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NFU Cymru Response – Welsh Government Review of the Designated Areas and Action Programme to Tackle Nitrate Pollution in Wales

Introduction

NFU Cymru welcomes the opportunity to respond to the Welsh Government Review of the Designated Areas and Action Programme to Tackle Nitrate Pollution in Wales.

NFU Cymru champions Welsh farming and represents farmers throughout Wales and across all sectors. Our vision is for a productive, profitable and progressive Welsh agricultural industry and our aim is to establish the background conditions in which farm businesses can be profitable and develop.

The importance of the farming industry in rural Wales cannot be over-stated. Welsh farming businesses are the backbone of the Welsh rural economy, the axis around which rural communities turn. The raw ingredients that we produce are the cornerstone of the multi million pound Welsh food and drink industry which is Wales' largest employer employing over 222,400 people.

Welsh farmers also play a key role maintaining and enhancing our natural environment – Wales' key asset. Farming activity supports a diverse range of species, habitats and ecosystems, provides a range of ecosystem services including flood alleviation, carbon sequestration, climate change mitigation; and delivers the significant backdrop for Wales' tourism and recreation sector worth an estimated £2.5bn annually.

Overall Welsh farming makes a unique contribution to the social, economic, environmental and cultural well-being of Wales in line with the Well-Being of Future Generations Act summarised in Annex 1.

Summary Response

- NFU Cymru recognises the clear role that farmers have to play in contributing to further and sustained improvements in water quality in the years ahead. We would emphasise, that throughout the consultation period with our members, their willingness to place their part and take action to address nitrates where agriculture is responsible has been unequivocal – farmers take their environmental responsibilities very seriously.
- We are strong advocates of appropriate interventions where poor practices are responsible and it is our view that approaches to address water quality must consider the full range of issues and sectors influencing water quality, be evidence-based, provide local solutions to local problems working in partnership with industry.
- The June Referendum and the decision to leave the European Union has resulted in uncertainty in terms of the future of CAP, future trading arrangements and also in the area of environmental regulation.



- NFU Cymru believes that the new legislative framework provided through the Well-Being of Future Generations Act 2015 and the Environment (Wales) Act 2016 presents opportunities and the flexibility to move forward and make progress on water quality issues on a different basis to that proposed within the consultation.
- NFU Cymru does not support Option 1 (designation of further discrete NVZ areas) or Option 2 (Whole Territory designation). Overall, NFU Cymru remains wholly unconvinced on the basis of the evidence presented that further NVZ designations are necessary.
- NFU Cymru is disappointed that Welsh Government has opted not to publish a regulatory impact assessment alongside the consultation. In our view this runs counter to Welsh Government's own code and this work is vital to demonstrate the costs and impacts of proposals on individual businesses, sectors and specific regions and indeed the economy of rural Wales together with its social and cultural well-being. Without a comprehensive Regulatory Impact Assessment neither our members nor decision makers are in a position to make an informed evidence-based decision on the impacts of designation or the cost-effectiveness of the action programme.
- Our own NFU Cymru NVZ Survey, undertaken in November 2016, highlights a number of very serious concerns with proposals. These can be broadly categorised as costs associated with designation – both upfront in terms of slurry storage and ongoing; demonstrating compliance with the NVZ Action Programme; together with concerns about restrictions on day-to-day farming operations. Our survey shows these are likely to result in some farmers giving up farming altogether or changing their farming enterprise with associated impacts on rural employment directly and indirectly associated with farming businesses.
- The significant costs to achieve compliance should be viewed in the context of a sustained period of low market returns across many sectors. According to the figures based on the results of the Wales Farm Business Survey for 2015-16 (up to March 2016), average farm business income across 'All Farm Types' fell by £6,800 to £22,200 - a decline of around 23%. This is the third consecutive year for farm incomes to fall. For dairy farms, average farm business income fell by a massive 53% with lowland cattle and sheep farms falling by 40% and (Less Favoured Area) LFA cattle and sheep farms down by 1%. Securing the necessary finances will be particularly challenging for the tenanted sector.
- The high levels of concern and opposition expressed throughout the consultation period relate to the approach adopted by the Nitrates Directive which adds costs and reduces farmers' ability to make good management decisions relating to resource management based on their knowledge of their own farm, prevailing weather and ground conditions. Overall, NFU Cymru believes that the extent to which the existing NVZ Action Programme is effective in reducing levels of nitrates from agriculture has not been demonstrated.
- NFU Cymru is also deeply concerned that Welsh Government has opted to move forward with the consultation on the Action Programme before the scientific evidence commissioned by Defra to inform the implementation of Nitrates Directive in the UK has been finalised. Our ability to respond to the consultation has been severely hampered by the failure of Welsh Government to provide access to this research through the consultation process. However, as a matter of principle we do not support changes to the Action Programme that are not required by the EU Nitrates Directive or for which there is no basis in evidence.
- We highlight the clear opportunities and willingness to explore an alternative sustainable management approach to that specified in the NVZ Action Programme. NFU Cymru identifies the opportunities that exist within the current Wales Rural Development Programme (RDP). The First Milk off-set scheme may also provide an effective 'blueprint' for working and NFU Cymru commits to providing the expertise and resources required to support the development



of a sustainable management of natural resources approach should Welsh Government opt to explore this option. NFU Cymru would welcome the opportunity to have further discussions with Welsh Government to take forward such an approach.

Improving water quality

Currently just over one third of our water bodies achieve good ecological status under the terms of the Water Framework Directive. Reasons for failure are complex and varied and these are summarised in the Welsh Government Consultation Document 'A Water Strategy for Wales' (2014) presented in Annex 2 attached.

Evidence shows that there are a range of issues and sectors influencing water quality in Wales and Water Framework Directive Failures attributable to agricultural pollution are shown to be between 14-15%.

Based on the evidence, it is clear that efforts to address water quality using a single issue approach will not deliver the necessary improvements to deliver on Water Framework Directive goals, in particular, the requirement to meet 100% compliance with the Directive by 2021. That said, NFU Cymru recognises the clear role that farmers have to play in contributing to further and sustained improvements in water quality in the years ahead.

NFU Cymru is a strong advocate of appropriate interventions where poor practices are responsible. It has been our long-held view that any approach must be evidence-based, providing local solutions to local problems working in partnership with industry to be effective and we have been extremely active in emphasising the opportunities that exist through the significant mechanisms at our disposal such as the Wales Rural Development Programme, which with some thoughtful design and implementation, have the potential to make measurable contributions to improved water quality in Wales.

In this context, NFU Cymru remains opposed to the concept of the EU Nitrates Directive. This is an out-dated piece of European legislation and represents a blunt, inefficient, bureaucratic and costly instrument with high costs to agriculture with unintended consequences for the environment.

The legislative context

It is important to note that, since its introduction, thinking in the area of environmental legislation has evolved significantly away from a single issue focus to a more balanced approach to all potential pollution sources within catchments – primarily through the EU Water Framework Directive which also takes into account the cost-effectiveness of actions.

More recently Welsh Government has developed an entirely new legislative framework for the sustainable management of natural resources via the Environment (Wales) Act 2016 which puts in place the legislation needed to plan and manage Wales' natural resources in a more proactive, sustainable and joined up way.

The Environment (Wales) Act 2016 *demands that we move away from thinking about specific bits of the environment in isolation from each other and wider society.*¹ It establishes a number of simple principles to underpin the way Welsh Government and NRW work including Working together – co-operating and collaborating at the local, regional and national level; being adaptable – planning, monitoring, reviewing and changing as a better understanding is gained through improved evidence and experience; and considering the full range of evidence not only environmental but also cultural, social and economic evidence from experts, stakeholders and local communities.

In addition, the Well-Being of Future Generations (Wales) Act 2015 places a duty on all public bodies to protect and enhance the economic, environmental, social and cultural well-being of Wales.

¹ NRW SoNaRR (September 2016, p15)

It is our view that the approach and measures taken to comply with the Nitrates Directive do not support the Environment (Wales) Act 2016 and the principles of working it establishes. Proposals within the consultation also fail to adequately address the duties placed on all public bodies in Wales to deliver across the Well-Being goals enshrined in the Well-Being of Future Generations Act. The Act makes it clear that public bodies must work to achieve all of the goals, not just one or two.

A sustainable management of natural resources approach would examine all the sources of Nitrates and seek to address Water Framework Directive failures in the round using collaborative approaches. It is clear from the evidence that a focus which imposes costly regulation on one sector will not, on its own, deliver good chemical or ecological status in line with WFD.

NFU Cymru is, therefore, disappointed that the consultation does not refer to other drivers of WFD failures or say what steps will be taken to address these. NVZ designations and the implementation of the Action Programme cannot be considered to represent an integrated or indeed a partnership approach to tackling diffuse pollution in water courses.

Whilst the new legislation is still in its infancy and not commonly understood, NFU Cymru believes that it does present opportunities and flexibility to move forward on a different basis from that proposed within the Welsh Government consultation - both in terms of the principles for working it establishes and also in the detail of the legislation and the new powers it provides to Natural Resources Wales. NFU Cymru is clear that it is now time to deliver on the aspiration of the Act and further information on such an approach is provided later in this consultation.

It is also appropriate to refer to the June Referendum and the decision to exit the European Union. We note the consultation states that before and during the negotiations, the UK continues to participate in EU activities and Welsh Government continues to be obliged to make legislation to transpose the requirements of the Directive.

Naturally, the result of the referendum in June has created significant uncertainty around the future of environmental regulations. We hope that the Welsh Government will take this into account when considering the responses to this consultation, to ensure that any new regulation is sufficiently future-proofed.

The vigour with which Welsh Government appears to be pursuing further regulation has been a key concern to our members. There is a need to recognise that one of the principle reasons that some farmers voted to leave the European Union was over-burdensome regulation.

We emphasise strongly however, that throughout the consultation period with our members, their willingness to play their part and take action to address nitrates where agriculture is responsible has been unequivocal - indeed, farmers take their environmental responsibilities very seriously.

The high levels of concern and opposition from farmers expressed throughout the consultation period relate to the approach adopted by the Nitrates Directive which adds costs and reduces farmers' ability to make good management decisions relating to resource management based on their knowledge of their farm, the prevailing weather and ground conditions.

Evidence-based decision making

NFU Cymru believes that sound science must be at the heart of all decision making. We note that Natural Resources Wales presents itself as an evidence based organisation ensuring that their strategy, decisions, operations and advice to Welsh Government and others is underpinned by sound and quality-assured evidence. Given the fact that any new designations will have a significant impact upon the businesses of our members in the newly designated areas, NFU Cymru seeks to ensure, on behalf of its members, that any designations are made on the basis of sound evidence and robust methodology. Concerns relating to the evidence base underpinning specific proposals are included



in our response to Question 1 below, however, we would make the following further comments and observations:

- Methodology for identifying Nitrate Vulnerable Zones

We would emphasise that the methodology for the identification of polluted waters under the Nitrates Directive is clear that the assessment should lead to comparable and consistent conclusions across the relevant Directives including the Water Framework Directive; the Urban Waste Water Treatment Directive; Site Condition Reports under the Habitats Directive; and the Bathing Waters Directive. NFU Cymru does not believe that sufficient analysis has been undertaken or provided to demonstrate that this is the case, indeed, we believe in some instances such analysis may reveal a number of conclusions that do not concur with the findings in the NVZ evidence reviews. This information is currently subject to an environmental information request to NRW.

- Extent to which the Action Programme can be effective in reducing levels of nitrates

NFU Cymru would emphasise that the efficacy and the benefits arising from the implementation of the Action Programme cannot be automatically assumed. Whilst Welsh Government identify that measures will reduce the escape of nitrates and other nutrients into the water environment, it also acknowledges that it is too early to meaningfully analyse the success of the existing Action Programme – this is despite a number of long-standing designations in Wales dating back to 1996.

Whilst the consultation identifies the specific benefits arising from the implementation of the Action Programme of measures it fails to acknowledge the negative impacts and unintended consequences that are likely to result, brought about by farmers trying to achieve compliance with what is an extremely complex and inflexible piece of legislation, at the same time as trying to operate economically viable enterprises.

For example, with respect to closed periods, we do not hold with the assertion that spreading slurry during winter months will result in nutrient loss in all circumstances. Indeed, there is strong evidence to suggest nutrient uptake by grass and other crops continues into the winter, particularly to the west of the country. Wales is unlike mainland Europe where winter temperatures are below freezing for prolonged periods. Met Office data, for example, shows that on average Milford Haven has just four days of frost in each month of December, January and February.

Farmers who undertake grass measuring on their farms are able to demonstrate grass growth and, therefore, nutrient uptake, continues, albeit at a reduced rate, throughout the winter period. For example, grass growth in Pembrokeshire during October 2015 was found to be 30kg/Dm/ha/day. In October 2016 the figure was 49kg/Dm/ha/day. Levels in excess of 15kg/Dm/ha/day were recorded for November 2015 and we would suggest that far more research into winter grass growth is required.

