

Sustainable Farming and Our Land – Welsh Government Consultation

October 2019

Comments and Responses from CPRW (The Campaign for the Protection of Rural Wales)



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CPRW was founded in 1928, this year celebrates its 91st anniversary, and is Wales' only organisation whose primary concern is the country's rural landscape and the land uses that support it. It is a membership charity (number: 239899) with its head office at 31 High Street Welshpool Powys and has 13 Branches throughout the country. Further details are to be found on its website (<https://cprw.org.uk>) including its National Executive Committee (NEC) and representative advisory Council.

This response has been compiled by members of the NEC and representatives of its Branches after a consultative process within CPRW.

INTRODUCTION

Relevance to Brexit – or even to no Brexit

CPRW is acutely aware that this Consultation on Sustainable Farming and Our Land (SF&OL) takes place within the still unclear and volatile agendas within the Brexit process, which conceivably may even eventually result in the UK remaining within the European Union. Were that to occur, the radical and welcome options and admissions of the need to provide non-market support canvassed within this document should not be lost. They should, as far as practicable, be used to secure reform and even re-thinking of the CAP and related instruments of EU policy.

Scope of the scheme – which public goods?

New opportunities should be defined and seized to stimulate land managers as custodians of many aspects of the public good which in the past may have been an incumbrance, an irrelevance, or have simply been unrealised. All of the items below are public goods, and most have obvious and explicit justification. However, landscape and public access are downplayed or side-lined in the proposal. They should be specifically identified, and others more directly related to the public benefit should be considered specifically, and assessed against local environmental need, as outlined in NRW's Area Statements and SoNaRR (The State of Natural Resources Report). In particular, the opportunity to involve farmers and land managers in the topics of history, archaeology, tourism and enjoyment of the countryside should not be lost; each is distinctive, has its own unique needs and should be considered separately as a public good, even though overlapping in some cases with others.

Heritage

Farming can destroy, reveal, conserve and enhance both the built and the buried heritage. It has a key role in land management practices that may be encouraged or proscribed, as appropriate. In specific terms, field remains should be protected and studied for the historical information that they preserve, not just for potential financial or tourism benefits – important though these are.

Recreation

This can be part of a general public good that embraces appreciation of and education about the countryside, rural life and its built heritage. It can include more general opportunities for enjoyment of landscape, or more specifically, the provision of access and permissive routes for a range of users. Isolated examples of these public goods are not hard to find, but they are the exception. A huge range of opportunities should now be possible – and become acceptable to the farming community as its role widens. They can also contribute to the tourism economy, and to public health benefits.

Landscape (an additional and explicit Public Good)

CPRW's main interest in landscape is reflected in many issues described in the report. But while it may be an end-result of the desirable outcomes discussed, it rarely generates direct income and has only fleeting and indirect references throughout the text (see [Appendix A](#) and section 7.3).

Sustainable Farming and our Land - scape

Protection and enhancement of the rural landscape should instead become explicit policy aims leading to public goods, both specifically and in combination with other objectives. CPRW urges that sustainable farming should become synonymous with conservation and enhancement of our rural landscape, both explicitly and implicitly, and should in turn be recognised as building blocks in creating an enduring rural economy benefiting both managers and appreciators. To do otherwise is to miss this unique opportunity.

Q1. What are your views on the Sustainable Land Management framework?

Should an income stream be focused on environmental outcomes?

- 1.1 CPRW fully endorses the use of the ‘sustainability’ principle to underpin farm support and takes the UN definition as the starting point – *‘The use of land resources, including soils, water, animals and plants, for the production of goods to meet changing human needs, while simultaneously ensuring the long-term potential of these resources and the maintenance of their environmental benefits’*, recognising the ‘triple bottom-line’: the *economic, environmental and social aspects of sustainability.*
- 1.2 The viability of farming/land management is primarily determined by income from production or other sources for farmers/land managers. An unrestricted market economy or one that has the potential to incentivise environmentally damaging farming /land management practices in the short term, runs counter to best practice, and is no longer acceptable in today’s environmental climate. Long term environmental interests must therefore be secured through extra, carefully-tailored and suitably-financed economic incentives for farmers/land managers, and - where necessary - backed by changes in regulation. The protection of our water, soil and air quality, the biodiversity upon which food production ultimately depends, the carbon storage related to climate change, are long term environmental interests but should not exclude landscape considerations as these are essential partners to ensure the widest public benefit and justification for the expenditure involved. In summary, it makes sense to reward land-managers by incentives for stewardship and CPRW warmly supports this principle of payments in exchange for environmental benefits.
- 1.3 However, as so many farmers have understandably pointed out to the WG, we also need food and we need ways to keep our land in sustainable production in spite of the vagaries of the market, especially the post-Brexit market. We are therefore also in favour of the principle of economic support for food and timber production and recognise the merits of investing in the infrastructure of business skills, knowledge and capital investment rather than directly distorting the market by supporting any particular agricultural/forestry product. CPRW applauds the overall ambition *‘to have sustainable farms producing both economic and environmental goods in a holistic system which enhances the well-being of farmers, communities and all the people of Wales’*.
- 1.4 At the same time, we believe that there is a very real risk of changes in markets and farm payments, especially post-Brexit, resulting in Welsh farms, above all upland farms, failing - with large-scale consequent amalgamation of holdings and local depopulation. We do not see any special recognition of the plight of Welsh sheep farmers on grade 4/5 hill-land currently in the LFA (Less Favoured Area) and subject to relevant EU policy aims and mechanisms. Keeping farmers on the land and attracting new generations into active land management is an enormous challenge for the future. If the framework does not gain the confidence of farmers, it simply will not succeed in its overall ambition. The Welsh Government has an essential job to do in communicating with the entire Welsh population about the biodiversity emergency and need to minimise GHG emissions.

