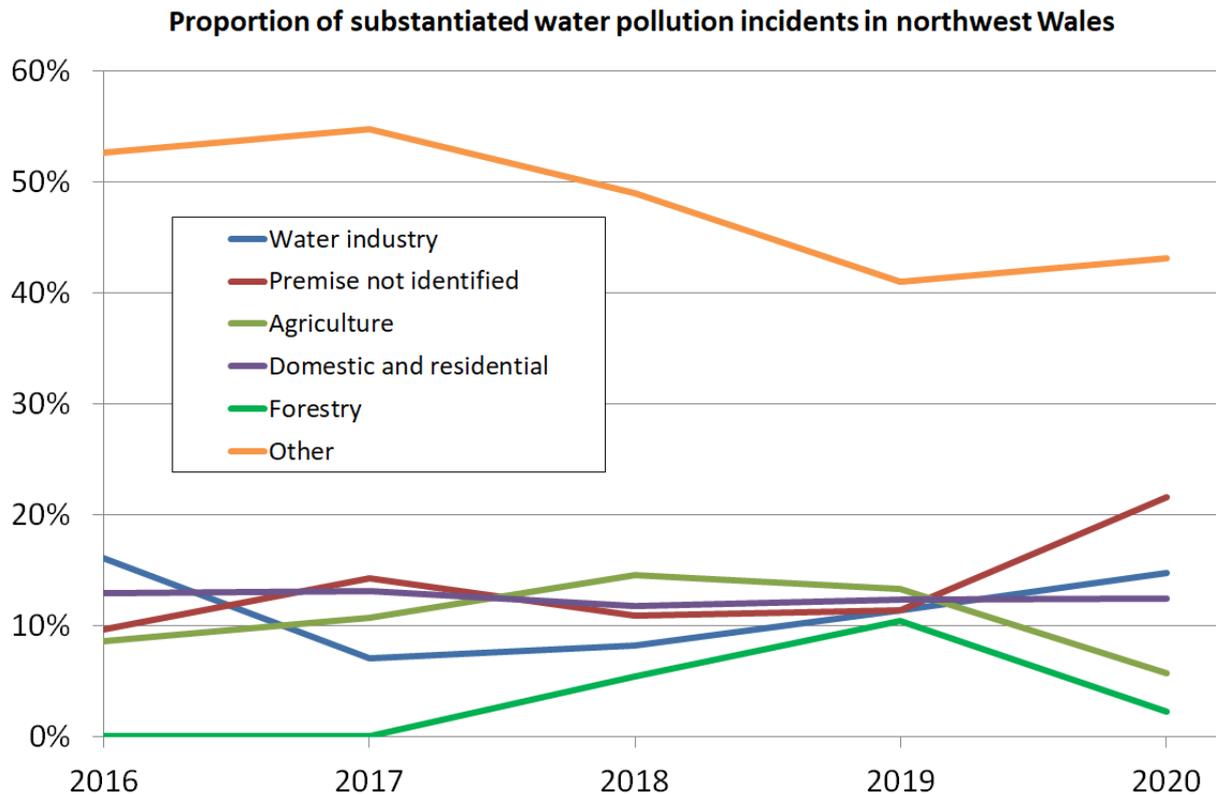


Figure 2: Annual contributions to water pollution incidents from different sources in northwest Wales for the period 2016-2020

29. The degree to which the sources of water pollution can vary annually and between water catchments and regions of Wales is illustrated in *Figure 2*, which compares annual contributions to water pollution incidents from different sources in northwest Wales for the period 2016-2020.
30. While the risk of an agricultural pollution incident is generally related to the amount of agricultural activity in an area, Local Authorities with greater proportions of Less Favoured Area (LFA) and Severely Disadvantaged Area (SDA) in particular are generally far less likely to experience such incidents.
31. Given this, it is important to note that the areas of Wales categorised as LFA and SDA are 79% and 56% respectively⁶.
32. Nevertheless, the data presented above demonstrates that 15 of the 22 LAs experienced less than 10 agricultural related cases during the period 1st March 2016- to 31st December 2020.
33. While Forestry was responsible for only 1.1% of water pollution incidents over the same period, it should be recognised that around 40% of the woodland area in Wales

⁶ <https://gov.wales/farm-incomes-april-2019-march-2020>

is owned by the Welsh Government and managed by NRW, making them the largest land owners and managers in Wales.⁷

34. In Gwynedd, forestry was responsible for 13.7% of water pollution incidents in 2019 compared with 9.6% for agriculture. Similarly, forestry was responsible for 9% of incidents in Gwynedd in 2020 compared with 5.3% for agriculture.
35. Furthermore, 91.4% of water pollution incidents recorded in Gwynedd during the 5 year period 2016-2020 were unrelated to agriculture, meaning that agriculture doesn't appear in the top 10 list of premise types causing pollution.
36. Similarly, in Gwynedd in 2020, out of a total of 60 water pollution incidents, just one related to agriculture, and was classed as low impact.
37. Moreover, some water catchments in Gwynedd such as the Erch and the Llyn Peninsula did not have a single recorded agricultural related pollution incident during the 5 year period.
38. In Powys, neither of the Mawddach, Bran and Gwydderig nor the upper parts of the Neath or Tawe catchments were subject to an agricultural pollution incident, while the Usk catchment, upstream of Brecon, had one incident relating to agriculture out of a total of 22, 12 of which were from the water industry.
39. Of the 128 incidents in the Bridgend LA, 2.3% (3) incidents were agricultural, all of which were deemed low risk.
40. Throughout Wales, 9 catchments, being the Afan, Artro, Conwy Upper, Dulas Ganol, Erch, Mawddach Estuary South, Neath, Wye H&W to Lugg, and Wygyr have not experienced a single agricultural pollution incident in the past 5 years.
41. Table 2 shows the numbers of Welsh water catchment areas where various ranges of water pollution incidents caused by agriculture occurred, highlighting the high variance between catchment areas.
42. The above figures demonstrating the vast variance between years, catchment areas, Local Authority areas and regions of Wales do not suggest there is not a need to tackle agricultural pollution incidents in Wales, and the FUW has recognised this by working with other stakeholders on the Wales Land Management Forum to develop policies and approaches aimed at addressing such problems.
43. However, the FUW believes that the data clearly demonstrates how the Water Regulations 2021 disproportionately focuses on agriculture, and does so in a way which fails to take account of the huge variance between the degree of agricultural pollution in different areas and other primary sources of pollution in those areas.