The closed periods reduce the farmers ability to make decisions to apply slurries and manures when weather and field conditions allow. We refer to evidence that shows that inflexible closed periods leads to farmers being forced to spread the same volumes of slurries and manures in what is in effect a shorter window due to the closed period. The latest monitoring data from the Bosherton Lakes NVZ designation is a case in point where spikes in nitrates have been observed as evidenced in the NRW technical memo TMW16_26.

On the issue of slurry storage, we refer to the NRW assessment of slurry storage on farms visited within South West Wales. The conclusions of this analysis are underpinned by the inaccurate and prejudicial assumption that aging infrastructure represents a risk to the environment. NFU Cymru does not agree. We would emphasise that it is not the age of the asset that is important rather it is its performance and we are aware that this is the approach adopted within the water sector. It is wholly wrong to assume that infrastructure is non-compliant simply due to its age and we refer you to the

ADAS research published in support of the Joint Government and Industry Slurry Management and Storage Project in 2013 where this was a key finding.

We further highlight that if slurry stores are found to be non-compliant, NRW currently have the powers to take action since they are regulated via the Silage, Slurry and Agricultural Fuel Oil Regulations and that regulation is already in place and operational.

Nor does NFU Cymru agree that storage capacity can be viewed as a proxy for poor nutrient management. We would refer you to the evidence (above) that exists that shows grass growth and, therefore, nutrient uptake continues into the winter months.

Further, we are aware that in excess of 1500 nutrient management plans were part funded through Farming Connect, with a further 400 funded as part of Glastir Advanced during the previous RDP programming period. The number of farmers with nutrient management plans developed outside of these mechanisms is not known. We are aware, however, that approximately three quarters of the land area of Wales is currently under voluntary farm assurance schemes which require inspection for compliance at 12-18 month intervals and which have clear requirements on manure, nutrient and pesticide management.

NFU Cymru recommends that a review of the effectiveness of the current action programme is undertaken before any further designations are taken forward.

- Evidence underpinning the proposed changes to the Action Programme

We note from the Welsh Government that Action Programme proposals are underpinned by detailed scientific evidence through research commissioned by the Department for Environment, Food and Rural Affairs (Defra) to inform the implementation of the Nitrates Directive in the UK. However, we place on record our concerns that our ability to respond to the consultation has been severely hampered by the failure of Welsh Government to provide access to this research through the consultation process. Indeed, it is our understanding from Welsh Government that the outcome of this research has not yet been finalised. In the absence of the research findings, the proposals contained within the Action Programme can only be considered as speculative. We are uncertain as to how the Welsh Government could set out the proposals for change without providing the scientific research and evidence.

NFU Cymru is deeply concerned that Welsh Government has opted to move forward with the consultation on the Action Programme on this basis NFU Cymru has set out our concerns with the Legal Services Department of Welsh Government in our letter dated 21st December 2106. Whilst NFU Cymru will be pleased to provide input to the proposed Action Programme workshop in 2017 we are deeply concerned that our members have been disadvantaged during the formal 12 week consultation process by being placed in the position to make responses to the consultation on the basis of speculative proposals and without access to the research that led to these proposals.

- Regulatory Impact Assessment

NFU Cymru welcomes the fact that Welsh Government states, in selecting the final package of measures, they will be looking for the best suite of proposals that will support an economically viable farming industry. Indeed, this is vitally important for farm businesses affected, the wider rural economy and the economic, environmental, social and cultural well-being of Wales as a whole. The consultation identifies that having land within an NVZ requires landowners to bear the extra costs of complying with the Action Programme and Welsh Government identifies that the additional measures contained within the consultation are likely to have greatest operational and financial impact upon dairy and beef farming practices. However, no attempt to quantify costs and impacts is presented alongside proposals.

Welsh Government does not attempt, through the consultation or through the publication of a Regulatory Impact Assessment, to set out the costs and impacts of proposals on individual



businesses, sectors, specific regions or the economy of rural Wales and its social and cultural well-being. This is most disappointing to us. NFU Cymru contends that this analysis needed to be completed pre-consultation. We ask what is the point of doing this later in the process when the decisions have been taken. At that late stage individual businesses are limited in their ability to influence the course of action proposed.

Our surprise and disappointment in Welsh Government's failure to publish a Regulatory Impact Assessment has been placed on record to the Legal Services Department of Welsh Government on 6th December 2016. In our view this failure amounts to a serious procedural defect in the NVZ consultation process. It greatly diminishes the ability of our members to assess the proposals within the NVZ consultation and to respond to them; if the relevant RIA does not exist then it is extremely worrying indeed as it can only be concluded that Welsh Government is consulting on proposals in respect of which it has no idea of the likely costs and impacts for those affected. We believe the approach adopted by Welsh Government goes against the Welsh Ministers' Regulatory Impact Code for Subordinate Legislation and NFU Cymru entirely reserve our legal rights in relation to this matter.

We further highlight that the Water Framework Directive of which the Nitrates Directive forms an integral part places emphasis on the cost effectiveness of actions. Without a comprehensive Regulatory Impact Assessment neither our members nor decision makers are in a position to make an informed evidence-based decision on the cost-effectiveness of the action programme in the line with WFD requirements.

NFU Cymru would take this opportunity to place on record the importance of a vibrant farming industry to the economy of Wales. Agricultural plays a vital role in Wales' economy and it the axis around which rural communities thrive employing 58,300 either full-time or part-time on Welsh holdings and with a gross output of almost £1.5billion. Farming is the cornerstone of the £6.1billion Welsh food and drink supply chain industry.

- Survey results

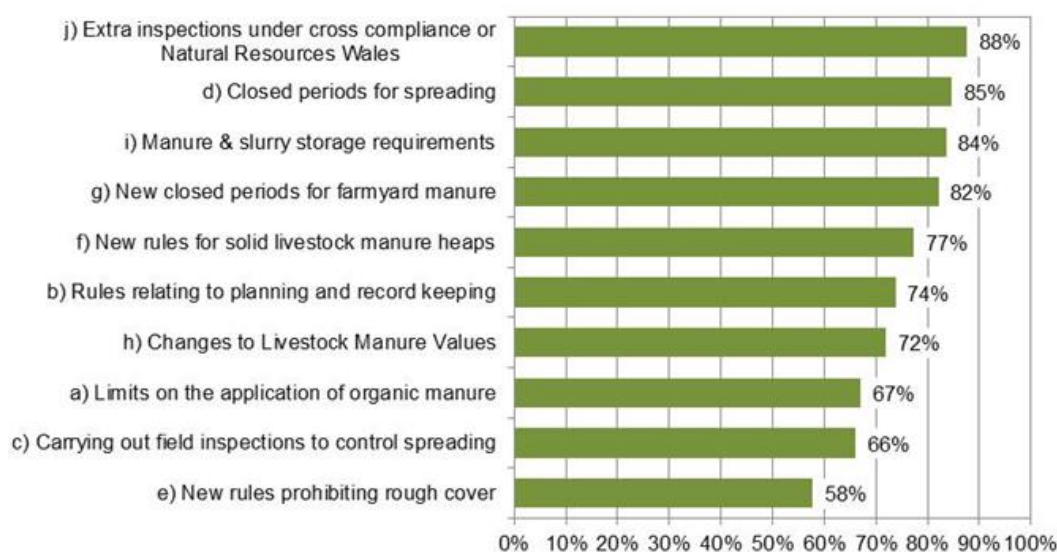
NFU Cymru, concerned by the fact that Welsh Government opted not to provide a Regulatory Impact Assessment alongside the consultation proposals, has carried out research to gather information on the impacts and costs of proposals. This took the form of an online questionnaire circulated between 11 November 2016 and 11 December 2016 and resulted in 293 farmer responses from across Wales. Key findings include:

- Around one in eight farmers (13%) **that are not currently in a NVZ** said they would give up farming or would consider giving up if NVZ proposals were introduced
- Nearly three quarters **of farms that produce slurry** (73%) said they did not currently have sufficient slurry storage on their farm to meet proposed NVZ requirements
- It will cost **those without sufficient slurry storage** an estimated average of £79,957 to achieve NVZ slurry storage compliance

Levels of awareness of proposals were low, particularly in the case of the option to take forward the Whole Territory designation. The survey found:

- 83% of respondents were aware of either option 1 or option 2 and **17% had not heard of either option**
- Only **46% were aware that option 2 (whole territory)** had been proposed
- Only **10% of those that were aware of either option found out about the NVZ proposals via Welsh Govt. and only 3% via NRW**. Most (75%) found out via NFU Cymru (note - respondents could select more than one option i.e. options are not mutually exclusive)

In terms of the NVZ Action Programme, key areas of concern for farmers are summarized in Table 1 below:



With respect to changes that farmers would make to their farming system subsequent to designation, the survey found that that:

- 34% would change their farming system (93 respondents) and we asked this group what changes they would make
(note - however figures below are based on all 274 respondents not in NVZ for ease of reference)
- 13% would give up farming or would consider it
- 16% would fully change their type of enterprise or would consider it (beef to sheep generally)
- 2% would keep more livestock or would consider it
- 27% would keep fewer livestock or would consider it

With respect to a voluntary approach, in line with the sustainable management of natural resources, the NFU Cymru survey demonstrated strong support from the industry with 75% prepared to consider a voluntary approach.

Comments received via the NFU Cymru NVZ Survey are included throughout the remainder of the consultation response.

We also refer to research conducted by the Centre for Agroecology, Water and Resilience at Coventry University in their study 'Assessing the Impact of Increasing Nitrate Vulnerable Zones in Wales', Interim Report December 2016. This study which took place in July 2016 involved the circulation of hard copy questionnaires to 1000 farmers with data gathered on farm type, financial impact of NVZs, farm management impact of NVZs, environmental impact of NVZs existing communication regarding NVZs together with the relevance of the impending EU exit on NVZs. Overall 98 farmers responded across six counties – the majority responding from Pembrokeshire.

62% of respondents considered that NVZs have, or possibly have, 'good points' which the author identifies is perhaps indicative of a general understanding of the impact of nitrates on the environment and, possibly, the farmers role in mitigation. The author further identifies *'the increasing openness to understanding the effects of, and taking responsibility for, farming and the environment, bodes well for developing a more progressive attitude to nitrate management, leaving the door open for more sustainable management techniques that have a wider beneficial impact than just nitrate management and that do not require legislation'*.

However, 90% of respondents considered NVZs have, or possibly have 'bad points' to NVZs and the accompanying comments elucidating farmers' concerns can be categorised as increased financial costs, increased bureaucracy and restrictions on management practices.

The study concluded *'based on the data presented one can say many farmers (62%) see good points of NVZ, however even more see bad points (90%) and many (70%) are not satisfied with the level of communication. There is clearly a communication problem with the farming community and farmer co-operation is needed for any successful policy. Especially reducing nitrates in water bodies cannot be achieved without farmer co-operation. Complicated and opaque regulation may not achieve this. Without widespread farmer co-operation, legislation could become costly and unmanageable especially as the regulator, NRW, is currently decreasing its staffing levels. Also, Brexit might provide an additional distraction and burden of work combined with uncertainty over the unknowns of the proposed EU exit and loss of CAP Pillar 1 payment and its impact on farm profitability'*.

- The consultation process

NFU Cymru would express concern about the structure of the Welsh Government consultation and the framing of the questions which present many aspects of new designations and the Action Programme as a *fait accompli*. This is particularly challenging in the context of the weaknesses identified above including the evidence underpinning new designations and accessing the research behind the new aspects of the action programme which is not presented, or as we understand it, yet finalised.