Is the structure of benefits, outcomes and actions a useful tool?

- 1.5 The effort spent in preparing the *actions-outcomes-benefits* analysis is evident, and we appreciate the difficulties of setting out a complex set of relationships in a clear hierarchical model. Our fear is that some of the confusion set out below will creep into the rationale for the final payments scheme. The lack of clarity may put off farmers and jeopardise the effectiveness of the scheme in achieving environmental, economic and social improvements.
- 1.6 We note that at 3.6 *'the consultation exercise suggested the production of food and other economic goods and the production of environmental goods can be mutually reinforcing, not mutually exclusive'*. This is a basic conceptual problem. Simultaneous production of food and environmental benefits is desirable and possible in some circumstances, but many - perhaps most - types of food production and other land-management involve some environmentally damaging activities. For instance, intensive livestock production results in significant ammonia emissions which are in turn a risk to biodiversity and human health.
- 1.7 Economic benefits, social benefits and environmental benefits can be mutually exclusive. For any farming or land management enterprise, there are choices to be made and balances to be struck. No amount of aspirational prose or recourse to the Seven Goals and Five Ways of Working within the Well-Being of Future Generations Act can overcome this fact.
- 1.8 As acknowledged in fig 3.5 the SF&OL framework assumes that some of the generalised environmental and social harms will be addressed in a regulatory system, further environmental benefits will be secured through a financial incentive system and economic benefits will come from investment in skills and equipment. The *'benefits – outcomes – actions'* analysis is confusing because the argument is split between Chapter 3 and Annex B which makes the various figures complicated to follow. For the most part, 'social benefits' are not described and are loosely assumed to be benefits to the population of Wales, or 'well-being' which largely derive from environmental and economic benefits. 18 outcomes are arranged into 8 benefits (fig 3.3 & fig 3.7) in three categories (economic, environmental, social) but the result is unbalanced since there are 5 economic benefits, 3 environmental benefits and one social benefit of 'well-being'. This does not reflect the proclaimed WG emphasis on working towards a better environment and enhanced biodiversity. Many readers will not get to Annex B which finally relates outcomes to actions although, from a land-management point of view, the first thing that land managers would want to know is what kind of things they would be expected to do.
- 1.9 In Annex B, 18 Actions are grouped into 5 categories, matched against 18 Outcomes. Some Actions would be better integrated into the regulatory system so that they are mandatory for all farms. Examples are **3. Effective storage of manure and slurry** (which is likely to be covered in the January 2020 Regulations) and **15. Biosecurity**. Biosecurity measures (as with vaccination) only work for the benefit of the whole community if everyone observes them. Others are unclear. **10. Improved land** has an accepted farming meaning inferring replacement of natural habitat. Here it seems to mean habitat improvement on slopes and river banks, and is not clear whether protection, management or creation is envisaged.

- 1.10 Some actions are not clearly distinct from others, for instance **15. Biosecurity** is surely part of **14. Animal Health Planning**. For others, the method leads to tautology and doubt: **14. Animal Health Planning** '*ensures animals are healthy*' and leads to the Outcome of '*Animal health and welfare standards*' which leads to a Benefit of '*competitiveness*' (uncertain in a global market). For others, the outcome does not necessarily follow. **Action 17. Innovation**, using new technologies and approaches, does not necessarily reduce environmental impacts. For instance, new broad spectrum anti-microbials might be innovative and increase production but at the expense of the environment, soil quality and biodiversity.
- 1.11 To further complicate the analysis, 3.28 refers to actions directed at environmental outcomes having an 'indirect' contribution to economic and social outcomes. Important 'indirect' environment-related social and economic outcomes presented in earlier proposals must not be lost. Given the lack of regard throughout this report to landscape and tourism and the income these bring to farms and wider rural communities, we are sceptical whether these outcomes will in fact be given due weight.
- 1.12 We question whether the list of actions is comprehensive enough with respect to environmental protection. Some of the more difficult issues are:
- Fossil fuel consumption and emissions:** B14 says '*Even attaining the maximum sequestration rates of grassland does not offset the emissions from the agricultural activities occurring. Maintaining soil carbon does prevent greater emissions, while ensuring soils are productive, but it should not be seen as a mechanism to dramatically increase Wales' carbon sink*'. This being so, should there not be an action to directly reduce emissions from agricultural activities involving use of fuel in agricultural machinery and transport? Solar panels on sheds, barns and roofs could be encouraged.
- Ammonia levels:** We note that ammonia emissions and nitrogen deposition from intensive livestock units is not addressed. The current (NRW) regulatory mechanism underplays the general problem of rising background levels and cumulative impacts of intensive cattle, pig and poultry rearing, except in relation to SSSIs and Natura 2000 sites. However, SLM must have regard to all habitats, including Ancient Woodland which is currently 'allowed' a level of ammonia from each individual intensive livestock unit which is sufficient to threaten lower plants. We draw attention to the Stockholm University Resilience Centre study on the 'Nine Planetary Boundaries' <https://www.stockholmresilience.org/research/planetary-boundaries/planetary-boundaries/about-the-research/the-nine-planetary-boundaries.html> - which found ammonia and biodiversity loss to be the most urgent problems (**Appendix B**).
- Connectivity:** habitat creation for landscape scale connectivity is only marginally addressed in discussions about cooperation. Without this, biodiversity will continue to decline.
- Use of Plastics:** measures to decrease use of single use plastics containers and sheeting and to dispose appropriately of waste do not apparently cover farming.
- Pharmaceutical solutions:** the impact of herbicides, pesticides, parasite treatments, anti-microbials etc. - particularly in the quantities required for intensive farming - on soil, water and air quality is only marginally addressed.
- Pollinators and insects:** they are mentioned once each, yet they are fundamental to food production and biodiversity.