⁷<https://naturalresources.wales/about-us/what-we-do/welsh-government-woodland-estate/how-the-woodland-estate-benefits-wales/?lang=en>

Number of agricultural water pollution Incidents	Number of Water Catchments	% of Total Water Catchments
0	9	9%
1	26	25%
2	15	15%
3	6	6%
4	3	3%
5	10	10%
6-10	17	16%
11+	17	16%

Table 2: Number of Agricultural pollution Incidents per Water Catchment 1/3/2016 to 31/12/2020

Nitrate pollution

44. *Figure 3 shows a map of the risk of nitrate pollution in Wales at a catchment scale, and is taken from NRW's Surface Water Method Statement for Wales Nitrate Vulnerable Zone Review 2017.*

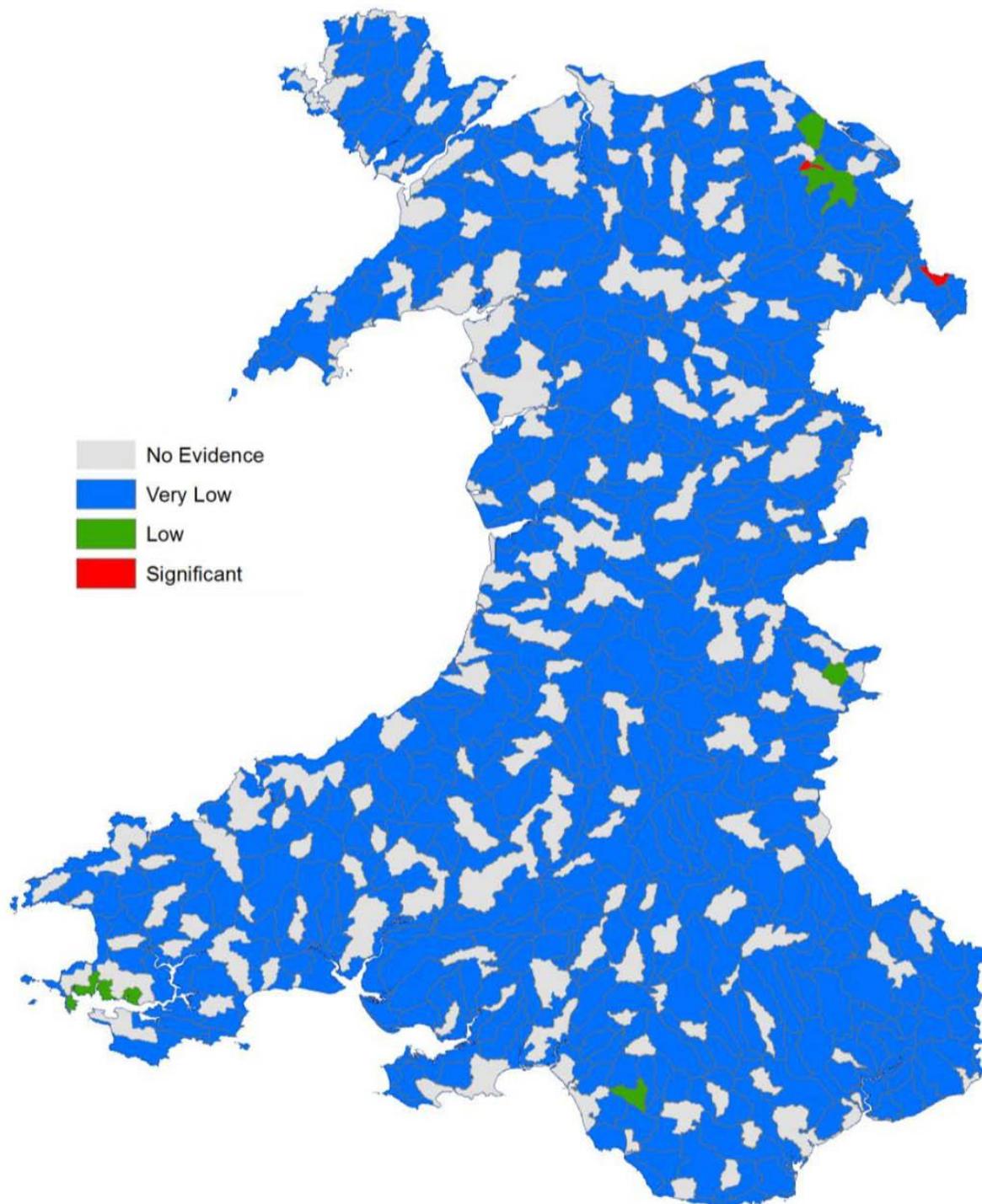


Figure 3: Risk of nitrate pollution at a catchment scale, taken from Natural Resources Wales' Surface Water Method Statement for Wales Nitrate Vulnerable Zone Review 2017