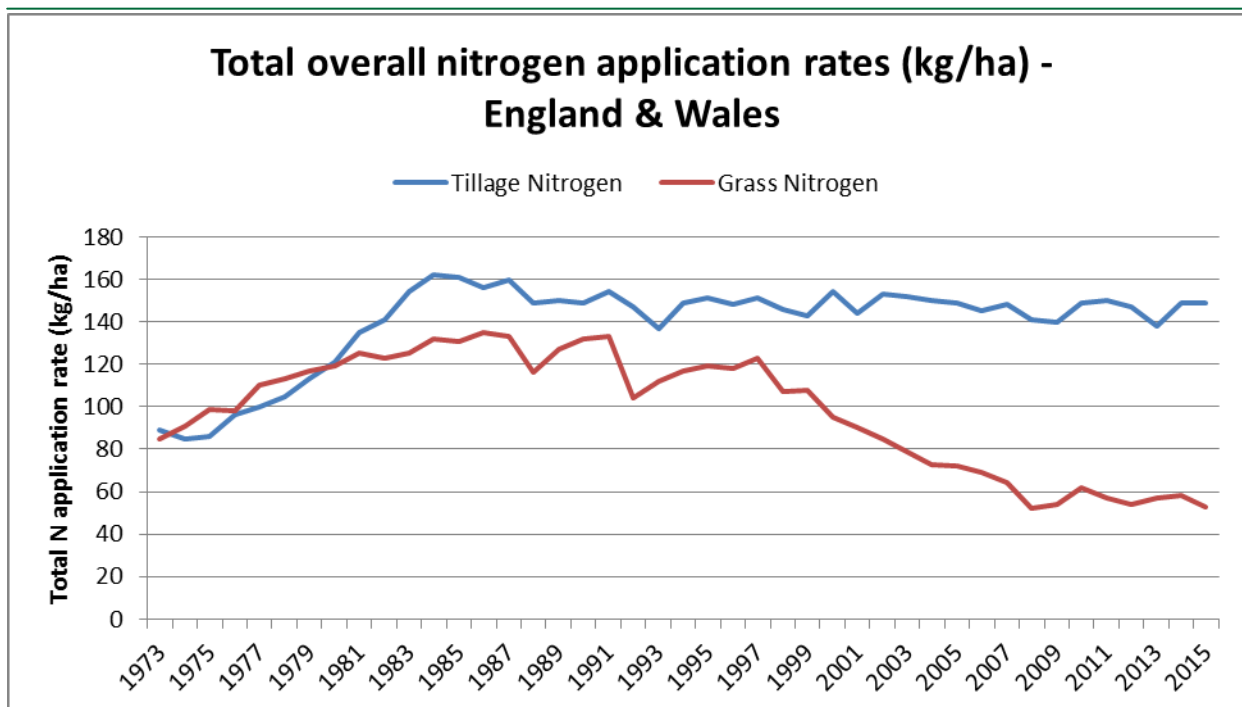
We also express concern about the images presented throughout the consultation document. We would suggest that the practices represented in image 1 are already regulated via existing SSAFO Regulations. It is impossible to determine from image 3 the source of the nitrates thus including the image with the caption added is potentially highly misleading to the reader.

In addition, presenting the costs for nitrate water treatment at a UK level within the consultation misleads the reader further given that a high proportion of the discrete areas being proposed in this review are being taken forward on the basis of eutrophication where the standards are an order of magnitude lower than the Drinking Water Standard. NFU Cymru contends that the costs of water treatment cannot be presented as a justification for the proposed NVZ designations. Welsh Water-Dwr Cymru – Wales's largest water supplier, for example, do not currently treat water to remove nitrates or nitrites.

We also place on record our concerns at a number of misrepresentations/inaccurate assertions within the consultation document with respect to levels of nitrogen fertiliser used in the agricultural sector. The British Survey of Fertiliser Practice shows that the use of nitrate fertiliser in England and Wales has followed a general declining trend since the mid-1980s as shown in Graph 1 below. The overall reduction in N use since its peak is 32% with the use of N by grassland farmers declining by 61% and by 8% on tillage land over this time period. There has also been an overall decline in the amount of manure produced due to a decline in livestock numbers and more efficient production systems. There has been a 21% reduction in nitrogen input from manures since 1990.

At a Wales level, the Glastir Monitoring and Evaluation Programme (GMEP) identifies that nitrogen applications have reduced by 45% since the 1990s.

Graph 1 showing the total overall nitrogen application rates (kg/ha) – England and Wales



Source – British Survey of Fertiliser Practice

Whilst the graph above shows total overall nitrogen application rates (kg/ha) in England and Wales, it is important to recognise that N application rates will range above and below these levels at individual farm and, indeed, field parcel level. In more intensive agricultural systems, including arable, it is also important to recognise the increasing deployment of precision technologies such as GPS, soil mapping and variable rate application of fertilisers which optimise nutrient application to meet crop yields across different soil types in individual fields with clear economic benefit and also significant environmental benefit in that excess nutrients are not applied.

Before turning directly to the questions posed in the consultation, NFU Cymru would summarise that, in the context of Wales' new legislative framework for the sustainable management of natural resources and the decision to leave the EU, we are wholly opposed to the proposals contained within the consultation on the basis of the evidence provided underpinning proposed designations together with the lack of analysis demonstrating the extent to which the Action Programme will be effective in reducing levels of Nitrates.

Whilst Welsh Government has opted not to make its own assessment of costs and impacts to agriculture and the wider rural economy available, NFU Cymru's own research shows these to be significant. Key areas of concern relate to the investment costs after a sustained period of low market returns in many sectors; achieving compliance with what is an extremely bureaucratic piece of regulation; together with the significant restrictions placed on day-to-day farming operations associated with the action programme with knock-on effects to both business and environmental performance. We emphasise the clear opportunities and willingness that exists to explore an alternative sustainable management approach to the Nitrates Regulation.

We request that due consideration of the above section of the NFU Cymru response is included in the Welsh Government analysis of consultation responses to be presented to Welsh Ministers. Without prejudice to our stated position above, NFU Cymru responses to the questions posed in the consultation document are presented below. You are also referred to our views on a number of important and related issues which have not been the subject of consultation at the end of this document.

Q1 Do you prefer Option 1 (continuing with discrete NVZ designations), or Option 2 (applying the Action Programme to a 'Whole Wales' NVZ designation)?

NFU Cymru does not support Welsh Government proposals to take forward Option 1 (designation of further discrete NVZ designations) or Option 2 (applying the Action Programme to a 'Whole Wales' NVZ designation).

With respect to Option 1, NFU Cymru would express disappointment that the consultation does not invite comments on the areas proposed for designation as NVZs in Wales.

NFU Cymru has commissioned in-depth analysis of the evidence underpinning the proposed new designations. This has been undertaken by independent specialists and they have identified a number of gaps and shortcomings within the evidence base which significantly undermine the conclusions of Natural Resources Wales and, therefore, the proposals to designate as NVZs.

The concerns with respect to the Milford Haven Inner and the proposed lakes were expressed in our letter to Welsh Government on 19th May 2016. In our view, each of the specific points raised have not been adequately considered by Welsh Government and Natural Resources Wales. This has served to further undermine our confidence in both the proposals for new NVZs based on the recommendations of NRW but also in NRW which seeks to present itself as an 'evidence based organisation'.

NFU Cymru takes this opportunity to place on record the weaknesses in the evidence base underpinning designations as follows:

- Existing designations

We express concern that information underpinning the continued designation of NVZs in Wales has not been presented by Welsh Government or NRW within the consultation process. NFU Cymru has requested this information on behalf of our members during the consultation process, however, a response is still awaited. We are concerned that the consultation process is flawed as a result of the failure to communicate this evidence in an open and transparent way.

- Trophic Status of the Milford Haven Waterway

In the case of the Trophic Status of the Milford Haven Waterway, NFU Cymru has a number of concerns that some fundamental aspects are missing or not adequately considered through the application of the methodology and in the decision-making process. This includes:

The NVZ Methodology (2012) requires criteria in three categories to be assessed for the designation of transitional and coastal waters. Category I relates to causative parameters (elevated nutrients); Category II relates to response parameters – Plants/algae – including increased abundance of and biomass of algae (phytoplankton, macroalgae, benthic diatoms) and/or higher plants, changes to species composition, exceptional algal blooms; Category III relates to secondary and other effects – including changes in dissolved oxygen, occurrence of toxic/harmful algal blooms, effects on other flora and fauna, information on impacts on water use.

A case for identification is considered to exist where it is found (i) that the Category I criteria are exceeded **and** (ii) some (or all) of the Category II and III criteria are exceeded or may be exceeded taking into account the influence of relevant environmental factors.... In the context of the Nitrates Directive, a water body is only considered to be polluted if sufficient nitrate is present to promote eutrophication *in addition* to any phosphorus enrichment. The NVZ Methodology is clear that not only does nitrogen have to be present above the threshold levels, it also has to be found to be the sole cause of eutrophication.

NRW recommend that a case for designation under the Nitrates Directive should be made for the catchment area of the Milford Haven Inner Water body on the basis of Category I - WFD Dissolved Inorganic Nitrogen (DIN) failure; Category II - WFD Opportunistic Macroalgae failure; and Category III - High percentages of anoxia in surface sediments; impacts of eutrophication on water use i.e fishing activities, navigation and cooling water processes at Pembroke Power Station; evidence of localised impacts to seagrass and pioneer saltmarsh – however, these are not reflected in WFD water body level classifications.

Category I

From the evidence presented, NFU Cymru remains unconvinced that nitrates are the cause of eutrophication as required for designation by the Nitrates Directive. This is because the graphs provided in the Evidence Review show that DIN is in the order of 20 times greater than Dissolved Inorganic Phosphorus (DIP). It is widely accepted that at ratios of >17 the waterbody is P limited, ratios of <10 suggest N limited. There is also uncertainty expressed in the CEFAS modelling study over whether the Milford Haven is nitrogen or phosphorous limited which requires further analysis.

We would further highlight that downward trends were reported for DIN at most of the monitoring points in the NRW report “Environmental Pressures on the Milford Haven Waterway”.

Source apportionment undertaken by NRW considers the diffuse loading from Sewerage Treatment Works (STW) and other consented discharges. It does not, however, include analysis of septic tank discharges, smaller unconsented STWs, drainage from urban areas, combined sewer outfall discharges, significant caravan/leisure sites. These also require assessment within the Evidence Review.

Category II

Failure of the Milford Haven Inner is based very heavily on the perceived failure of macroalgae alone. NFU Cymru would highlight the significant weaknesses here. Macroalgal growth, for example, should be assessed in the summer months and for sites with excessive growth, the % cover identified. Excessive growth is considered when areas are greater than 10ha in which the average algal cover exceeded 25%. Measurements of algal cover have been made on four occasions by NRW since 2009. However, **only in 2012** did coverage exceed 25% of the intertidal area – and this was based on a partial survey.

The NVZ methodology identifies that *concern is focussed on the consequences of excess algal coverage, for example, whether the macroalgae overwinter making the underlying mud anoxic*. The Evidence Review considers quadrat sampling undertaken by NRW and identifies the general absence of overwintering macroalgae.

The suite of WFD measures has not been completed including assessment of Benthic Invertebrate Fauna. Few details of the phytoplankton assessment are included in the Evidence Review but the WFD status is known to be High (i.e Better than Good). Monitoring of chlorophyll a is also Better than Good.

Category III

Routine monitoring results for dissolved oxygen have not been provided or assessed within the Evidence Review.

Whilst the methodology states that both quantitative and qualitative evidence can be considered as part of the review, the evidence presented is anecdotal in the extreme. We would suggest that

details of date, location, duration and extent should be a minimum requirement and this data is missing in most instances.

A number of the concerns identified and shared by NFU Cymru are reaffirmed by the Scientific Review undertaken by Professor Mike Elliott.

With respect to Category I Evidence, Professor Elliott refers to the NRW conclusion *“that N limitation is more likely than P limitation and that calculations for the latter should be treated with caution”*. Professor Elliott suggests that this requires further analysis and discussion within the Evidence Review.

For Category II, Professor Elliott identifies that *“the omission of benthic quality data (macroinvertebrates) is unusual in such an assessment – this is the greatest omission given its value in showing adverse sedimentary changes and organic/enrichment/eutrophication”*. Similarly, he identifies, that fish community data is not presented. He also identifies the requirement for the need for more complete data for the prevailing water quality, especially turbidity. Spatial and temporal Dissolved Oxygen (DO) sags.

Professor Elliot asks what ground-truthing has been done for the growth of macroalgal mats. In a similar assessment in the Humber Estuary aerial photographs were indicative of macroalgal mats but ground-truthing found this not to be the case.

Professor Elliot also suggests the need for a tick-list of signs and symptoms of eutrophication to allow the weight of evidence of undesirable symptoms to be rigorously presented. Concluding Professor Elliott identifies the need to use all the available evidence to make this more objective. In our view, such an analysis would be useful in highlighting the deficiencies and failure to present a complete assessment of available data to underpin the designation.

Finally, he suggests that NRW should consider the validity of separating the Milford into two separate areas through further analysis of spatial and temporal trends.

Whilst, overall, Professor Elliott indicates that there is good, substantial and defensible evidence that the Milford Haven Waterway is eutrophic or likely to become eutrophic, he makes no reference to whether this is due to nitrates. Our confidence is further undermined by the fact that the Panel, in the Terms of Reference provided by NRW, were not instructed to provide advice specifically on the scientific evidence linking elevated levels of nutrient nitrogen to evidence of eutrophic disturbance. This is a fundamental flaw in the context of the Nitrates Directive.

Professor Elliott also suggests that it would be beneficial to show relative percentages for both concentrations and loadings for DIP and DIN – this could then cross-refer to the eventual measures to be taken i.e what are the most cost-effective measures. Through this statement Professor Elliott appears to assume that phosphates can be a material consideration in designation. This is not the case.