Do the benefits and outcomes sufficiently cover the broad contribution of farmers, foresters and other land managers?

- 1.13 **The Role of Farming in landscapes.** Chapter 2 acknowledges that *'farmers shape the landscape'* (2.1) but CPRW considers that their vital role and that of other land managers in protecting and maintaining the value of Welsh landscapes deserves more emphasis. Landscapes are a precious part of our heritage contributing to well-being and also to prosperity for rural communities through the tourist industry. Unfortunately Landscape only appears in a composite rag-bag **outcome** *'Welsh language, culture, access, landscape and heritage'*, appearing last in the list as contributing along with other outcomes to *'well-being'* and yet the report does concede that the *'functioning array of habitats and species underpins the appeal of the Welsh landscape that our tourism relies on'*.
- 1.14 Our landscapes are intimately related to land management and therefore CPRW has considerable concerns at the lack of reference to landscape as part of the environmental 'goods' of which farmers are custodians. There are only 23 uses of the word in the document, many of them repetitive or non-factual (as itemised in **Appendix A**). The contribution to landscape – for good or ill - which can be made by farms must be recognised, together with its relationship with many of the identified ecosystem benefits. Many practices, such as establishing broadleaved woodland, copses and shelter areas, planting, replacing and maintaining native hedgerows, removal of unsightly structures etc. can and do enhance the landscape. Enhancement is a requirement of Local Development Plans and a payments system / advice service could help farmers actively to achieve this enhancement alongside considerable ecological benefits.
- 1.15 The importance of landscape enhancement as well as protection afforded by the SFP (Sustainable Farming Payment) (4.7) cannot be emphasized enough. Land management actions can mitigate landscape impact, reinforcing the planning system, by controlling the siting, appearance and landscaping of agricultural buildings and caravan sites. The latter are an important, often predominant, source of the farmer's net diversified income.
- 1.16 **Other land-managers:** Foresters are patchily incorporated into the document as are Common-land users and tenant farmers, but little idea is given of how 'other land-managers' do manage land, or for what purposes, and therefore it is not clear whether the scheme is or should be applicable.

Intensive Farming: The report does not address the problems of the increasing intensification in livestock farming which has many unsustainable features including ammonia emissions, high use of pharmaceuticals, imported foodstuffs which involve habitat destruction abroad, and excessive transport. Intensive poultry or pig units with much management from off-site contractors are often found on otherwise traditional livestock farms which may cause complications in making Farm Sustainability Plans (FSPs). As general de-intensification is encouraged, so some holdings will be encouraged to resort to such compensatory methods, thus nullifying the intention of the FSPs.

Organic Farming: To our astonishment, we have only found a single mention of organic farming (4.36). The organic movement in Wales has pioneered sustainable soil management and sustainable farming in general. This SLM initiative should be prepared to learn from and publicise the experience which already exists on dedicated holdings in Wales and consider which practices could improve SLM on a wider range of Welsh farms.

- 1.17 The draft **National Development Framework**, (NDF) - which is out for public consultation simultaneously with this document - proposes a radical Renewable Energy and land use policy which sets large 'Priority Areas' for on shore wind farms and solar arrays. However, there is no cross-referencing to this consultation on this topic or others, and scant consideration of the importance or role of farming as a national resource for food production. It is regrettable that these two major policy documents dealing with rural land use are being published simultaneously and without reference to each other. The creation in the NDF of specific and large Priority Areas for on-shore energy production has negative impacts on the surrounding communities, landscape, ecosystems, wildlife, carbon retention and capture potential, water retention and flood control - together with the Welsh tourism economy (vital in supporting the infrastructure of rural communities). Equally, the role of land managers as hosts for RE installations is not discussed here, nor are the economic and social benefits that could accrue. Similarly, there is minimal consideration of the role of farming in rural communities; no evaluation of its critical role in terms of food production or resource management; and no reference to its potential role as an exemplar of sustainability. There is therefore an increased need to take these aspects of future farm policy into account in relation to changing human needs and aspirations in both the farming sector, its associated communities, and society as a whole.
- 1.18 At 4.77 the text states that '*For diversification within agriculture, the Agricultural Land Classification (ALC) data will be crucial*' thus providing a rational basis for encouraging enterprise development. Para 6.18 also explains that ALC mapping capability is to be refined to assess the suitability of land for a range of agricultural uses which would help farm businesses to diversify. CPRW supports this rational approach but is disturbed to see that in respect of potential large-scale renewable energy developments the NDF only proposes safeguarding ALC Grades 1 and 2 (and not 3a) within the spectrum of the Best and Most Versatile Land (BMV). Using Welsh Government data we calculate that this would reduce the total area of BMV land (14% of Wales) to only the 5% covered by Grades 1 and 2. It is essential that decisions affecting the most suitable land use and conservation of farmed land are made on the clear understanding that the majority of BMV land will not be released for industrialised RE development, and will remain available for sustainable farming.