45. *Figure 3* provides a clear indication that the risk of nitrate pollution across most of Wales is very low, and, despite having been published by NRW in 2017, it is the latest data available on nitrate pollution in particular and is unlikely to have changed to any degree since then.
46. It was this and other data which led NRW, as the principal advisor to Welsh Government on issues relating to the environment and its natural resources, to recommend that the area of Wales subject to NVZ regulations should be increased from 2.4% to 8%.
47. In response to the Welsh Government's proposals to make the whole of Wales subject to NVZ regulations, NRW warned that it may have "perverse outcomes" including that it could "...exacerbate potential water quality issues. The potential impacts and costs of alternative approaches to compliance need to be outlined as part of the RIA of making water quality worse."
48. This echoes failures of the same regulations to deliver environmental benefits discovered in a scientific study of surface water concentrations of nitrate in areas designed as NVZs for between 12 and 15 years published in 2009 by Worrall *et al.* of Durham University.⁸
49. The analysis revealed that 69% of NVZs showed no significant improvement in surface water concentrations even after 15 years and that in comparison to a control catchment, 29% of NVZs showed a significant improvement but 31% showed a significant worsening.
50. It should also be noted that nitrogen and phosphate fertiliser use on agricultural land is declining, as highlighted in *Figure 4*, below, which shows maximum usage was seen in the 1980s but there has been a general downward trend since then. The long-term decline in total nitrogen over this period is mainly due to decreased use on grassland.
51. The FUW would also draw to the Committee's attention the comments by Tony Juniper, Head of Natural England, who told *Farmers Guardian* that the NVZ regulations now introduced in Wales "...are not necessarily delivering the value we need, so taking that more flexible approach seems logical...giving farmers a lot of flexibility is very likely to get better results than putting very specific, almost tick box prescriptions into place."
52. Similarly, in response to the laying of the Water Resources Regulations 2021 in January 2021, the Game and Wildlife Conservation Trust (GWCT) stated: "We cannot emphasise enough our disappointment that WG doesn't have greater ambition to get on top of this problem and work constructively with farmers and landowners beyond imposing a dated piece of legislation", and that "We were hoping that Welsh Government would come back with a more imaginative tailored solution to the agri pollution problems we face in Wales. One that works for farmers and makes a real difference in solving the problems...The additional bureaucracy and form filling for all

⁸The effectiveness of nitrate vulnerable zones for limiting surface water nitrate concentrations, Worrall *et al.*, *Journal of Hydrology* (2009)

farmers in this approach is unwelcome and we do not believe that it will actually solve the current pollution problems...We also need to ensure that moves aimed at tackling pollution are taken in conjunction with an appraisal of the impact on the viability of farming systems particularly those which are important for conservation, for example where the grazing of cattle plays an important role in maintaining habitats and species in upland areas”