In summary NFU Cymru remains unconvinced, after consideration of the evidence presented, that nitrates are the cause of eutrophication within the waterway. Whilst evidence of eutrophication appears to be based solely on macroalgae, there are deficiencies in the data here. On only one occasion (2012) did coverage exceed the required threshold and that was a partial survey. Category III evidence is limited in the extreme and some is of very poor quality.

Overall, it appears that throughout the Evidence Review process the objective of NRW has been to make a case for designation of the Milford Haven Inner Waterway rather than presenting a balanced review of all evidence.

- Eutrophic Freshwater Recommendation - Llyn Maelog, Anglesey

Our analysis would suggest that insufficient data is presented, and this has been collected over insufficient time (monthly over a two year period 2013-2014) to make a case for designation within the report. NFU Cymru would highlight that the proposed update to the method statement (dated 17th July 2015) mentions that assessment will cover the period 2010-2014 for existing designations and any other lakes which have sufficient data available. In our view an adequate dataset over the defined assessment period should be a prerequisite for designation.

In addition, the role of nitrogen in eutrophication is not presented and NRW has made no analysis of whether the lake is N or P limited. The impact sewage discharges within the catchment are not adequately considered within the Evidence Review as no source apportionment has been undertaken or presented for this lake. We would highlight that the lake is surrounded by properties in Rhosneigr, as shown in the image below, the failure to include source apportionment is, therefore, a very significant omission.



- Eutrophic Freshwater Recommendation - Llyn yr Wyth Eidion, Anglesey

This lake has an annual mean Total Nitrogen (TN) concentration over 2 N mg/l threshold above which there is a presumption to designate. However, this is based on analysis of a small dataset – just five samples were collected from the lake itself within the sampling period.

Our ground-truthing suggests that these samples were collected prior to NRW funded work that resulted in the diversion of sewage away from the eastern side of the catchment. We ask NRW to confirm if this is the case.

The report also indicates that the catchment has been altered by drainage modifications carried out in the 19th century which have contributed to long-term damage to the lake. The Palaeolimnological Study lends support to the conclusion that the lake is damaged but suggests that other causes than nutrient enrichment are contributing to the damage. The Evidence Review identifies that the ‘best chance’ of restoring the lake could be achieved by other measures. These measures are not specified, except for one which would be to divert the present inflow stream away from the lake.

NFU Cymru is concerned that the recommendation for designation is driven by the fact that the waterbody adjoins a SSSI designated sites and does not objectively consider the evidence which is severely undermined by the poor dataset. In addition, NRW does not appear to have considered the 'current understanding of the impact of preventative action' as specified in the Nitrates Directive. We would highlight that this is a lake of 1.4ha and the catchment has been identified to extend to 370ha and this area was previously part of the Anglesey Fens project which attracted European funding and good co-operation from surrounding landowners. The alternative measures should be actively pursued.

- Eutrophic Freshwater Recommendation- Llyn Pencarreg, Carmarthenshire

The lake has a TN of 0.86mg N/l, well below the 2 N mg/l threshold above which there is a presumption to designate and below the 1 N mg/l threshold where designation is at the discretion of the Expert Panel. TON levels were also noted to be low in winter (TON 75%ile is 0.26 N mg/l) whilst phosphorus concentrations were high. It is clear, therefore, that NRW have not applied the methodology.

We would further highlight that designation is being taken forward on the basis of just 10 water samples from November 2011 to November 2014 coupled with biological data. The dataset is identified as too small to assess whether the lake is nitrogen or phosphorus limited.

NFU Cymru would emphasise that the Nitrates Directive required designation on the grounds elevated levels of nitrates and evidence to link this with eutrophication. The Evidence Review is incomplete without this analysis.

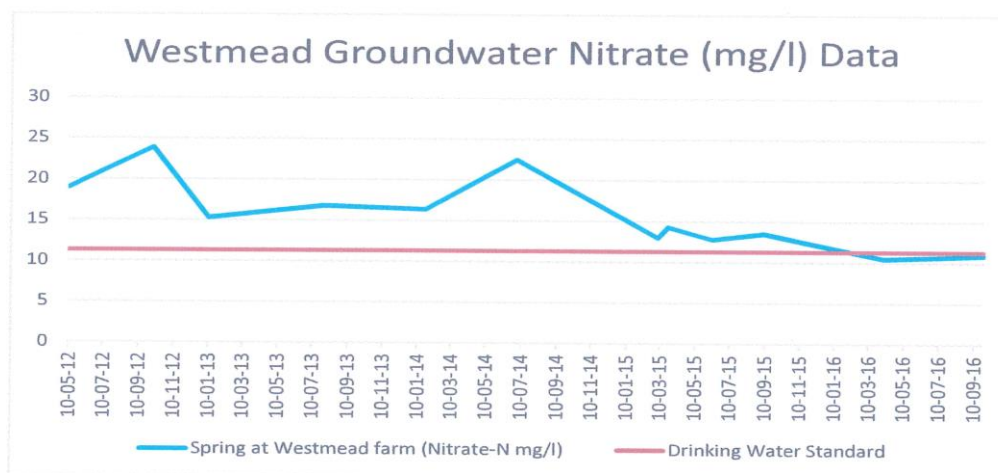
- Groundwater Recommendation – Llanmiloe, Carmarthenshire

NRW identify that the groundwater methodology has highlighted the area around the groundwater quality network sampling point at Westmead Farm as a candidate for Nitrate Vulnerable Zone.

The data source includes water samples from private water supplies and other water features obtained through engaging with farmers in the area. NFU Cymru has obtained Groundwater Nitrate (mg/l) data for the Westmead site up to the most recent sample on 10 September 2016. This is shown in Graph 2 below and shows an overall downward trend going below the 11.3mg/l threshold during 2016. NFU Cymru has subsequently requested monitoring data for all eight sites up to the current day, however, we understand that only Westmead Farm is part of the NRW groundwater quality network and sampled regularly. The other locations have only been subjected to ad-hoc sampling with the most recent samples collected in 2015 during NVZ classification work.

Our ground-truthing shows that there has been significant investment made within the area in new slurry storage facilities in 2014 which suggests that the downward trend is likely to be maintained. The terms for designation are that water is polluted or is likely to become pollution should action not be taken. This proposed designation fits neither of these requirements since clearly there is a downward trend based on the available monitoring data.



Graph 2 showing Groundwater Nitrate (mg/l) at Westmead site

To conclude, given their extent and the significant economic impact that the proposed NVZ designations are likely to have on farming businesses and the rural community as a whole, the decision to designate should not be taken lightly. NFU Cymru would stress, once again, that any designations based on poor or incomplete evidence would be extremely concerning to us.

The evidence base underpinning designations will, inevitably, be the focus of considerably more scrutiny in the next stage of the process when farmers in Wales have a period of appeal. There are already strong indications from significant numbers of farmers of their intention to appeal against the proposed designations on the basis that water does not drain into polluted waters and that the waters are not polluted by nitrates in line with the conclusions reached above.

With respect to Option 2 – Whole Territory Designation, we reiterate NFU Cymru is wholly opposed to this approach. We believe it to be completely contradictory to the principles of working adopted by Welsh Government and Natural Resources Wales in the Environment (Wales) Act 2016 in that to proceed on this basis would be against the principles of science and evidence based decision making.

This is because, based on monitoring data, there can be no question of the need for a Whole Wales NVZ designation, therefore, there is no possible way that it can be justified. Such an approach would constitute ‘gold plating’ of EU Regulation and whilst Welsh Government may not be aware of the very significant additional costs, our own research shows significant costs and impacts on farm businesses across Wales, with the potential to force farmers to give up farming.

NFU Cymru would reiterate that Nitrate levels in Wales have been extremely low and continue to decline as evidenced by GMEP evidence. It is also inaccurate of Welsh Government to assert that the whole territory designation would provide a baseline to tackle agricultural pollution when this baseline of regulation and good practice is already provided for via a number of existing inter-related mechanisms such as SSAFO, Cross Compliance, EPR (Intensive Farming), the Code of Good Agricultural Practice and industry standards.

NFU Cymru would further highlight the fact that of the new designations being put forward by Welsh Government the vast majority of the land area is not due to high nitrate levels but provisional eutrophic areas with very low nitrate levels of between 1 and 2mg N/litre.

We believe, therefore, Whole territory designation would be grossly unfair on farmers placing them under the significant burden of additional onerous regulation and costs. Nor, do we believe, that Whole territory designation provides an incentive to farmers to improve nitrate leaching from agriculture to facilitate de-designation. NFU Cymru believes the onus should be on Welsh

Government to prove that there is an issue pan Wales and also demonstrate that the NVZ Action Programme, will indeed be effective in delivering improvements.

“If all Wales was in an NVZ we may not able to keep cattle here. This would be a step backwards because it is well known that there are environmental and grazing benefits that go with keeping cattle”

NFU Cymru NVZ Survey Respondent, November 2016.

Q2 Do you agree with the proposal to charge a refundable fee of £250 per appeal?

NFU Cymru notes that if Option 1 (designation of discrete areas) is taken forward, Welsh Government will notify those landowners who will be affected by the new regulations following the conclusion of the consultation process. We seek clarification that this will include those farmers within the pre-existing NVZ areas as well as those in newly designated areas.

We note that appeals will be handled by the Planning Inspectorate Wales. We place on record our concerns with respect to the levels of expertise of Planning Inspectorate Wales official to consider and make judgements on the groundwater and eutrophic designation appeals, in particular. These are highly complex and specialised and require appropriate expert advice. We ask Welsh Government to provide information on the levels of expertise and training held within Planning Inspectorate Wales in this area.

We place on record the fact that the level of interest from our members wishing to appeal new NVZ designations should Welsh Government opt to take them forward is already very high and NFU Cymru will, of course, will be fully supporting our members through this process. Given the scale of designations proposed and the current levels of interest within the sector in appealing we express concern about the duration of the appeal window of 35 days. In our view this provides insufficient time.

NFU Cymru would highlight that during the last Nitrates Review, there were significant difficulties with data availability. We also foresee difficulties for our members in accessing appropriate expertise to support them through the appeals process. This will be exacerbated if the appeal window coincides with that of England. Should the notification to farmers coincide with a busy period in the farming calendar or the submission of SAF forms for the Basic Payment Scheme, our members ability to appeal will be further hampered.

It is our belief that an Appeal Window of 35 days will disadvantage our members to a fair appeal process so it should be extended. NFU Cymru believes that an appeal of three months is needed and Welsh Government should write to farmers at the outset of the period, not part way through.

With respect to costs, it is not clear whether the appeals process will facilitate appeals from groups of farmers and whether, in such cases, the appeal fee would be one fee of £250 or £250 per individual business. We seek clarification in this matter.

NFU Cymru does not support proposals to change the regulations to introduce a fee of £250. The assertion that such an approach would represent cost sharing is inaccurate and is predicated on the belief that the appeal process costs farmers nothing when it can, in fact, cost many hundreds of pounds to bring an appeal in fees for specialist advice alone.

We believe that applying a fee could act as a disincentive to appealing. It is our view that since appeals are only permitted on the grounds set out within the Regulation, the process should not incur extra costs for farmers who will already be burdened by costs for technical and legal advice. Farmers should be able to opt for a hearing with the inspector or panel free of charge.

Q3 Do you think cover crops should be included in the Action Programme?

Q4 If so, have we identified the correct circumstances for their use?

Q5 Are the suggested dates appropriate? If not, what dates would you suggest?

Q6 What actions do you consider should be defined to show compliance?

Firstly we note that within the consultation document, Welsh Government refers to the most recent evidence but does not provide references to allow for scrutiny of this information. Our ability to respond fully to Questions 3-6 of the consultation has been hampered as a result. Nor has Welsh Government sought to fully quantify the increased costs, time and practicalities and, therefore, the full impacts of these proposals are not understood.

Whilst NFU Cymru is generally supportive of the use of cover crops and other means of soil cover to protect soils and reduce nitrogen losses, we emphasise that cover crops are not a requirement of the Directive and they should not, therefore, be included in the Action Programme of Measures. We also refer to the fact that Welsh Government opted not to incentivise the deployment of cover crops via CAP Pillar 1 Greening.

NFU Cymru has fundamental issues with the principle of incorporating cover crops into a regulatory approach. This is because of the lack of flexibility and recognition of situations where the sowing of cover crop is impossible due to weather and ground conditions. NFU Cymru would express concern that the measure could indeed work against the overall aim of reducing pollution if farmers are forced to cultivate and sow crops when ground conditions are inappropriate.