Q2 The Design of the Sustainable Farming Scheme

- 2.1 CPRW agrees that the scheme should be available to all farmers and take into account different circumstances including different sizes of farm and appropriate uses of different types and qualities of land. We understand that evidence and budget availability (4.39) will determine payment rates which must exceed additional cost and income foregone, thus improving acceptability compared with Glastir but we do not know how the WG can guarantee this, except by reducing available mandatory and optional actions and business support or capping payments. We are also unsure how rates exceeding additional cost and income foregone sit with World Trade Organisation rules.
- 2.2 We note that the scheme based on the initial assessment is optional. Some farms may not join in order to minimise the environmental benefits expected of them. These might be the larger, more profitable, more industrialised and more polluting enterprises whose absence could seriously dilute the benefits of the scheme and create a two-tier system. This could divert payments from the struggling farmers who need them most and impact rural communities typified by smaller holdings.
- 2.3 The scheme requires an advisor to assess each farm and (together with the farmer) set lists of *mandatory* and *optional* actions (4.30). In setting mandatory actions, the adviser has a powerful role over the farmer/land-manager. If the mandatory actions are critically important, and central to all sustainable farming, there is a strong case for making certain general actions mandatory to make the system fair and to prevent large farms from avoiding core responsibilities to the wider environment such as *Effective nutrient management planning* (which is already a requirement of basic schemes in both England and Scotland). Other schemes would be enforced only wherever they applied, for example, a farm with no livestock would not have to have an *animal health plan*. This would mean bringing critical general actions within the regulatory system. The result might correspond to the option illustrated in Fig 4.2. but in the example the level is set in terms of environmental *outcomes* rather than *actions*.
- 2.4 Although *outcomes* should generate the various *actions*, any payment system directly reflecting *outcomes* would surely be very unwieldy. There are 18 *actions* which cross-cut 18 *outcomes*. If values are assigned to *outcomes* (4.40) and these values are then further apportioned to *actions* the system will be over-complex. '*Rooting everything in outcomes*' (4.41) will not solve the mathematical complexity – particularly where the *outcomes* are related to *actions* in an uncertain or imperfect way. For instance, how much does *action 17 Innovation* contribute to Welsh language or landscape? (see Annex B). The chosen example of '*increasing the carbon sink*' is a relatively easier one because it can be translated into a common currency of tonnes of carbon. It will be much more difficult to assign values to other *outcomes*, for instance *habitat resilience*, and then to apportion these values into the large number of actions contributing to *habitat resilience*.

- 2.5 We predict that advisers and land-managers will ultimately require a much simpler and more transparent payment system of ‘money for *actions*’. The challenge will be to evolve one which keeps the principles of evidence-based environmental benefits and biodiversity at centre-stage and also integrates them into the types of business support offered. These issues are addressed in Annex A where the problems inherent in ecosystem-service analyses, especially for social *outcomes*, are more clearly recognised than in Ch4.
- 2.6 We note the suggestion of annual self-assessment supported by risk-based inspections of a proportion of farms and the need to balance expensive bureaucracy against using budgets to reward environmental benefits. We believe that it is extremely important for both land managers and the public to know that the scheme is delivering environmental and biodiversity improvements to the best of its ability. Monitoring and the sanction of withdrawing payments must be firmly used in a consistent and fair manner to avoid a system of laissez-faire ineffective self-regulation. We agree with separation of advisory and inspection roles although both might involve a monitoring element.
- 2.7 We welcome the opportunities for co-operation between land-managers (4.91) because re-establishing or maintaining ecological connectivity by creating/preserving similar habitat on adjacent land-holdings is an essential contribution to landscape integrity and to connectivity (see Q1). Forestry managers would probably need a specialised advisory and inspection service.

Q3 Views on an Advisory Service

3.1 Should an advisory service be established?

An entirely new system based on very different principles from the BPS cannot function without an Advisory Service. The need to visit every farm could be reduced by meetings with groups of farmers, dissemination through farming networks and good clear on-line information and publicity by mail.

3.2 Functions of the service

Chapters 2 & 3 say the functions of the service are to perform a Farm Sustainability Review and then help scheme entrants arrive at mandatory and optional actions for each farm. It can be anticipated that some farmers will need more support than others in making the choices and implementing them. They will need the payment structure in place to help make the choices and we believe this will have to be suitably simplified compared with the cross-cutting “*action and outcome presentation*” in Ch 3.

3.3 ***Relationship between the advisory service and the Welsh Government***

Much will depend on the review by SQW of Farming Connect [5.13]

<http://www.sqw.co.uk/about-us/latest-news1/evaluation-of-the-knowledge-transfer-innovation-and-advisory-service-delivered-through-farming-connect/> but, in principle, an Advisory Service attached to a University unit where agricultural research is integrated with farming practice, rather than to the Welsh Government, might be better placed to attract and retain a good calibre of skilled advisors and provide them with essential support and CPD (Continuing Professional Development). Wales already suffers from concentration of administrative services in the southern urban belt and this is a good reason to locate an agricultural service in a more central location.

3.4 ***The appropriate scale of delivery***

We have serious doubts about whether it is currently possible to recruit and train enough high quality experienced advisors to operate this scheme as set out in Chapters 2 to 4. We believe there are over 17,000 farms in Wales and currently between 10 and 20 current advisers.

We do not think experienced farmers, often with a life-time's accumulated knowledge and a farm under threat, will appreciate advice and decisions from young people with no practical farming experience. This will have to be carefully and flexibly managed.