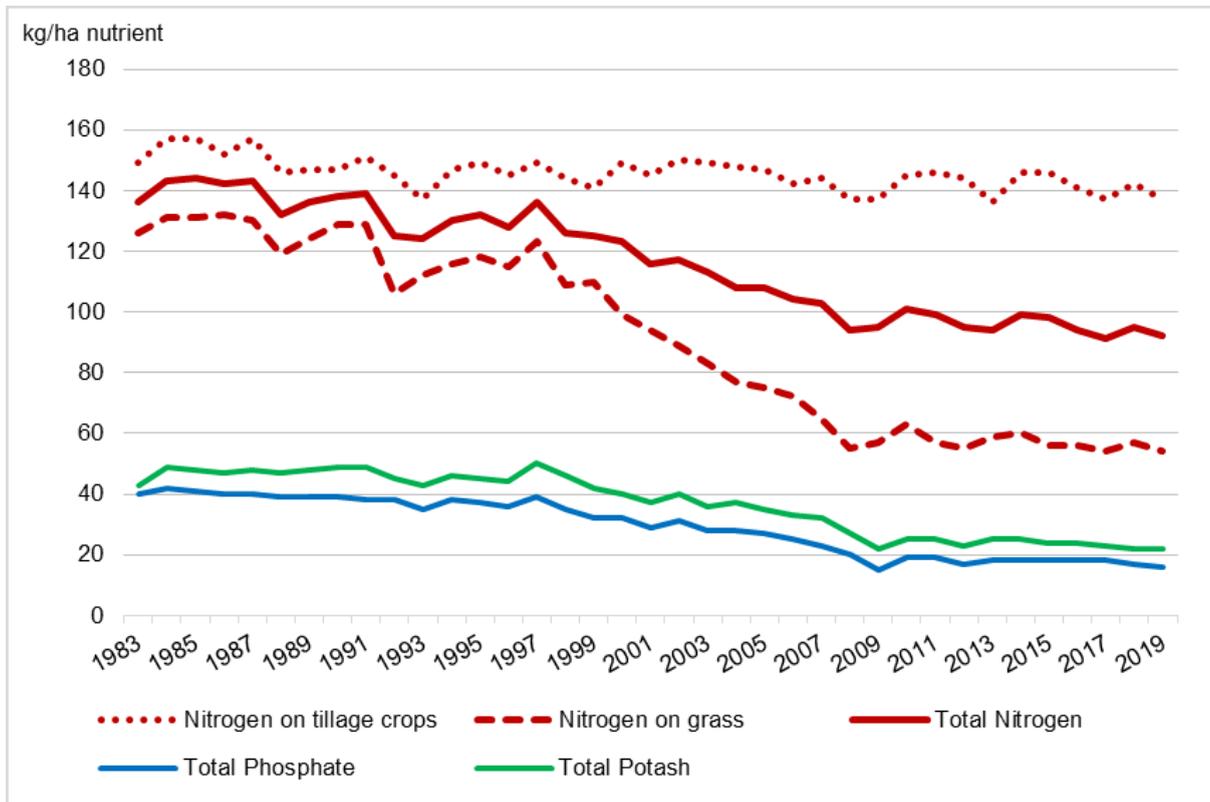


Figure 4: Overall fertiliser use (kg/ha) on all crops and grass, Great Britain 1983-2019

The positive aspects of the current all-Wales approach

53. The FUW does not believe the current all-Wales approach is either justified based on the above data nor that it ensures resources and measures are targeted where they will have the most impact.
54. Moreover, the evidence from other NVZ areas presented above suggests there is a risk that the current approach will in some areas have no impact or make matters worse.
55. As such, the FUW does not believe there are positive aspects of the current all-Wales approach, while the Welsh Government’s own Regulatory Impact Assessment makes it clear that the impacts for thousands of farmers will be crippling.

56. It should be noted that a range of all-Wales measures have long been in place under various legislation and continue to play an important role in terms of reducing a range of issues relating to agricultural pollution.
57. Notwithstanding this, the FUW does believe that such existing all-Wales measures should be enhanced and modernised, and should act as a baseline above which targeted actions in specific problem areas should be implemented.
58. Such principles are encompassed in the Tackling Agricultural Pollution progress report submitted to the Welsh Government on 5th April 2018 by the Wales Land Management Forum (WLMF) Sub-group on Agricultural Pollution⁹.
59. One of the five key work areas of that report was to ensure *“that the formal regulatory regime is sufficiently robust to achieve the outcomes required.”*
60. The report also recommended a *“a fair & even playing field where from the outset, all those in the voluntary scheme are building on the same common standards”* and that *“in the longer term, maintaining regulatory standards aligned with existing and future EU regulations is likely to be central to ensuring continued access to European markets post-Brexit.”*
61. However, with finite resources available for compliance monitoring and enforcement of the current approach, *“a seamless and streamlined regulatory landscape that focuses the regulator’s effort and enforcement options according to risk will ensure that the greatest positive impact can be achieved in the most effective manner.”*
62. In this context, it is notable that, to the FUW’s knowledge, no additional funding has been provided to ensure NRW can undertake their duties as regulator under the Water Resources Regulations 2021.
63. In 2017, the Cabinet Secretary for Energy, Planning and Rural Affairs, Lesley Griffiths, stated that *“further work with stakeholders would be undertaken to achieve the right balance of regulatory measures, voluntary initiatives and investment”*, however, the current approach goes far beyond simply maintaining a regulatory baseline.
64. In this context, it should be noted that the current approach is in the process of being implemented in three stages, namely 1st April 2021, 1st January 2023 and 1st August 2024, to *“provide sufficient time for planning and preparing for the additional requirements.”* according to the Minister.
65. Yet this does not come close to recognising the severe consequences the regulations will have for every farming business in Wales, including the vast majority which have

⁹ Tackling Agricultural Pollution - Progress report by the Wales Land Management Forum (WLMF) sub-group on agricultural pollution. 5th April 2018.
<https://cdn.naturalresources.wales/media/685890/interim-report-from-wlmf-subgroup-on-agricultural-pollution-final.pdf>

not recorded a pollution incident and those in areas where no incidents have been recorded.

The negative aspects of the current all-Wales approach

66. A large proportion of those who voted to leave the European Union (EU) did so with the expectation that the UK and Welsh Governments would move away from EU legislation and towards tailor-made regulations to fit and work for the domestic industries.
67. In contrast to this, the Water Resources (Control of Agricultural Pollution) (Wales) 2021 regulations are based upon the 1991 EU Nitrates Directive and decades old EU Nitrate Vulnerable Zone (NVZ) regulations and are therefore not designed to address the specific agricultural pollution issues present in Wales.
68. As already highlighted in the *Water Pollution in Wales* section (above), given the variance and nature of water pollution incidents in Wales and the inconsistent efficacy of NVZ regulations in other areas, the current approach is disproportionate and will not effectively address agricultural pollution problems in Wales, nor water pollution in its entirety, including the circa 83% caused by non-agricultural sectors and sources.
69. As such, the FUW maintains that in failing to act on or respond to the recommendations in the 2018 *Tackling Agricultural Pollution* report the Welsh Government has delayed the opportunity to work collaboratively with the agricultural industry and implement an effective targeted approach to tackling agricultural pollution.
70. Furthermore, the current regulations will place a significantly greater regulatory burden on every farmer and land manager in Wales, including the majority, who have never suffered an agricultural pollution incident, and those in catchment areas where agricultural pollution incidents have not been recorded.
71. The Welsh Government's Regulatory Impact Assessment (RIA)¹⁰ acknowledges that the regulations will cost Welsh farmers as much as £360 million in infrastructure costs alone.
72. This is around £100 million more than the Total Income from Farming in Wales in 2019, £38 million more than the Total Income from Farming in 2020¹¹, and £29 million more than Wales' annual Common Agricultural Policy budget for the period 2014-2020.
73. £360 million equates to an average of £14,600 per Welsh holding, which rises to £37,700 when only holdings with cattle are taken into account - some £11,500 more than the average Welsh farm business income in the 2019-20 financial year.