Significant concerns include:

- lack of availability of labour and machinery for establishing cover crops at that time of year;
- interference with preparation of the seedbed for following crops including a shorter window in which to carry out spring operations which leads to ploughing at inappropriate times to get spring crops established with associated impacts such as smearing and compaction of soils
- weed and pest problems, for example, Black-grass which significantly reduces crop cereal yields and is an increasing problem in Wales. Black-grass is multiple-herbicide resistant so farmers are increasingly reliant on using a range of strategies including non-chemical control.
- disease carryover from insufficient gaps and the 'green bridge' between crop types;
- potential for extra pesticide requirements as there will be a need in some cover crops to control pest and diseases that they would be harbouring. If not controlled they would adversely impact on establishing subsequent crops and counter integrated crop management principles embedded into farmer decision making. We would highlight that as of 1 January 2014, the EU Sustainable Use of Pesticides Directive requires priority to be given to non-chemical methods of plant protection wherever possible.
- damage to soil structure from increased cultivations and cultivating to an arbitrary timetable; and
- extra fuel use associated with growing an additional crop.

We would also highlight that selecting appropriate cover crops represents a significant challenge to farmers. Mustard is often suggested but it is very costly and may increase disease burdens for subsequent rape/brassica crops; grass is slower to establish and can lead to severe weed issues later in the rotation; whilst oats are a possible contaminant of other cereal crops if not completely destroyed.

Bare soil is also a requirement for many horticultural crops so the requirement for soil cover at all times would be a difficulty and NFU Cymru is concerned that it will hinder the development and expansion of this relatively small but strategically important sector to Wales.



Farmers also need flexibility to be able to trial cover crops in different situations, introducing rules stifles innovation and, therefore, we do not support their introduction within the Action Programme.

In terms of the circumstances for their use, NFU Cymru is supportive of reducing complexity within the regulatory system and if rules on soil cover are introduced within the NVZ Action Programme, rules must be harmonious with existing rules on rough cover within cross compliance. NFU Cymru strongly opposes Welsh Government proposals to remove the rough cover option in NVZ areas.

NFU Cymru would also highlight that allowing a rough surface offers significant and widespread benefits and fits into standard agronomic practice across a range of cropping systems. Rough surfaces can be achieved through a range of methods including ploughing, discing, tine cultivation, chisel ploughing. The practice of winter ploughing is widely utilised by farmers across Wales and offers the following advantages:

- It enables the crop residue or grass the time to decompose fully. This has the benefit of reducing the number of passes required by machinery to establish a fine seed bed, thus increasing the efficiency of production and reducing the carbon footprint of the activity. We would emphasise that seed bed preparation following spring ploughing can increase costs of fuel, labour and wear and tear on machinery. (Where grass is ploughed and efforts are made to create a seedbed immediately, then a large number of clods are created as the root system remains intact and the soil is held in lumps).
- Natural weathering actions including frost plus wetting and drying cycles breakdown any compaction that exist in the soil to produce a tilth.
- The practice of winter ploughing (or post-harvest cultivation) to establish a rough surface also offers advantages post harvesting through increasing the infiltration rate where the land may have been compacted through harvesting operations, leading to significant reductions in run-off and reducing the risk of diffuse pollution. This occurs as a result of greatly increasing the soil surface area and maximising the ability of rain to be absorbed and percolate through the soil profile thus reducing soil run-off. Conversely we would highlight that over-wintered stubbles can have smooth soil surfaces which can lead to water being prevented from entering the soil and increasing the amount of run-off.
- Winter ploughing allows farmers a larger window of opportunity so that operations can be timed to best suit the soil conditions and spreading workload, reducing pressure on contractors
- Reduced reliance on pesticides and improved control of crop pests, weeds and disease using cultural methods through removal of the 'green bridge'

The importance of having the option to leave the land with a rough surface cannot be overstated. This is vital for many farmers who are unable to access land to sow crops in the autumn. We would highlight that well calculated plans are interrupted by a change in weather patterns. Adverse weather conditions can also lead to late harvest or when post-harvest ground is not accessible due to wet conditions. If there is no flexibility and a cover crop is insisted upon then this could have greater negative impact as farmers travelling on wet land could cause more soil issues, such as compaction, than if left with a rough surface.

Winter ploughing is a practice that is in widespread use within the potato sector as potato crops are particularly vulnerable to poor seedbed preparation with impacts on yield and quality. NFU Cymru would highlight that proposals seriously threaten the PGI status of Pembrokeshire Early Potatoes granted under the European Union's protected food name (PFN) scheme. The specification under Council Regulation (EC) No 510/2006 describes the method of production including soil preparation. This refers to *soil preparation beginning in January with ploughing. The field is then **left to weather to allow the upturned soil to breakdown**. When soil temperatures are approaching 10°C, which is usually in the last two weeks of February, the soil is power harrowed to further break it down to make it as fine and free draining as possible. The soil is then ready for planting.*



We would further highlight that considerable emphasis has been placed on the carbon footprint associated with a range of products and production systems in recent years and potatoes have been found to deliver one of the lowest emissions per calorie of food. Growers are clear that winter ploughing offers the most carbon efficient method of production when compared to the additional emissions resulting from increased and repeated cultivations. There are also significant wider environmental benefits through reduced pesticide use due to the 'green bridge'.

NFU Cymru would further highlight that mixed cropping is very important in organic farming systems where the aspiration is to achieve self-sufficiency and closed nutrient cycles with all feed and forage produced on farm. Organic farming techniques place emphasis on the importance of fertile, well-structured soil and are totally reliant on cultural methods to control pests, weeds and disease.

Given the wider environmental consequences, in our view Welsh Government proposals to remove the rough cover option in NVZ areas do not represent a sustainable management of natural resources approach. In addition, Welsh Government has not provided any evidence within the consultation that the Risk Assessment approach via cross compliance has not been effective.

With respect to the suggested dates, NFU Cymru would again place on record our concerns with the 'farming by calendar' approach to this regulation. This effectively disempowers farmers from taking action based on weather and ground conditions often with negative impacts as a result.

The 'farming by calendar' approach also reduces farmers' capacity for adapting to climate change. There is a growing consensus that Wales will experience more extreme and challenging weather events in future. It is vital that farmers are allowed the flexibility to undertake field operations appropriate to the conditions. It is our view that Welsh Government fails to address the 'long-term' within the proposals.

To conclude this section, NFU Cymru does not support the introduction of rules on soil cover within NVZ regulations. These are not a requirement of the Directive and rules already exist within the Cross Compliance regime and are already the subject to inspection. Proposals will result in farmers in NVZ areas being exposed to inspection from both NRW and RPW for the same requirement, this does not appear a sensible proposal in the context of over-stretched public resources.

Q7 *Do you think the existing rules on the storage of solid livestock manures sufficient to reduce the risk of pollution?*

Q8 *If not, what additional rules do you think should be established?*

NFU Cymru agrees with Welsh Government that temporary field heaps of solid manure are an important part of farming practice in Wales. We are disappointed that Welsh Government has progressed with consultation prior to the completion of the field trials, however, it is our view that there are already sufficient rules on the storage of solid livestock manures to minimise the risk of pollution.

We would highlight solid livestock manures are not high in nitrogen and NFU Cymru is not aware of any substantiated evidence of the risk to water posed by temporary field heaps that would justify making any more changes.

Only a small amount of the total-N in manure heaps is lost through leaching. Requiring covers on heaps would have an adverse effect on losses through enhanced ammonia emissions. The N-concentration of leachates decreases with increasing storage time and although precipitation on uncovered heaps may increase quantity of leachate, it would also dilute leachate resulting in even lower concentrations (Dewes, 1995).

We believe the existing rules are sufficient for minimising the risk to water and more focus should be made on educating farmers on aspects such as siting of field heaps and understanding risks and reasoning behind existing requirements rather than introducing further complexity.

We would highlight that costs for concrete pads with leachate collection have been estimated at £256 million for the whole of England and Wales with costs around £30,000 per farm (and probably more) in the Diffuse Pollution Manual. There may also be extra costs in providing cover for manure stores. Any additional requirements along these lines do not, therefore, represent a cost effective action. It is certainly not in line with Welsh Government aspiration of supporting an economically viable farming industry.

In addition, we have concerns that extra rules would lead to pollution swapping e.g. requirement for covers. It is unclear whether leachate would be classed as slurry or dirty water and therefore how it would be managed. If a new requirement was brought in that required heaps to be moved more regularly than every 12 months there is a concern that some farms would not have enough suitable sites available. There would also be potential for increased soil structural damage due to extra machinery movements.

Q9 *Should there be a closed period for farmyard manure?*

Q10 *If so, have we identified the correct circumstances in which a closed period should apply?*

Q11 *Should the closed period apply to all other organic fertilisers?*

NFU Cymru does not agree with the introduction of a closed period for farmyard manure as it is unclear whether the rules are tackling a real or theoretical risk. Controlling a theoretical risk by the introduction of fixed dates is not an effective approach because the real risk to waters relies on actual field conditions. Should actual conditions vary from the average ones used in designing the rules, there could actually be more risk of leaching occurring in the days and weeks following the end of the closed period. It is better to allow farmers to make decisions based on weather and ground conditions.

NFU Cymru encourages farmers to make best use of slurries and manures optimally and promotes best practice through initiatives such as voluntary Farm Assured Schemes which now cover over 75% of the land area of Wales and which include inspection for compliance at 12-18 month intervals with clear requirements on manure, nutrient and pesticide management and the Farming Connect Service.

It has been an ongoing source of disappointment to us that under the current Farming Connect programme access to technical advice has been limited to farmers with business planning requirements in place and this, we believe, has presented a significant barrier to uptake of subsidised nutrient management planning. We recommend that Welsh Government remove this artificial and unnecessary obstruction to nutrient management planning without delay.

We believe such initiatives present the best route to promote appropriate use of manures and we are concerned about the unintended negative consequences of introducing seemingly arbitrary rules which do not promote an understanding of the best use of manures. For example, when farmyard manures are applied too late they may not be able to meet the crop requirements in time, especially when the manure is derived from housing systems with abundant use of bedding material rich in C (e.g. cereal straw) which could have a detrimental impact on crop yields and result in leaching losses, just at a different time in the year.

Introducing a closed period for FYM would impact upon farmers ability to apply organic matter to those soils where it is really needed. There is also a potential unintended consequence of

encouraging spreading at a higher rate after the end of the closed period. The scientific basis for the dates require explanation.

With respect to closed periods for all organic fertilisers, we understand this to mean any organic material that is not manure which is used as a fertiliser. We do not support closed periods as they do not lead to greater business or environmental resilience. Providing flexibility reduces the risk of land spreading in adverse weather or ground conditions and, thus, reduces the risk of environmental pollution.

Q12 *Do you agree with increases to the nitrogen efficiency standard values used in Nmax or should they remain the same?*

Q13 *What concerns or benefits do you think increasing the values may raise?*

Q14 *If you think the values should be increased, what values should be used?*

Q15 *Do you think that the manure values of Schedules 1 and 3 should be updated, where there is sufficient evidence to support that change?*

Again Welsh Government has not outlined proposals within the consultation document to explain what the changes to nitrogen efficiency standard values may be. This inhibits our ability to make further detailed comment.

NFU Cymru is concerned, however, that constantly amending the nitrogen efficiency values at each update of the regulations is unsatisfactory and it presents significant obstacles to farmers achieving compliance as a result of using wrong or outdated values in their calculations. We note, that the values for cattle and pig slurries were last updated in 2013, so making further changes four years later could cause yet more confusion. We emphasise that frequently changing the values increases the burden of reporting for farmers together with the risk of non-compliance.

The Nitrogen Efficiency Standard Values are only a best estimate based on a small number of studies and the actual amount that becomes available and is taken up by crops will vary considerably between farms. The use of standard values seems to give policymakers undue confidence in the amount of control the NVZ Action Programme provides. We would suggest that a range could be used, incorporating the existing and proposed new values with a short explanatory note to explain in which conditions the higher percentage could be used but that all values would be accepted as 'correct' for at least the next four years of the new Action Programme.

NFU Cymru recognises the value in farmers being able to use their own measured values rather than relying on standard values. There can often be large differences between actual values and those in tables and if tabulated standard values were to be increased this must be based on scientific data.

Q16 *Do you agree that the current rules on slopes sufficiently address the risk of pollution?*

Q17 *If not, why not and what rules do you think should be implemented to address the risk?*

Land with an incline of 12° or greater is already identified as "high risk" through the risk mapping process which is a requirement for those who spread organic manures under the existing Action Programme.

Action Programme rules already state that farmers must undertake a field inspection to consider the risk of nitrogen getting into surface water prior to application and slope is a key consideration and must be taken into account when assessing whether to spread fertilisers and organic manures. There is already a requirement not to spread if there is a significant risk of run-off getting into surface water. Therefore we believe that the existing rules are sufficient for minimising the risk and more

focus should be made on educating farmers on the benefits of adequately assessing risks rather than introducing further complexity.