We believe that the ambition to reward sustainable farming practice needs to go hand in hand with an expanded educational program to attract enthusiastic students with an interest in ecology and the environment into a career in *practical* applications in truly sustainable farming where they gain hands-on experience. If they want to make a difference – this is where to go!

We hope and trust that the WG is negotiating with Welsh Universities and further education providers over adequate educational resources for future farming.

Q4 Views on support to industry and supply chain

4.1 ***Should support to industry/supply chain be subject to Sustainable Land Management?***

In principle this has merits but there are questions of competition for limited SLM funding between direct land-management and indirect support through the food-supply chain. We wonder whether these budgets should be separated. It seems (from the priorities) that the WG is committed to some of this work and parts of it will be work with farmers. It will be more difficult to link support to desired outcomes for farmers when specific industry bodies may operate in a UK or international context and not just in Wales. Given the predominance of livestock farming in Wales there are opportunities for support for rare breeds; low intensity, grass-fed stock; use of non-pharmaceutical interventions being developed by vets for value added (and cost saving). Welsh farmers should be supported to become the UK's leading stockmen producing top quality products to the highest welfare standards. To succeed this needs funding, mentoring and promotional support emphasising the Welsh

provenance. The wealth of Assurance Schemes could be consolidated and clarified for increasingly informed (but still confused) consumers.

4.2 ***Do the proposed priorities reflect the right areas of focus?***

We question whether priority D fits in this section rather than Ch. 3 as we would hope the advisory service would incorporate these types of support and would also have access to the outcomes of collaborative networks. CPRW appreciates the problems caused by the dearth of local processing facilities such as abattoirs. These would need careful siting and planning consideration so that they did not contribute to the industrialisation and destruction of the landscape.

As noted at 1.16 above, we have found only a single mention of organic farming (4.36). The organic movement has pioneered sustainable soil management and sustainable farming in general. This SLM initiative should be prepared to learn from the experience which already exists in Wales and consider which practices could improve SLM on a wider range of Welsh farms.

The report does not address the problems of the increasing intensification in livestock farming which has many unsustainable features including ammonia emissions, high use of pharmaceuticals, imported foodstuffs which involve habitat destruction abroad, and excessive transport.

Q5 *Improving Regulatory Framework and developing a new one*

5.1 It is important to establish where the regulatory framework with its sanctions ends and the SLM financial incentives begin, because land-managers who do not opt in to SLM will only be controlled by law, regulations, codes of practice etc. Therefore, these should ensure good environmental outcomes with penalties commensurate with the environmental impacts of any breach - the critical principle that *'the polluter pays'*. A new unified effective regulatory framework with clear minimal standards, incorporating SLM principles, would be of great benefit to all. This will only work with proper monitoring and enforcement. Currently many breaches are reported to NRW who appear to be lacking the human and financial resources to pursue the majority of issues effectively. Other land-management issues are regulated by the planning system which is not addressed in this document. LPAs, often in consultation with NRW, issue planning conditions attached to permissions for development which incorporate SML principles such as habitat creation or pollution prevention measures. LPAs appear to be lacking the human and financial resources to pursue enforcement of planning conditions effectively and so conditions are often simply ignored.

5.2 ***How can the current regulatory framework can be improved upon?***

The bodies responsible for enforcement need to be accountable and their work transparent. A single published source with clear indexing for the whole agricultural regulatory framework would help. Better general education about regulations will also make enforcement fairer. We welcome the commitment to bringing regulatory farming breaches in line with those of other sectors (7.47).

5.3 ***Scope of a future regulatory framework***

Many elements are missing from the current ones to protect air, water and soil quality and health and amenity of rural communities . These are but a few examples related to intensive livestock:

- manure spreading and intensive livestock rearing within 10m of vulnerable rivers (or 50m as in Herefordshire SACs)
- risks from spreading anaerobic digestate with toxic levels of heavy metals etc.
- Environmental Permitting Regime does not capture a large proportion of intensive livestock enterprises
- no requirement for planning applications and manure management plans to show land contours
- no clear regime for preserving health, safety and amenity for neighbours against noise, dust, ammonia and excessive traffic
- no proper safeguarding of Ancient Woodland from ammonia emissions
- inadequate control of cumulative ammonia emissions to protect biodiversity.

Where possible, numerical thresholds are useful.

5.4 ***The role a future regulatory framework in championing Welsh standards***

It is currently uncertain which current food production and welfare standards will be retained after our departure from Europe and how future trading agreements might influence UK standards (7.5). The WG may find it difficult to maintain environmental standards and compete internationally and should stand firmly by SLM principles.

5.5 ***How compliance with regulation should be monitored***

As well as spot checks by monitoring organisations, those responsible for regulatory regimes should keep a register of complaints from the public and outcomes and hold regular post-mortems on the effectiveness of interventions.

5.6 ***How breaches can be fairly and proportionately enforced***

Time-consuming court procedures are an unsatisfactory way of managing breaches. Prompt investigation, action and resolution is essential for maintaining the confidence of farmers and the public in regulation.

Q6 Transition period

The nature, progress and time-scale of the Brexit transition is so uncertain that it is premature to comment in detail. European standards for food production and animal welfare should be built upon and not diminished by the Brexit process. Timely support must be provided in proportion to impact to maximise the chances of Welsh farms adapting.

Q7 Analytical Approach

See response to the benefit-outcomes-actions model in Q1.