¹⁰ Explanatory Memorandum to the Water Resources (Control of Agricultural Pollution) (Wales) Regulations 2021. 27th January 2021

¹¹ Aggregate agricultural output and income, 2020. Welsh Government. 13th May 2021

74. In light of these estimated costs, to date the Welsh Government has made £11.5 million of capital funding available to support farm businesses to improve on farm nutrient management infrastructure - 3% of the potential costs estimated in the RIA.
75. By comparison, the Northern Ireland Executive provided an investment package of £150 million at a grant rate of 60% for capital works when a whole territory NVZ was introduced in 2007.
76. In the context of Northern Ireland, it should be noted that the decision to implement a total territory NVZ in 2007 at least 83% of the land area would, by law, have required designation as an NVZ based on nitrate levels, while the remaining 17% was primarily upland in the Mourne, Antrim Plateau and Glens of Antrim.
77. This contrasts to Wales, where NRW only identified 8% of the country as requiring NVZ designation, while the remaining 92% of the area of Wales was not deemed to require NVZ designation under the EU Nitrates Directive as it was not considered to be at risk of nitrate pollution.
78. Currently around 55% of England is designated as an NVZ and around 11% of Scotland. Despite having a larger proportion of their land area at risk of Nitrate pollution neither England or Scotland have decided to take a whole territory approach to NVZs.
79. The impacts of the regulations will be particularly acute for the tenant farming sector; typically, agreements under the 1986 Agricultural Tenancy Act allow the tenant to request for the landlord to provide the necessary improvements to ensure that the holding complies with statutory obligations and regulations. However, there are a number of caveats involved.
80. Given the substantial costs involved to comply with these regulations, there is no doubt that arbitration between many tenants and landlords will be required, adding to existing concerns regarding the timescales for improving farm infrastructure within the transition period, given the need to seek and obtain planning permission, employ contractors and complete works.
81. Furthermore, based on an average potential cost of £14,600 for each and every farm holding in Wales, it is estimated the total cost of ensuring the 950 Welsh council farms are compliant with these regulations could be around £14 million.
82. Even in scenarios where the tenant is responsible for the cost of investment, they will most likely be refused applications for finance by the bank due to the farm being tenanted and therefore the applicant owning insufficient assets for the loan to be approved.
83. Landlords may also refuse to permit the building of a new slurry store given that under some tenancy agreements, they will be liable to reimburse the investment of the tenant for capital improvements at the end of the tenancy. This becomes an additional issue for older tenants on smaller farm holdings without plans for succession.

84. For a minority of agreements, certain clauses included in the tenancy may in fact prevent the tenant from being able to comply with particular requirements of the new regulations.
85. In 2018-19, the average profit after rent and finance on hill cattle and sheep farms and upland cattle and sheep farms was £16,428 and £17,758 respectively.
86. For the same year, hill farms and upland farms had an average of 31 and 29 cows with average Gross Margins of £241 and £350 per head respectively.¹²
87. The substantial cost of infrastructure improvements would inevitably lead to many ceasing to rear suckler cows in the hill and upland areas of Wales where the vast majority of land is classed as LFA and SDA.
88. An analysis by the charity Plantlife showed that *"...more than half of all wild plants need regular management or disturbance to thrive; 611 (39.6%) species will decline within a decade if the land on which they grow is simply abandoned and 127 (16.4%) will decline within 1-3 years. Moreover, of 112 Critically Endangered and Endangered vascular plant species, 84 (75%) will decline or even disappear if land is abandoned. Land abandonment and undermanagement is now identified as one of the major threats to sites where Red Data List plants grow and to open habitats in the UK and Europe."*¹³
89. In Portugal's Coa valley, an area once used for grazing cattle and pigs as well as cork and honey production, activities which supported a mosaic of habitats, land abandonment has resulted in much of the valley becoming overgrown with scrub and forest.¹⁴
90. It is evident that the loss of upland and hill reared suckler herds would result in the decline in species diversity and therefore the current approach would go against a longstanding policy of the Welsh government to support farmers through environmental schemes such as Glastir to graze cattle in recognition of the benefit it provides for biodiversity.
91. In regard to specific regulations included as part of the current approach, Regulation 18 will introduce closed periods for the spreading of organic manure with high readily available nitrogen in line with the definition explained in Regulation 17 i.e. slurry.
92. While there are exceptions for some holdings and soil types, the closed period will be in place from October to January, in addition to Regulation 21 which places further restrictions on spreading amount and frequency from the end of the closed period until the end of February.