NFU Cymru, therefore, concurs that the rules on slopes are sufficient to address the risk of pollution on slopes. It is imperative that rules are not changed to place the burden of proof on the farmer to demonstrate that slopes have been measured or that soil conditions are suitable compared to Met Office data. No further rules are required.

Q18 *Frozen Ground - Do you agree with the proposal to clarify the wording of the regulations?*

NFU Cymru notes the Welsh Government proposal to clarify the regulations relating to frozen ground by amending from *'no person may spread nitrogen fertiliser if the soil is snow covered, or has been frozen for more than 12 hours in the previous 24 hours'* to *'nitrogen fertiliser must not be spread on soil that is frozen at or below the surface'*.

NFU Cymru seeks clarification as to how farmers would be expected to demonstrate compliance with this aspect of the regulation as no information has been provided.

We highlight that the NVZ Action Programme is already a highly complex and bureaucratic regulation incurring high levels of breach relative to the area of NVZ in other parts of the UK. Any changes to the NVZ Action Programme should be taken forward on the principle of reducing and simplifying the burden of reporting on farmers not increasing it.

We also ask Welsh Government to provide evidence of the risks associated with spreading on frozen ground that is flat.

Q19 *Do you agree with the adoption of a whole farm limit?*

Q20 *If you do, have we identified the correct method of establishing the limit?*

Q21 *If you do not agree, do you think an alternative approach should be taken?*

Q22 *Do you agree with the proportional approach described for calculating slurry storage?*

Q23 *If not, how do you propose the rules should be clarified?*

From the consultation it is unclear if the changes are proposed in response to an observed issue or a theoretical risk. If land outside of an NVZ is being excessively loaded there would be an observed detrimental impact upon water quality in land surrounding the designated areas. NFU Cymru is not aware of any evidence of such an effect and this evidence is not presented within the consultation which leads us to believe that it is a perceived or theoretical risk.

NFU Cymru does not, therefore, support the proposals relating to farms partially within an NVZ.

Q24 *How do you think the proposed Action Programme changes will impact on the practical management of typical farm enterprises in the new or existing zones?*

In the absence of the Regulatory Impact Assessment, NFU Cymru has undertaken its own survey of farmers to gather information on the costs and impacts of NVZ designation. The findings are summarised on pages 7-8 above.

It is apparent that farmer concerns focus in three key areas, namely the costs associated with designation; the bureaucratic nature of the regulation which presents challenges to farmers to demonstrating compliance; together with the restriction on day-to-day farming operations.

- Costs associated with designation

The NFU Cymru Survey together with significant levels of member feedback during the consultation period identify there are very significant costs associated on farm businesses associated with designation.

These can be categorised as the upfront investment costs in slurry storage to meet NVZ standards together with ongoing costs of achieving compliance. Our survey shows the costs of NVZ compliant slurry storage facilities are estimated at almost £80,000 alone and this level of capital investment must be viewed in the context of a sustained period of low market returns across a number of key sectors. Figures released by Welsh Government earlier this month highlight the hugely detrimental impact that commodity prices have had across all key farming sectors in Wales.

According to the figures based on the results of the Wales Farm Business Survey for 2015-16 (up to March 2016), average farm business income across 'All Farm Types' fell by £6,800 to £22,200 - a decline of around 23%. This is the third consecutive year for farm incomes to fall. For dairy farms, average farm business income fell by a massive 53% with lowland cattle and sheep farms falling by 40% and (Less Favoured Area) LFA cattle and sheep farms down by 1%. Securing the necessary finances will be particularly challenging for the tenanted sector.

In terms of ongoing costs these include payments for specialist advice to complete paperwork requirements which must be set against the cost of cross compliance penalties where this paperwork does not reach the required standard. This hidden costs resulting from changes to day-to-day farming operations are more difficult to quantify but are estimated to be significant nevertheless.

For example, within the dairy sector, significant emphasis has been placed on utilising grass to improve herd performance. The RDP funded Welsh Dairy Supply Chain project on Grass Value identified that average farm cover (of grass) at spring turnout should be approximately 2,000 to 2,200 kg/DM/ha. The closed periods impact on the ability of farmers to achieve this early in the season as it will not be possible to apply slurries to stimulate early grass growth. This adds costs and undermines performance and will be further exacerbated by having to spread slurries on land, rendering it ungrazable, immediately after the closed period.

"We are not in a habit of wasting muck or slurry as they are both too valuable a product to the land and, therefore, the product is spread to where it is useful and ensure it stays there to maximise the benefit"

NFU Cymru NVZ Survey Respondent, November 2016

Business confidence has also been undermined by the uncertainty posed by Brexit and the decision to leave the EU. This has to be acknowledged within the decision making process. Whilst Welsh Government appears to be adopting a 'business as usual' approach to the implementation of the EU Nitrates Directive, we emphasise that farm businesses are now operating in very challenging conditions in the medium to long-term as a result of uncertainty related to CAP post 2020; the terms of future trading relationships with the EU and the rest of the world.

The effects of holdings changing their farming systems, going out of dairy for example, is likely to impact of farm business profitability and, therefore, long term viability. It should also be noted that farms within the dairy sector also tend to employ higher numbers of staff so there are impacts on levels of farm employment as a result.

It is also appropriate to refer to the wider economic impacts to the rural economy. Farm businesses underpin the vibrancy of many rural areas with each farm business shown to trade with between 40-80 other local businesses all of which are important sources of employment. We are already aware from agricultural contracting businesses that they will have to lay off their staff during the closed periods with the fear that they will be unable to re-recruit skilled employees again at the end of the closed period as they will have to find alternative employment and maybe leave the area.

In addition, should farm businesses opt to cease trading or change their production system – out of dairying, for example, there are significant knock-on effects for processing capacity in Wales.

We emphasise that agriculture and the associated industries form a very significant source of employment in the rural areas, thus it is vitally important that a full Impact Assessment undertaken by Welsh Government so the full impacts can be understood.

“In terms of changes to our farming system as a result of NVZ designation, keeping less livestock would mean a reduction in turnover and other family members would have to work off the farm in order to bring in additional income”.

“Would have to give up as we do not have the money needed for investment”

NFU Cymru NVZ Survey Respondents, November 2016

- Demonstrating compliance - record keeping requirements

Enforcement of NVZ rules through record keeping is widely seen as burdensome and unproductive. There is strong evidence of high levels non-intentional non-compliance with the record keeping process. In England, for example, where approximately 58% of the land area is designated as NVZ, some 15-16% of all cross compliance breaches relate to the NVZ Action Programme.

The difficulties associated with demonstrating NVZ compliance are highlighted by Charles Daniell, Rural Surveyor and land agent in his recent letter to the Farmers Weekly. Mr Daniell identifies *“he is one of the advisers that charges farming clients to produce compliant records. It is not in his interest to see these rules removed as his business benefits directly, however, he resents having to charge clients for undertaking a service that he views as totally unnecessary”*. Mr Daniell observes that *“whilst the objective of reducing nitrate pollution is important and worthwhile, the record keeping requirements are not fit for purpose and all they test is whether a farmer, or more likely their paid adviser, can produce compliant records”*. He believes that *“the rules are so complex that it is unrealistic to expect that farmers will be able to dedicate the time and effort to interpret them themselves and produce the relevant records. The overwhelming focus of the regulation and their enforcement is to oblige farmers to produce records and NVZ regulations could be removed or substantially over-hauled with no ill effect”*.

NFU Cymru understands that the EU Nitrates Directive does not specify record keeping requirements. Given the very significant short-comings identified we recommend that the NVZ Action Programme record-keeping requirements are completely overhauled without delay. NFU Cymru would be pleased to participate in a Welsh Government Review of NVZ Action Programme record-keeping requirements in line with Working Smarter objectives.

“In terms of making changes to our farming system I would have to devote more time to learning new rules and completing paperwork”

“The complexity of the Action Programme makes achievement of compliance a significant challenge”

“More record keeping does not help decrease pollution”

NFU Cymru NVZ Survey Respondents, November 2016

- Restriction on day-to-day farming operations

A number of aspects of the NVZ Action Programme have the potential to change farming practice as farmers seek to comply with the rules. It should not be assumed that all changes will necessarily deliver positive environmental outcomes. For example, the closed periods and slurry storage

requirements may result in changes to management systems away from slurry based to FYM or possibly increased out-wintering of cattle.

NFU Cymru would highlight that the 'farming by the calendar' approach and the inflexibility imposed by the closed periods presents significant challenges in that it requires farmers to farm by calendar date, rather than real-life conditions, sometimes against their better judgement based on their own knowledge of their farm and prevailing conditions.

The current arbitrary definition of closed periods means they end on the same day across all NVZ areas. This risks major widespread water quality impact from unexpected/unforecasted rainfall events in late winter/early spring washing even modest quantities of slurry off each of a very large number of fields simultaneously. Draconian closed periods are, therefore, counterproductive and undermine Nitrates Directive objectives.

In our view measures introduced which result in the end of the closed period being less of a 'cliff-edge' will help alleviate this risk. This could include advancing the end of the closed period for precision equipment, which reduces the risk of runoff. This would have other advantages of encouraging the use of this costly but lower impact equipment, including expanding the spreading window for contractors who particularly need to achieve high utilisation rates to justify investing in more costly equipment. In addition, a risk assessment approach that uses weather data to predict a sustained period of dry weather within the closed period should also be explored.

"I am very concerned about having to farm to the calendar dates as opposed to weather and ground conditions. The number of large slurry lagoons will have an impact on tourism"

"We need to self regulate when we spread manure and slurry, we know our land and when conditions are right. This Autumn has been a good example that spreading to the calendar doesn't work"

In terms of changes to our farming system we would have to change the way we run our suckler herd, more straw yards, less cubicles which would be more expensive. Probably have to get rid of the suckler herd as we could not justify the expense".

"We would give up keeping 80 suckler cows completely"

"Change commodity from milk to lamb driven by regulation not the market"

NFU Cymru NVZ Survey Respondents, November 2016

Q25 In the future, how should natural resource planning and management be considered as an alternative solution to tackling nitrate pollution?

NFU Cymru is a strong advocate of appropriate interventions where poor practices are responsible. It has been our long-held view that any approach must be evidence-based, providing local solutions to local problems working in partnership with industry to be effective.

We believe that the Well-Being of Future Generations Act 2015 together with the Environment Act 2016 provide the new framework for Welsh Government and Natural Resources Wales to work in line with our recommended approach set out above. Indeed, in discharging their duties under the Nitrates Directive, we believe that the new Acts require that the principles of sustainable development to be followed with due consideration of the environmental, economic, social and cultural factors.

As a consequence, NFU Cymru would argue that the sustainable use of natural resources; together with the Well-Being goals are relevant goals for **this current consultation process** and not for a future review as suggested in the question.

NFU Cymru is aware of a number of mechanisms and examples outside of the Nitrates Directive approach that have the potential to deliver significantly better outcomes for the environment and for the economic, social and cultural well-being of the people of Wales.

The key mechanisms immediately available to Welsh Government include a range of RDP schemes and measures, such as:

- The Glastir Scheme – we understand that approximately 55% of the £957m budget has been allocated to land-based measures via the Glastir scheme which has six strategic objectives, including *‘To increase the level of investment into measures to manage our water resources effectively with the aim of contributing towards an improvement in water quality in Wales and to meeting our obligations under the Water Framework Directive’*. Glastir has a number of elements including Entry, Advanced, Commons together with a new Glastir Small Grants Scheme with the application window targeting water quality currently open. We emphasise the need for Welsh Government to ensure there are frequent and well-resourced windows for such schemes. The Glastir Small Grants Scheme offer new and significant opportunities for environmental action in the area of clean/dirty water separation and reducing run-off, by engaging agricultural businesses (and sectors) not ‘traditionally’ involved in agri-environment work.
- The Sustainable Production Grant Scheme offers a further opportunity for measurable improvements in water quality through supporting a step change in farm infrastructure with the 40% funding for a range of capital items such as slurry/manure storage and clean/dirty water separation. The environmental benefits of such investments are clearly understood, such investments leave a legacy beyond the lifespan of the RDP and farmer participation should, therefore, be actively encouraged. NFU Cymru has long lobbied for such interventions, but to date we understand that under 100 farm businesses have been supported and information on the number of slurry storage projects is not available.
- Similarly NFU Cymru has long argued the need for a small-scale Sustainable Production Grant Scheme that promotes farmer investment and uptake of the latest technologies and equipment. Central to this has been investment in the latest precision equipment for the application of both nutrients and pesticides. We urge Welsh Government to confirm when the scheme will be launched and we emphasise the need for frequent and well-resourced budget allocations to both the Sustainable Production Grant Scheme and small-scale Sustainable Production Grant Scheme measures. The application process for both schemes needs to be straightforward for farmers and not add additional, unnecessary costs.
- The Knowledge Transfer, Innovation and Advisory Service under the Wales Rural Development Programme 2014-2020 (Farming Connect) offers a further opportunity. We understand that Farming Connect will receive a budget allocation of £45m over the programme period to increase the emphasis on business focussed behaviour and therefore improve the profitability, competitiveness and environmental performance of farm, forestry and food businesses through knowledge transfer, innovation and advice.
- On the issue of water quality, in our view, Farming Connect must now move on from its current approach of ‘awareness raising’ of generic issues relating to water quality, to providing advice to support farmers to take action in targeted areas, co-ordinated alongside the other measures available (described above). This requires the concerted effort and co-ordination of all parties including Natural Resources Wales, Welsh Government and contractors which, hitherto, has been lacking. In addition the artificial barriers that have been designed into the current Farming Connect model must be removed. This includes the requirement to prioritise business planning over technical advice within the subsidised one-to-one advisory framework which is impacting on the uptake of nutrient management planning.
- It is our view that improved performance by Farming Connect in this area could support Natural Resources Wales whose key challenge, three years on from establishment, remains how to effectively engage with the 16,000 or so farm businesses across Wales who manage 80% of the total land area. We emphasise these businesses tend to be sole traders or partnerships that find themselves operating in a highly complex regulatory context – of which environmental management is just one of a number of important facets. In terms of making



progress on this issue, NFU Cymru has long recommended that a service similar to the Farm Liaison Service within Welsh Government, with knowledgeable and trusted staff within NRW providing practical advice and support on both regulation and best practice across a range of issues, including water quality, would deliver beneficial outcomes.