- 7.1 The key question is: will the resources be sufficient? Especially if there are drastic reductions post-Brexit in (some) farmers' income from food. This is likely particularly to impact those farming in areas of major importance for the natural landscape. It is obvious that the current level of uncertainty regarding the terms of any withdrawal agreement, the possibility of a "no deal" Brexit, and the amount of funding that will be made available to replace the CAP and SFS payments, all make planning problematic. CPRW is convinced there needs to be a 'Plan B' if farms start to collapse in short order. More information is needed from Welsh Government on this.

Integrated Impact Assessment

- 7.2 We welcome the principle of "rural-proofing" but require an explanation of what the WG considers to be *'the needs of the people who live, work, socialise and do business in rural areas'* One such *'need'* is the attachment of communities to their natural surroundings and opportunities for outdoor activities within these valued landscapes. Enjoyment of natural surroundings and tranquillity are the principal reasons people chose rural life and are willing to forgo the considerable advantages of better services and comforts.
- 7.3 We note that landscape is absent from the integrated list. Given the importance of landscapes to rural residents and the rural economy, this is a glaring omission, and exacerbates the lack of attention paid to landscape as described above, for example in the Introduction, paras 1.2, 1.11 – 1.15, and **Appendix A**, below.
- 7.4 CPRW sincerely hopes that, as with *'culture and heritage'* the WG will also consider how its proposals *'will actively promote and protect' landscapes 'and encourage people to participate in recreation'*.
- 7.5 We are, however, bemused by the undertaking to *'assess the implications of our proposals for the natural resources of Wales, including on biodiversity and climate change'*. We have understood that in embracing the principle of sustainability, the scheme was taking natural resources, biodiversity and climate change as its starting point. It follows that if any such assessment is not overwhelmingly positive, the scheme will be judged to have failed. We cannot imagine what tools an assessment would use which should not already have been used to develop the scheme.

Q8 *The Welsh Language*

Keeping farmers on the land and conducting the necessary advice sessions and other bureaucracy in Welsh wherever possible will encourage its use.

Q9 *Other*

Decarbonisation

9.1 The document does provide a framework for agriculture to support a low carbon society (there are 88 references to carbon in the text) but surprisingly there is only one reference to "Climate Emergency" in the entire document. This in the summary suggesting it was added as an afterthought. CPRW would like to understand how the Welsh Government will encourage each Farm's Sustainability Plan to include a significant component setting out what it will do to address decarbonisation? It would also appreciate clarification as to how this omission squares with the highly detailed and controversial text on the subject in the NDF.

Rights of Way, Access

- 9.2 The suggestions in Annex B fail to link maintenance of public rights of way with Sustainable Farming Payments. This is vital for our network of public rights of way to be accessible. The SLM should emphasise that there are both mandatory and optional *actions* related to public rights of way.
- 9.3 *Action 11* should be strengthened to include the maintenance of public rights of way as an appropriate action to justify Sustainable Farming Payments. Ideally the SLM should reinforce and make more effective obligations of landowners to keep existing rights of way crossing their lands functional and accessible through maintenance.
- 9.4 CPRW is also aware of the problems of gates left open, dogs attacking livestock, 4x4 trespassing and other abuses of rights of way and farmland - and understands why this is a sensitive issue for farmers.
- 9.5 Nevertheless, there could be optional opportunities for improving and enhancing the existing Public Rights of Way, for example by upgrading existing paths (e.g. provision of gates, surface improvements, drainage, footbridges, signage, etc.) and by providing new footpaths (courtesy/diversion paths, circular paths, trail sections, missing links, access to woodland, etc.) as well as new access points and improved access to Open Access land. Dedicated new paths could encourage active travel by allowing rural residents to walk or cycle to neighbouring communities currently only linked by increasingly dangerous roads.

Appendix A Inadequacy and infrequency of 'landscape' references

(paras 1.2, 1.11 – 1.15 & 7.3 above note the absence of proper consideration of this key issue)

1.46 ... outcomes best delivered at a catchment or landscape scale ...

2.1 Farmers are in a unique position as the people who produce food, shape the landscape and underpin rural communities.

p41 Benefit: Biodiversity ... This includes providing a functioning array of habitats and species, which underpins the appeal of the Welsh landscape that our tourism sector relies on ...

p46 Benefit: Well-being ... The contribution of agriculture to preserving historic monuments, landscapes and archaeological sites.

4.91 ... groups of farmers could work together ... This principle could be applied to many actions at a landscape or catchment scale ...

4.94 Common land is an important example of collaboration. Around 10% of agricultural land in Wales is common land - approximately 180,000ha.5 Around 50% are Sites of Special Scientific Interest (SSSI) and 50% is within protected landscape areas.

p108 Action 7: Seminal habitat management / Enhances habitats and mixed landscapes for all to enjoy.

p109 Category 4: Land management ... SLM includes using resources 'to meet changing human needs', including well-being aspects such as public health, education, prosperity, Welsh language and culture, landscape, and heritage.

p109 Illustrative actions 13 Flood management Developing the farm landscape and vegetation to retain water, including managing wetlands and woodlands.

p110 Outcomes delivery Action 11: Public Rights of Way Improves access and interaction with Welsh rural culture, landscapes and heritage.

p121 Action 8: Farm woodland and hedgerows Traditional management Used to create forest structures which favour biodiversity, related to past cultural landscapes

p123 Action 12: Heritage This role can be described as a combination of providing a historical perspective, expressed through landscape, artefacts, oral and recorded history.