¹²https://www.aber.ac.uk/en/media/departmental/ibers/farmbusinesssurvey/FBS_Booklet_2019_Web.pdf

¹³ https://www.plantlife.org.uk/application/files/6815/6475/5040/Rewilding_Position_Statement.pdf

¹⁴ The Call of Rewilding, New Scientist (13th October 2018)

93. This is the reason why major capital investments will be required for new slurry stores to comply with Regulation 29 which requires all farms that produce slurry to have the capacity to store the amount produced between 1st October and 1st March based on calculations.
94. Furthermore, these regulations in particular will place significant pressure on cattle farmers to empty their stores before the closed period and spread as much as possible within the limits after the closed period to ensure that storage capacity limits are not exceeded, rather than spreading at the optimal time in regard to weather conditions and crop requirements.
95. Such restrictions have resulted in what have become known as 'national slurry spreading weeks' in regions such as Northern Ireland where a near all territory NVZ approach has been implemented, leading to peak dangers in terms of pollution.
96. Regulation 4 places a limit on the total amount of nitrogen in livestock manure applied to the holding, whether directly by an animal or by spreading, of 170 kilograms (kg) per hectare (ha) multiplied by the area of the holding.
97. While EU NVZ regulations and the draft Water Resources (Control of Agricultural Pollution) (Wales) 2021 regulations as published by Welsh Government included a derogation whereby farmers with holdings of more than 80% grassland could apply for a derogation to increase the total farm limit from 170kg to 250kg per ha, this was removed from the current regulations without an explanation.
98. This derogation would serve as a significant safety net for a number of farmers in Wales who are already above the 170kg limit where reducing stock numbers or buying/renting additional land are not viable options, and compliance with the 170kg limit will breach contracts or tenancy agreements, or compromise the ability to repay loans.

The process for developing the current approach

99. Given that the current Regulations are merely copied from EU NVZ legislation, it might be argued that the previous Welsh Government did not follow a process for developing the current approach; rather, the process dates back three decades to the drafting of the 1991 European Economic Community Nitrates Directive and subsequent related EU legislation, such as the 2000 Water Framework Directive.
100. Notwithstanding this, attempts to improve approaches towards tackling water pollution in Wales began in 2016, and the sequence of events is summarised in the below table.

Date	Action/Process developed
29th September 2016	<p>Welsh Government issues a consultation on the Review of the Designated Areas and Action Programme to Tackle Nitrate Pollution in Wales.</p> <p>The consultation proposes either (1) an increase in the total area designated as an NVZ from 2.4% to approximately 8%, such that areas identified by NRW are included, or (2) a whole territory approach (all-Wales NVZ), and that new regulations be introduced in 2017.</p>
January 2017	<p>First meeting of Wales Land Management Forum subgroup looking at Tackling agricultural pollution (known as the <i>Agri-pollution Sub Group</i>), the focus of which is “...<i>eradicating agricultural pollution and, more fundamentally, ensuring that agriculture does not prevent the flow of clean water from our mountains and valleys.</i>”</p> <p>Initial members comprise: Farmers’ Union of Wales (FUW), NFU Cymru, Country Land and Business Association (CLA), Dwr Cymru Welsh Water (DCWW), the Tenant Farmers Association Cymru (TFA), Hybu Cig Cymru (HCC), AHDB Dairy, the Carmarthenshire Fishermen’s Federation (CFF), Natural Resources Wales (NRW) and the Welsh Government (WG).</p>
13th December 2017	<p>Written statement on the Nitrate Vulnerable Zone consultation issued by Lesley Griffiths, Cabinet Secretary for Energy, Planning and Rural Affairs, stating the Welsh Government’s intention to:</p> <p>“...<i>work with stakeholders to get the right balance of regulatory measures, voluntary initiatives and investment...explore options to provide land managers with flexibility, where these would achieve the same or better outcomes than a regulatory approach</i>” and welcoming “<i>the work being done by the Wales Land Management Forum sub group on agricultural pollution and the willingness of the industry to work with us to tackle this problem.</i>”¹⁵</p>
5th April 2018	<p><i>Tackling Agricultural Pollution</i> progress report by the Wales Land Management Forum (WLMF) sub-group on agricultural pollution submitted to Welsh Government.</p> <p>As stated in the executive summary of the 115 page report: “<i>The report is presented in nine chapters. These cover the background to the work, the nature of agricultural pollution in Wales and the approach to tackling the problem. A total of forty-five initial recommendations span the five work areas adopted by the group. Each of these work themes has a significant role and needs to be considered as part of an integrated package:</i></p>

¹⁵ <https://gov.wales/written-statement-nvz-consultation>

	<ul style="list-style-type: none"> • <i>Ensuring that the formal regulatory regime is sufficiently robust to achieve the outcomes required;</i> • <i>Developing a voluntary, farmer-led approach to nutrient management;</i> • <i>Providing better advice and guidance which can then be taken up by farmers;</i> • <i>Improving the existing range of investment opportunities;</i> • <i>Identifying and promoting innovation.</i> <p><i>The report's recommendations – ranging from the strategic to the practical – will require significant further work, resources and commitment from all partners involved in the process. All of our efforts will need to be aligned if we are to tackle the complex range of issues that result in the current levels of agricultural pollution in Wales.</i></p> <p><i>The WLMF sub-group on agricultural pollution remains committed to taking forward the five work streams we have identified, working with farmers to eradicate pollution and ensuring that Wales is renowned for the continuing professional development of its farmers across all sectors as well as the quality of its agricultural produce.</i></p>
27th June 2018	Cabinet Secretary Lesley Griffiths acknowledges receipt of the <i>Tackling Agricultural Pollution</i> progress report
27th June 2018 - present day	No substantive further response to the 5th April 2018 <i>Tackling Agricultural Pollution</i> report nor its 45 recommendations received from either the previous or current Welsh Government.
18th July 2018	Members of the WLMF Agri-pollution Sub Group discuss the Cabinet Secretary's acknowledgment of the interim report and discuss the merits of meeting with the Cabinet Secretary to discuss the recommendations.
14th November 2018	Cabinet Secretary Lesley Griffiths issues a Written Statement, stating <i>"...in the spring of next year, I will introduce regulations to tackle agricultural pollution. These will apply across the whole of Wales to protect water quality from excessive nutrients. The regulations will come into force in January 2020."</i>
14th January 2019	Details of draft all-Wales regulations are provided by Welsh Government to WLMF members. The regulations are clearly 'cut-and-pasted' from EU NVZ regulations.
11th July 2019	ADAS provides draft <i>Regulatory Impact Assessment of Measures to Address Agricultural Pollution</i>
16th July 2019	Attendees of a meeting of the WLMF Agri-pollution Sub Group highlight numerous concerns regarding the draft RIA, including those relating to risk mapping, particular impact for tenants given the restrictions placed on tenants by tenancy agreements, and how the spreading of sewage sludge and digestate would be considered within regulations.