- In addition, NFU Cymru has worked alongside a partnership of industry organisations on the development of RDP measures known as Strategic Initiatives. These are designed to deliver transformational change across multiple objectives through integrated packages which support farmers through an iterative process of measurement, action and review; integrating data collection, advanced knowledge transfer and grant support and incentives and from which a baseline across a number of outcomes is established and progress is measured. NFU Cymru identify that the Strategic Initiative concept has the potential to deliver measurable improvements in nutrient management at farm level.

We emphasise that, in the context of the decision to leave the EU, these measures are available for a time limited period only so it is vital they are deployed to maximum effect now and NFU Cymru would be very pleased to work with Welsh Government to this end.

It is also important to recognise past successes and methods of working. Deepford Brook, for example, was previously identified as being a suitable area for a pilot Catchment Sensitive Farming scheme to assist farmers to meet Water Framework Directive requirements. The co-operation of the farmers was crucial to this initiative and many farmers made investment commitments with small scale grant funding to increase the slurry and silage storage capacity. The catchment was failing for fish populations. The fish classification for Deepford Brook has now improved from the first cycle as poor in 2009 to good in 2015. This highlights the benefits of a collaborative approach working in partnership.

Further to that, within Pembrokeshire there is already a successful natural resource management solution to nitrate pollution from agriculture in operation. This takes the form of the off-set scheme at the First Milk Creamery in Haverfordwest which has been developed as part of its operating permit. This scheme is recorded, audited by NRW and meets the strict requirements of the Environmental Permitting and Habitats regulations and on average each participating farm is saving a tonne of nutrient.

This approach requires farmers to select mitigating measures appropriate to their farming system. The impact of each measure is modelled using the ADAS Farmscoper model. The farmer selects the measures that work best for the farm to fulfil the quota required and this contributes to the quota required by the Creamery.

Going forward, we believe the First Milk example could well lend itself to extension and there are clear opportunities for Welsh Government, NRW and stakeholders to work together to develop a flexible permit style approach which is outcome focussed and delivers measurable reductions in nitrates from agriculture in line with the Directive. The measures developed in the Farmscoper programme address diffuse pollution issues and also provide habitat improvement so represent a sustainable management of natural resources approach. Developed in partnership they are more likely to engender the confidence and, therefore, 'buy-in' of the farming community.

We would emphasise our survey shows significant support for an alternative approach. We place on record, the considerable experience and expertise held within NFU as an organisation in the development and implementation of a range of voluntary initiatives such as Tried and Tested and the Campaign for the Farmed Environment. NFU Cymru makes a commitment to provide the resources required to support the development of a sustainable management of natural resources approach should Welsh Government opt to explore this option, in line with our recommendation.

If such an approach was not successful in delivering the measurable outcomes required by the Nitrates Directive then the NVZ Action Programme could be introduced at a later date.



"We need a more targeted approach"

"A targeted approach to resolving specific problems likely to be cheaper and more effective at reducing nitrate pollution"

NFU Cymru NVZ Survey Respondents, November 2016

Q26 *We do not believe that this policy affects opportunities for people to use Welsh or treats the language less favourably than English, or that it could be reformulated or revised to have positive effects. If you disagree we would welcome your comments on this issue.*

NFU Cymru does not agree with the Welsh Government statement above.

We highlight that throughout Wales, those who speak Welsh within the agriculture category make an essential contribution to the preservation of the language in terms of numbers, and in particular in terms of the proportion within the category who speak Welsh (29.5%), which is higher than in any other employment category.

Whilst Welsh Government has opted not to provide a Regulatory Impact Assessment alongside the consultation, our own analysis shows the economic impact of NVZ designation to be significant within farm businesses and the wider rural community. Costs associated with designation have the potential to result in some farmers leaving the industry or changing their farming system. This has consequences for both direct and indirect employment. It is reasonable to assume that this has the potential to undermine the essential contribution of agriculture to the preservation of the Welsh language outlined above.

Further, with respect to Option 1 – designation of discrete areas, some consideration of the geographic locations of the proposed discrete areas against the map of Welsh speaking areas of Wales is warranted and these are shown in Annex 3 and 4.

It is clear that the newly designated areas coincide with relatively high levels of Welsh speaking in the Anglesey designations. This occurs to a lesser extent in the proposed Milford Haven designation which is the most significant in terms of geographic scale. We refer you to the Welsh Government paper 'Farming in Wales and the Welsh Language', August 2016 which states *'that the contribution of the agriculture category to the preservation of the language, in terms of numbers of Welsh speakers, and in particular the use of the language within the category, is most important in communities where the overall proportion of Welsh speakers is low or intermediate, communities where the language is most like to be under threat'*.

The report goes on to state that *'moves that undermine with viability of Welsh agriculture are likely to represent a significant threat to the Welsh language, particularly in communities where the overall proportion of the population who speak Welsh is low or intermediate'*.

The Well-Being of Future Generations Act 2015 establishes as one of its seven Well-Being Goals 'A Wales of vibrant culture and thriving Welsh Language'. The Act makes it clear that public bodies must work to achieve all of the goals.

In light of the evidence presented above, in our view, it is imperative that a full impact assessment of the impact of proposals on the Welsh language be undertaken; direct comparison of impact against the sustainable management approach outlined in Question 25 should be included in the analysis.

Other NVZ and related matters not referred to within the consultation

Finally, NFU Cymru is concerned that, through the consultation process that there are a number of NVZ and related matters where comments have not been invited. Without prejudice to the comments in the opening section of this response, we wish to place on record the following:



- Grassland derogation

Although not currently widely used in Wales we nevertheless believe that the retention of the derogation is vitally important. Current derogation requires 80% of the farm to be in grass and allows a manure loading rate of 250kg/ha N. Whilst the uptake in Wales currently is relatively low, we believe that this is due to the highly onerous record keeping requirements associated with the derogation. Phosphate records in particular are seen as going well beyond the requirements of the Directive. However, NFU Cymru identify that it is crucial that the grassland derogation is retained.

- Low intensity farms

NFU Cymru supports, across the board, the reduction in record keeping where the risk is low. NFU Cymru agrees that farms should be exempted from record keeping where there is little risk of NVZ thresholds being exceeded or where there are other arrangements in place which confirm compliance to a reasonable degree. Many farms operate at low intensity due to natural constraints, a business decision or personal choice. Low intensity farms should be defined in terms of those which approach neither Nmax nor whole farm manure loadings sufficiently closely for there to be any risk of either being excluded. NFU Cymru consider that this level should be set at two thirds of the relevant threshold.

- Timeline for implementation of Action Programme

NFU Cymru notes Welsh Government intention to introduce new regulations in 2017. Given that analysis of the consultation responses, formal notification and the appeals process is going to take a period of time, we would suggest that it is unrealistic to expect farmers to understand the complexity of the Action Programme and meet the administrative requirements for part of the year. It would seem sensible to start at the commencement of a calendar year with the period prior to commencement used for advice and training on NVZ requirements.

Further, NFU Cymru notes that Welsh Government acknowledge that a number of farmers will not be able to comply with some of the proposed measures straight away. The new requirements on slurry storage facilities and the amendment of manure nitrogen efficiency values will require further consideration of the timeline to phase implementations. Welsh Government indicates their intention to establish a transitional period to provide landowners with sufficient time. We cannot emphasise strongly enough that we foresee significant issues and delays being experienced by farm businesses seeking to take forward the implementation of the Directive at farm level. Our members regularly experience significant delays and opposition with respect to planning applications for farm infrastructure projects. We do not believe that the planning system as it currently operates will be able to facilitate the delivery of proposals at the scale that will be necessary and we express disappointment that this aspect is neither considered nor addressed within the consultation process. We ask what discussions Welsh Government have had with local planning authorities on this matter.

Factors like the time required to set-up the necessary financial arrangements for large investments (even if grant aid is available), together with the availability of agricultural construction firms to undertake this work also merit consideration.

Overall, we believe it is realistic to expect that a minimum four year time period will be required for many farm businesses to comply with increased storage requirements.

“The public locally opposed a new slurry lagoon – the PUBLIC don’t want it either”

NFU Cymru NVZ Survey Respondent, November 2016

- Enforcement of Regulations

Whilst we note that NRW is responsible for the enforcement of the Regulations in Wales, including Action Programme measures, we are disappointed that no information is provided within the consultation on providing appropriate levels of advice and support at appropriate scales to assist farmers comply with what is a highly complex and bureaucratic piece of legislation.

We ask Welsh Government and NRW to provide information on the business planning they have undertaken on this aspect and what support and resource they propose to make available to farmers should they opt to proceed with designation.

- Wider framework of support

In addition to the above, NFU Cymru would place on record our disappointment at the very limited efforts by Welsh Government and Natural Resources Wales to provide effective support to the farming industry to address water quality issues. This is extremely concerning to us.

For example, we note, that it is not possible at present to access the guidance on SSAFO via the Welsh Government website. Guidance on SSAFO on the NRW website can be described as rudimentary at best and it is most disappointing that this has not been updated to reflect legislative changes to oil storage that were introduced to the statute over six months ago. This is extremely surprising given the high levels of priority and concern afforded to this issue at that time.

We are disappointed and continue to highlight to Welsh Government officials our concerns with respect to Farming Connect. Specifically the barrier to uptake of Nutrient Management Planning that has been incorporated into the delivery model in this round of Farming Connect with business planning prioritised over advice on technical issues within the one-to-one advisory framework.

We would further highlight the shortcomings in the delivery of the Wales Rural Development Programme (2014-2020), in particular the resources allocated to the Sustainable Production Grant Scheme, the urgent need for the small scale Sustainable Production Grant Scheme. Our recommendations on how delivery can be improved are set out under question 25 above.

- Potential future designations

Throughout the consultation there are a number of references to future designations of NVZs in Wales. In the previous round there was strong consensus amongst stakeholders of the need to provide targeted voluntary interventions in areas at risk of NVZ designation in the future. It is a source of considerable disappointment to NFU Cymru that this work was not taken forward ahead of this round of designations.

We request information on the early thinking of NRW on potential new designations in future rounds without delay together with the 'buy-in' from Welsh Government and NRW officials to ensure that an appropriate framework of targeted support is put in place immediately.

- SSAFO Regulations

We note from the consultation that the SSAFO Regulations are under review and any changes are expected to be made alongside any changes to the NVZ designations and Action Programme measures. We highlight that the summary of consultation responses to the SSAFO consultation which took place from August to November 2015 indicated that many of the proposals made within the consultation document would require further development before any decisions are made.

It is further noted that Welsh Government committed to undertake Impact Assessments to address any unintended consequences that may occur due to legislative change. NFU Cymru is not aware that this work has been undertaken and we seek urgent clarification from Welsh Government on this issue.

- Bovine TB

NFU Cymru would highlight that the proposed Milford Haven Inner designation also corresponds (in part) with the proposed High TB Area (West). We observe that this has one of the highest rates of TB in Wales with around 11% of all herds under restrictions because of TB. It is the area which has the most severe breakdowns in terms of length of time under restriction and the number of reactors per breakdown. This can result in farms with significant numbers of animals on-farm which they are unable to move off – with likely impacts on farm infrastructure including slurry storage and overall nitrogen loading. Overall, farms under TB restriction are likely to face very significant challenges to achieving compliance with NVZ requirements.