B.99 The main ways farmers and other land managers can preserve this heritage is through consideration of how farming practice impacts or enhances the historic value of the landscape (indirect management)

B.100 Indirect management involves managing farm land in a way to preserve the cultural value derived from individual features or their surrounding landscape. This could involve ensuring the siting of new tree planting or new buildings is sympathetic to heritage features within the landscape.

p133 Assessment of the BPS against the seven well-being goals [which do not include landscape]

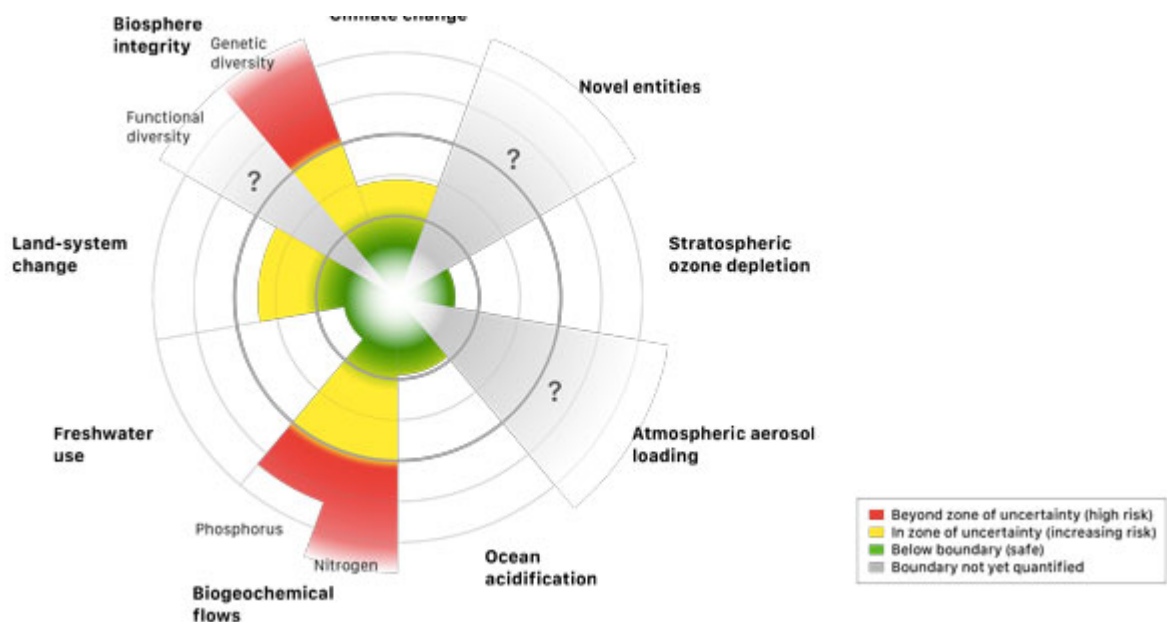
... In addition, the contribution made by farmers to the Welsh landscape is an indirect and important way in which agriculture contributes to the Welsh economy.

p139 Criterion: BPS contributes to creating attractive, viable, safe and well-connected rural communities The longevity and permanence of farms within the landscape was raised in the report as particularly interesting

...

p144 Annex D – Glossary Ecosystem services – Any and all benefits that come from natural or managed ecosystems such as food (a provisioning service), attractive landscapes (a cultural service), biological pest control (a regulating service) or fertile soil (a supporting service).

The nine planetary boundaries - As defined by the Stockholm University Resilience Centre



Estimates of how the different control variables for seven planetary boundaries have changed from 1950 to present. The green shaded polygon represents the safe operating space. Source: Steffen et al. 2015

Stratospheric ozone depletion

The stratospheric ozone layer in the atmosphere filters out ultraviolet (UV) radiation from the sun. If this layer decreases, increasing amounts of UV radiation will reach ground level. This can cause a higher incidence of skin cancer in humans as well as damage to terrestrial and marine biological systems. The appearance of the Antarctic ozone hole was proof that increased concentrations of anthropogenic ozone-depleting chemical substances, interacting with polar stratospheric clouds, had passed a threshold and moved the Antarctic stratosphere into a new regime. Fortunately, because of the actions taken as a result of the Montreal Protocol, we appear to be on the path that will allow us to stay within this boundary.

Loss of biosphere integrity (biodiversity loss and extinctions)

The Millennium Ecosystem Assessment of 2005 concluded that changes to ecosystems due to human activities were more rapid in the past 50 years than at any time in human history, increasing the risks of abrupt and irreversible changes. The main drivers of change are the demand for food, water, and natural resources, causing severe biodiversity loss and leading to changes in ecosystem services. These drivers are either steady, showing no evidence of declining over time, or are increasing in intensity. The current high rates of ecosystem damage and extinction can be slowed by efforts to protect the integrity of living systems (the biosphere), enhancing habitat, and improving connectivity between ecosystems while maintaining the high agricultural productivity that humanity needs. Further research is underway to improve the availability of reliable data for use as the 'control variables' for this boundary.

Chemical pollution and the release of novel entities

Emissions of toxic and long-lived substances such as synthetic organic pollutants, heavy metal compounds and radioactive materials represent some of the key human-driven changes to the planetary environment. These compounds can have potentially irreversible effects on living organisms and on the physical environment (by affecting atmospheric processes and climate). Even when the uptake and bioaccumulation of chemical pollution is at sub-lethal levels for organisms, the effects of reduced fertility and the potential of permanent genetic damage can have severe effects on ecosystems far removed from the source of the pollution. For example, persistent organic compounds have caused dramatic reductions in bird populations and impaired reproduction and development in marine mammals. There are many examples of additive and synergic effects from these compounds, but these are still poorly understood scientifically. At present, we are unable to quantify a single chemical pollution boundary, although the risk of crossing Earth system thresholds is considered sufficiently well-defined for it to be included in the list as a priority for precautionary action and for further research.