30th July 2019	The FUW provides additional evidence to Welsh Government in regards to the regulations and RIA, proposing an alternative approach and highlighting concerns relating to how the draft regulations lack scientific evidence.
6th January 2020	Second draft <i>Regulatory Impact Assessment of Measures to Address Agricultural Pollution</i> presented to the WLMF sub-group.
7th January 2020	After considering the RIA in July and raising concerns regarding major deficiencies in the report, and further considering the updated RIA, the FUW wrote to Lesley Griffiths outlining serious concerns regarding the Welsh Government and ADAS's failure to address the shortcomings highlighted in July.
29th January 2020	<p>NRW publishes its response to the July 2019 ADAS <i>Regulatory Impact Assessment of Measures to Address Agricultural Pollution</i> sent to Welsh Government following an NFU Cymru Freedom of Information request.</p> <p>The response highlights numerous concerns regarding the proposal to implement an all-Wales NVZ, including that</p> <ul style="list-style-type: none"> ● <i>“The Current RIA considers limited options from those presented in the consultation documents</i> ● <i>“NRW believe that the RIA does not fully follow WGs own RIA guidance in terms of comprehensive presentation of options or how they are assessed</i> ● <i>“NRW would have supported a greater range of options for implementing the Regulations</i> ● <i>“[NRW] feels an opportunity could be lost in not looking at multiple implementation options</i> ● <i>“There is very little analysis on water quality, and nothing at a Wales-specific or catchment level</i> ● <i>“The cost benefit analysis...could be disaggregated into the 12 catchments analysed, helping to understand the spatial nature of the problem, and assess the appropriateness of a whole territory approach</i> ● <i>“The RIA does not include the cost benefit analysis of other sectors such as planning, recycling and waste water treatment industry</i> ● <i>“NRW not having the tools to be able to effectively delivery the regulatory inspection regimes at their current requirement levels in EU regulations. To enable regulatory enforcement with the current tools set NRW would need significant additional competent resource</i> ● <i>“At a time of uncertainty within the farming industry, it is unlikely there will be significant investment in infrastructure or willingness to invest as outlined as</i>

	<i>expected requirement and assumptions in the RIA. As a result, to comply with the regulations farming practices may change. To reduce slurry production increased outwintering of animals with the potential associated negative impacts on soil and water resources (perverse outcomes) maybe seen as a cost effect business solution...This could exacerbate potential water quality issues.</i>
8th April 2020	In the Plenary, Lesley Griffiths confirms “I will be publishing draft regulations on the Welsh Government website which I am minded to introduce once the [Covid-19] crisis comes to an end.” The draft regulations are published on the Welsh Government website.
27th January 2021	Lesley Griffiths brings the regulations forward to the Senedd despite numerous promises in Plenary not to bring them forward during the Covid-19 pandemic.
21st May 2021	The FUW sends an 11 page letter to Lesley Griffiths highlighting unclear, incorrect and unjustified information in the regulations and associated guidance document alongside suggested alternatives.
30th July 2021	The FUW provides comments on the draft Welsh Government Frequently Asked Questions document for tenanted land. The FAQ document doesn’t address any of the major issues for tenant farmers that have been raised since these discussions began.
20th August 2021	FUW receives a ‘full’ response from Welsh Government to the letter sent on 21st May, however, are unable to provide answers to many of the concerns and alternative improvements raised due to the ongoing legal challenge.

101. It must be noted that since the initial consultation on the review of tackling pollution in Wales, there are ample examples demonstrating the willingness of the FUW and other members of the Wales Land Management Forum (WLMF) subgroup on agricultural pollution to work with Welsh Government and provide evidence and recommendations on the best way forward when invited to do so.
102. However, it is clear from the above table that submissions by the FUW and WLMF subgroup have been ignored, and that rather than undertaking a process of development the previous Welsh Government effectively opted to copy decades old EU legislation into the statute book.