“Keeping fewer livestock is not an option until TB restriction is lifted. If 100% grants were offered to increase slurry storage capacity and cover all open yards we might be able to continue. Tenant farmers will be hit especially hard”

“Can’t see cattle production carrying on in Wales if this goes through especially on top of bTB regulations”

NFU Cymru NVZ Survey Respondents, November 2016



Annex 1 - The Contribution of Agriculture to the Well-Being of Wales

The Welsh Government Well-Being of Future Generations (Wales) Act 2015 is designed to improve the social, economic, environmental and cultural well-being of Wales. The Act establishes seven goals that all public bodies, including Welsh Ministers, must work to achieve. The contribution that farming makes to achievement of all seven goals is unparalleled by any other industry, as highlighted in the following below:

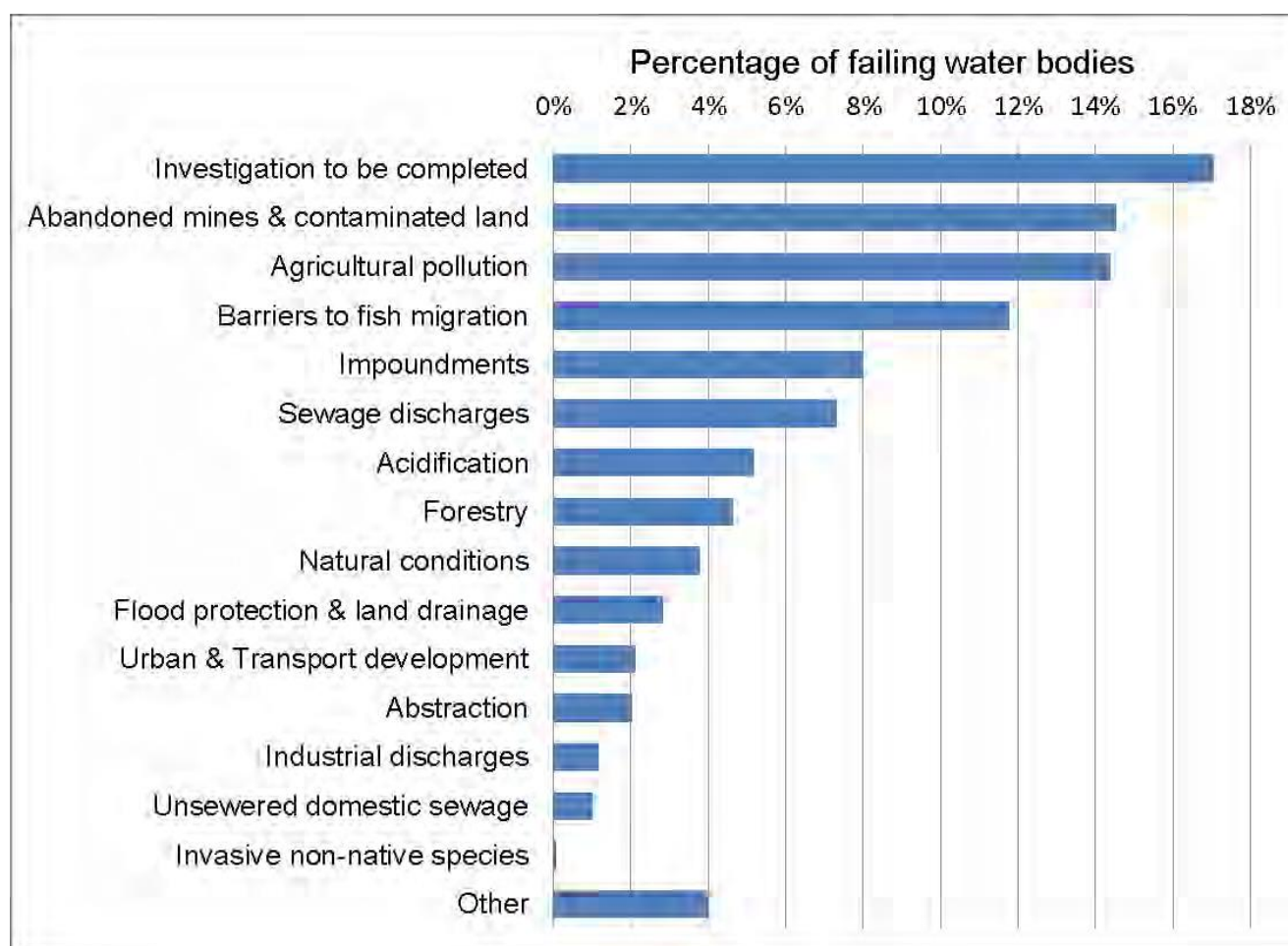
Well Being of Future Generations Act:	NFU Cymru: Agriculture is the Answer
Well-being Goals	
A prosperous Wales	<ul style="list-style-type: none"> • 60,000 employed full or part time in farming in Wales • £1.5bn Gross Output • Farming underpins a food supply chain worth over £6bn • Over 220, 000 people in Wales are employed in the agri-food sectors – that's 17% of the workforce and Wales's biggest employer • The Welsh countryside managed by farmers provides the backdrop for the tourism industry worth over £2.5bn • The Welsh agricultural industry is a key generator of wealth and employment for the people of Wales
A resilient Wales	<ul style="list-style-type: none"> • Farmers care for 81% of total land area of Wales – that's over 1.84m hectares • 600,000 ha of environmentally designated areas • Almost 560,000 ha managed under Glastir Entry Sustainable Land Management Scheme designed to combat climate change, improve water management and maintain and enhance biodiversity • Farming supports a diverse range of species, habitats and ecosystems • Farmers provide a range of ecosystem services including carbon sequestration and management, water quality and water quantity management for flood alleviation • Low carbon, local energy installations have the potential to meet 57% of Wales's electricity consumption and the evidence shows a large proportion of projects are located within Wales's rural local authorities • GHG gas emissions from agriculture have declined by 20% since 1990 and further decreases are being achieved through production efficiency measures • Welsh farmers play a key role maintaining and enhancing our natural environment and supporting the provision of a full range of ecosystem services
A healthier Wales	<ul style="list-style-type: none"> • Welsh agriculture is a key provider of safe, nutritious, high quality Welsh food which plays a fundamental contribution in supporting the physical and mental well-being of the people of Wales • Welsh farmers are known to operate to some of the highest standards of welfare and production in the whole world • Welsh farming also delivers a significant proportion of Wales's access provision which includes 16000 miles of footpaths, 3000 miles bridleways, 1200 miles of cycle network, and 460,000 ha of open access land • Welsh farming makes a key contribution to the physical and mental well-being of the people of Wales
A more equal Wales	<ul style="list-style-type: none"> • Rural Wales is home to 33% of the Welsh population. • The vitality and potential of rural areas is closely linked to the presence of a competitive and dynamic farming sector. The



	<p>NFU Cymru 'Why farming Matters to the Welsh Economy' shows that each family farm is typically economically linked to some 40-80 other businesses in the region</p> <ul style="list-style-type: none"> • Through direct and indirect employment in rural communities, Welsh farming underpins the rural economy and contributes to a more equal Wales
A Wales of cohesive communities	<ul style="list-style-type: none"> • Local communities in rural Wales are heavily dependent on agriculture for financial and social prosperity. • Leadership and voluntary roles in rural communities • Welsh farmers make a key contribution towards the provision of attractive, viable, safe communities in rural areas
A Wales of vibrant culture and thriving Welsh language	<ul style="list-style-type: none"> • Agriculture has the highest proportion of Welsh speakers of any sector. • Farming is the bedrock of rural communities across Wales which have been shaped by farming activity spanning hundreds of years. Farmers continue to maintain these traditions, preserving rural culture and sense of place • Welsh farmers are key promoters and protectors of our culture, heritage and the Welsh language
A globally responsible Wales	<ul style="list-style-type: none"> • Current levels of self-sufficiency at a UK level are at 62% • Future challenges to our global food production system include climate change, a growing UK and global population, water scarcity. Given its climate and rainfall, Wales is predicted to be an area of favoured production in the future • Welsh farmers have a key role to play feeding the people of Wales and in contributing to global food security now and in the future.

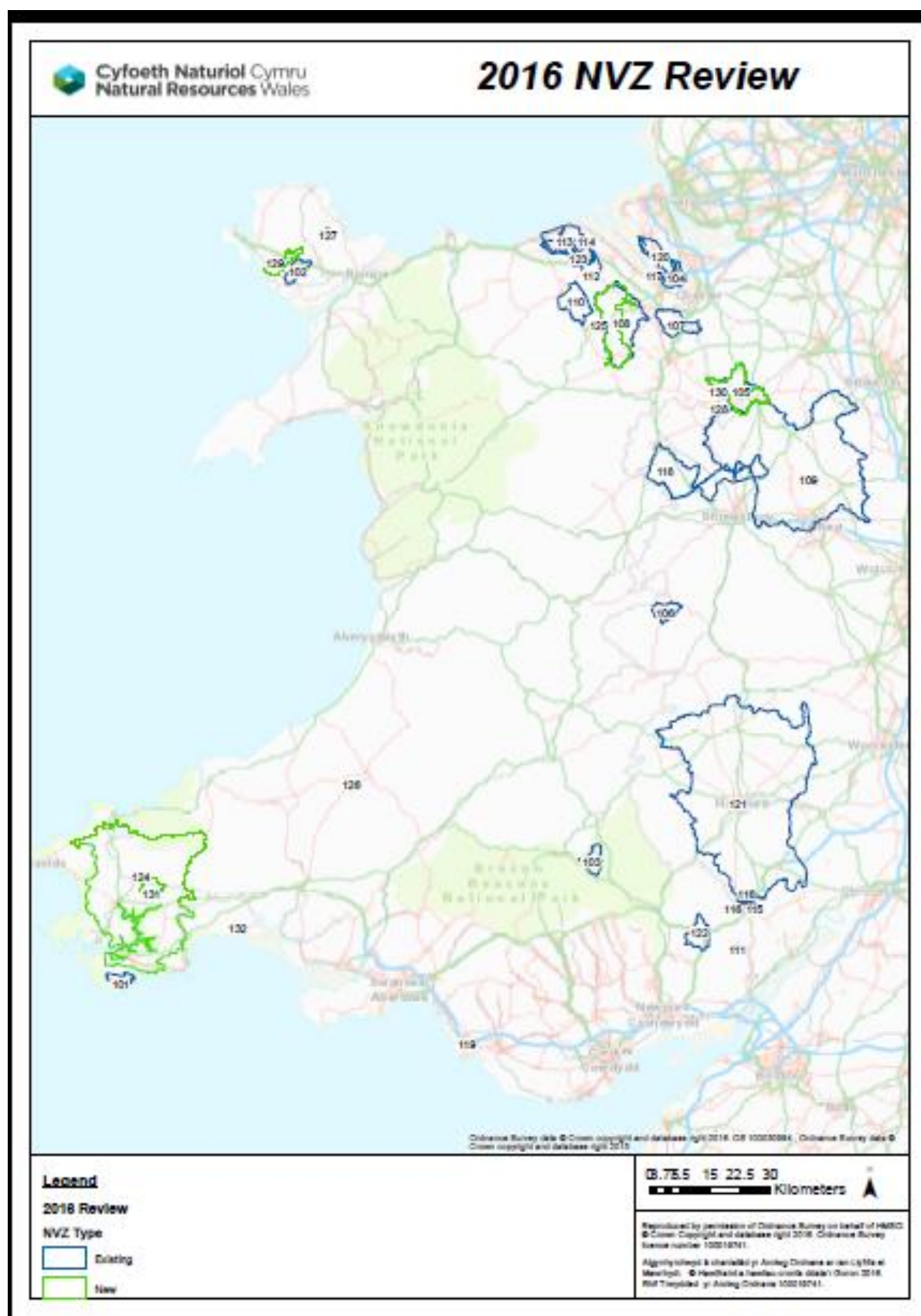


Annex 2 – Reasons for Water Framework Directive Failure



Source – Welsh Government Consultation Document – A Water Strategy for Wales, April 2014, p12

Annex 3 – 2016 NVZ Review – proposals for discrete areas



The heart of Welsh farming

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Annex 4 – Map showing people able to speak Welsh (%)

Pobl sy'n gallu siarad Cymraeg (%) 2001

People able to speak Welsh (%) 2001



o fewn adrannau etholiadol
within electoral divisions

Ffin Awdurdod Lleol
Local Authority Boundary

Ffynhonnell: Cyfrifiad 2001, tabl CAS146. Hawlfraint y Goron 2009
Trwydded rhif C02W0002635.
Source: 2001 Census, table CAS146. Crown copyright 2009
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