Climate Change

Recent evidence suggests that the Earth, now passing 390 ppmv CO₂ in the atmosphere, has already transgressed the planetary boundary and is approaching several Earth system thresholds. We have reached a point at which the loss of summer polar sea-ice is almost certainly irreversible. This is one example of a well-defined threshold above which rapid physical feedback mechanisms can drive the Earth system into a much warmer state with sea levels metres higher than present. The weakening or reversal of terrestrial carbon sinks, for example through the on-going destruction of the world's rainforests, is another potential tipping point, where climate-carbon cycle feedbacks accelerate Earth's warming and intensify the climate impacts. A major question is how long we can remain over this boundary before large, irreversible changes become unavoidable.

Ocean acidification

Around a quarter of the CO₂ that humanity emits into the atmosphere is ultimately dissolved in the oceans. Here it forms carbonic acid, altering ocean chemistry and decreasing the pH of the surface water. This increased acidity reduces the amount of available carbonate ions, an essential 'building block' used by many marine species for shell and skeleton formation. Beyond a threshold concentration, this rising acidity makes it hard for organisms such as corals and some shellfish and plankton species to grow and survive. Losses of these species would change the structure and dynamics of ocean ecosystems and could potentially lead to drastic reductions in fish stocks. Compared to pre-industrial times, surface ocean acidity has already increased by 30 percent. Unlike most other human impacts on the marine environment, which are often local in scale, the ocean acidification boundary has ramifications for the whole planet. It is also an example of how tightly interconnected the boundaries are, since atmospheric CO₂ concentration is the underlying controlling variable for both the climate and the ocean acidification boundaries, although they are defined in terms of different Earth system thresholds.

Freshwater consumption and the global hydrological cycle

The freshwater cycle is strongly affected by climate change and its boundary is closely linked to the climate boundary, yet human pressure is now the dominant driving force determining the functioning and distribution of global freshwater systems. The consequences of human modification of water bodies include both global-scale river flow changes and shifts in vapour flows arising from land use change. These shifts in the hydrological system can be abrupt and irreversible. Water is becoming increasingly scarce - by 2050 about half a billion people are likely to be subject to water-stress, increasing the pressure to intervene in water systems. A water boundary related to consumptive freshwater use and environmental flow requirements has been proposed to maintain the overall resilience of the Earth system and to avoid the risk of 'cascading' local and regional thresholds.

Land system change

Land is converted to human use all over the planet. Forests, grasslands, wetlands and other vegetation types have primarily been converted to agricultural land. This land-use change is one driving force behind the serious reductions in biodiversity, and it has impacts on water flows and on the biogeochemical cycling of carbon, nitrogen and phosphorus and other important elements. While each incident of land cover change occurs on a local scale, the aggregated impacts can have consequences for Earth system processes on a global scale. A boundary for human changes to land systems needs to reflect not just the absolute quantity of land, but also its function, quality and spatial distribution. Forests play a particularly important role in controlling the linked dynamics of land use and climate, and is the focus of the boundary for land system change.

Nitrogen and phosphorus flows to the biosphere and oceans

The biogeochemical cycles of nitrogen and phosphorus have been radically changed by humans as a result of many industrial and agricultural processes. Nitrogen and phosphorus are both essential elements for plant growth, so fertilizer production and application is the main concern. Human activities now convert more atmospheric nitrogen into reactive forms than all of the Earth's terrestrial processes combined. Much of this new reactive nitrogen is emitted to the atmosphere in various forms rather than taken up by crops. When it is rained out, it pollutes waterways and coastal zones or accumulates in the terrestrial biosphere. Similarly, a relatively small proportion of phosphorus fertilizers applied to food production systems is taken up by plants; much of the phosphorus mobilized by humans also ends up in aquatic systems. These can become oxygen-starved as bacteria consume the blooms of algae that grow in response to the high nutrient supply. A significant fraction of the applied nitrogen and phosphorus makes its way to the sea, and can push marine and aquatic systems across ecological thresholds of their own. One regional-scale example of this effect is the decline in the shrimp catch in the Gulf of Mexico's 'dead zone' caused by fertilizer transported in rivers from the US Midwest.

Atmospheric aerosol loading

An atmospheric aerosol planetary boundary was proposed primarily because of the influence of aerosols on Earth's climate system. Through their interaction with water vapour, aerosols play a critically important role in the hydrological cycle affecting cloud formation and global-scale and regional patterns of atmospheric circulation, such as the monsoon systems in tropical regions. They also have a direct effect on climate, by changing how much solar radiation is reflected or absorbed in the atmosphere. Humans change the aerosol loading by emitting atmospheric pollution (many pollutant gases condense into droplets and particles), and also through land-use change that increases the release of dust and smoke into the air. Shifts in climate regimes and monsoon systems have already been seen in highly polluted environments, giving a quantifiable regional measure for an aerosol boundary. A further reason for an aerosol boundary is that aerosols have adverse effects on many living organisms. Inhaling highly polluted air causes roughly 800,000 people to die prematurely each year. The toxicological and ecological effects of aerosols may thus relate to other Earth system thresholds. However, the behaviour of aerosols in the atmosphere is extremely complex, depending on their chemical composition and their geographical location and height in the atmosphere. While many relationships between aerosols, climate and ecosystems are well established, many causal links are yet to be determined.