The alternatives to the current approach

103. Given that the current approach has been copied from outdated EU NVZ regulations and does not take into account any of the recommendations set out in Tackling Agricultural Pollution progress report submitted by the Wales Land Management Forum (WLMF) sub-group on agricultural pollution in 2018, such proposals and alternative measures are still as relevant now, if not more so, as they were then.
104. Each of the 45 recommendations span over five work areas, namely:
- a. *Ensuring that the formal regulatory regime is sufficiently robust to achieve the outcomes required;*
 - b. *Developing a voluntary, farmer-led approach to nutrient management;*
 - c. *Providing better advice and guidance which can then be taken up by farmers;*
 - d. *Improving the existing range of investment opportunities;*
 - e. *Identifying and promoting innovation.*
105. While it is accepted that a formal regulatory baseline is required as was provided by the Storing Silage, Slurry and Agricultural Fuel Oil (SSAFO) regulations, and aside from numerous concerns regarding the efficacy and proportionality of NVZ regulations, it has been made clear on numerous occasions that increasing the 2.4% of Welsh agricultural land designated as an NVZ up to 8% would allow for a targeted and effective approach to tackling agricultural pollution in Wales.
106. As has already been made clear, a range of pan-Wales regulatory baselines already exist and there is scope to enhance and streamline these.
107. Maintaining and enhancement of the current regulatory baseline would act as an important safety net, whilst allowing targeted actions in areas where problems have been identified alongside actions above and beyond the baseline rewarded as part of the future sustainable farming scheme.
108. In this context, it is notable that the Water Resources Regulations 2021 remove the ability to secure key additional actions through the proposed Sustainable Farming Scheme, despite this having been proposed in the Welsh Government's Brexit and our Land consultation.
109. It is recognised that any approach towards tackling agricultural pollution and water pollution in its entirety in Wales will require further work, resources and commitment from all relevant stakeholders, and the FUW has demonstrated its commitment to doing this, particularly over the past five years.
110. Adopting a targeted and evidence based approach would require significantly less resources than the current all-territory approach and in turn provide better results.
111. Such an approach would also meet the "*Involvement - the importance of involving those people with an interest in achieving the stated goal*" and "*Collaboration - allowing*

those with an interest to work together supportively towards the goal” elements of the Well-being of Future Generations Act.

112. In light of the above, and given FUW committees’ and members’ support for the Tackling Agricultural Pollution report, we would highlight the below sections of the report while urging the Economy, Trade and Rural Affairs committee to take account of the report in its entirety.
- a. In the medium term, Cross Compliance will, at the very least, need a comprehensive overhaul following Brexit*
 - b. In the longer term, maintaining regulatory standards aligned with existing and future EU regulations is likely be central to ensuring continued access to European markets post-Brexit*
 - c. A consistent and transparent regulatory floor will likely provide similar benefits in accessing other EU and non-EU premium markets*
 - d. With finite resources available for compliance monitoring and enforcement, a seamless and streamlined regulatory landscape that focuses the regulator’s effort and enforcement options according to risk will ensure that the greatest positive impact can be achieved in the most effective manner*
 - e. The combination of a simplified, rational regulatory landscape, designed and operating in concert with a farmer-led voluntary approach, targeted investment and the support of on-farm innovative techniques to better manage slurry storage and dispersal, should provide a seamless path to enhanced environmental outcomes, improved business efficiencies and access to existing and new markets. None of these approaches operating on their own is likely to accomplish the desired outcome to the same degree*
 - f. A consistent regulatory floor provides an important environmental safety net should the voluntary scheme not fulfil expectations, ensuring that the condition of the aquatic environment in Wales is enhanced rather than degraded*
 - g. Compliance above an appropriately positioned regulatory floor may also reasonably serve as a gateway to accessing the future incentives and investment measures that the sub-group may wish to recommend to the Cabinet Secretary*

How the current approach could be improved if an all-Wales approach were to be retained

113. The FUW believes that the Water Resources Regulations 2021 are so ill suited, disproportionate and damaging that negating the problems inherent to them would require nothing short of a complete overhaul such that they reflect the recommendations in the Tackling Agricultural Pollution report.
114. Notwithstanding this, the FUW wrote to Minister for Rural Affairs, North Wales and Trefnydd, Lesley Griffiths on 21st May 2021 and included an 11 page document that highlights examples of inaccurate information and anomalies in the regulations and

accompanying guidance, and reiterating adverse and perverse implications that would be damaging for Wales and its environment.

115. Examples of concerns included in the report included requests that Welsh Government:
 - a. Provides clarity on whether farmers should use average rainfall or highest rainfall data to calculate slurry storage requirements, recommending the use of average figures as per previous NVZ regulations.
 - b. Reconsiders the categories of livestock and associated weight and milk yield thresholds and daily N production in such a way that makes it easier for farmers and regulators to complete calculations and demonstrates an accurate relationship between liveweight and manure production.
 - c. Provides an explanation as to why the option for a derogation to increase the annual livestock manure N whole farm limit from 170kg N per ha to 250kg N per ha on primarily grassland farms was removed from the final regulations without consultation and to re-introduce it to enable farmers in Wales to maintain stock and food production levels where suitable.
 - d. Undertakes an evaluation of the financial, environmental and biosecurity impacts of setting the whole farm limit for spreading manure at 170kg N per ha whereby farmers are expected to fulfil the remaining crop requirements using manufactured fertilisers while simultaneously exporting naturally produced fertilisers to other farm holdings.
 - e. Considers Anaerobic Digestion (AD) plants and any associated pollution incidents as specialist industrial processing plants under separate standards.
 - f. Recognises the importance of farms to water companies for the disposal of sewage treatment material and ensures that the agricultural sector is not held disproportionately responsible for pollution incidents in Wales.
116. To date a substantive response has not been received due to the ongoing legal challenge to the regulations.
117. The FUW has also responded in detail to Welsh Government guidance for tenants and landlords on the legislation, highlighting that this merely highlights and acknowledges the severe impacts for tenants and/or landlords and effectively abdicates responsibility for addressing these by recommending costly legal advice and arbitration processes.