

Explanatory Memorandum to the Common Agricultural Policy (Integrated Administration and Control System and Enforcement and Cross Compliance) (Wales) Regulations 2014

This Explanatory Memorandum has been prepared by the Department of Natural Resources and is laid before the National Assembly for Wales in conjunction with the above subordinate legislation and in accordance with Standing Order 27.1.

Minister's Declaration

In my view, this Explanatory Memorandum gives a fair and reasonable view of the expected impact of the Common Agricultural Policy (Integrated Administration and Control System and Enforcement and Cross Compliance) (Wales) Regulations 2014. I am satisfied that the benefits outweigh any costs.

Rebecca Evans
Deputy Minister for Farming and Food
8 December 2014

1. Description

The Common Agricultural Policy (Integrated Administration and Control System and Enforcement and Cross Compliance) (Wales) Regulations 2014, which will come into force on 1 January 2015, introduce the requirements laid out in the new European Common Agricultural Policy (CAP) Regulations. Cross Compliance is a European Union (EU) requirement setting out standards that farmers have to meet in relation to the protection of the environment, animal health, public health, and animal welfare in order to receive Direct Payments (known as the Basic Payment Scheme from 2015) and Rural Development Payment support. Cross Compliance has been in place in Wales since 2005. As a consequence of CAP reform, the regulatory structure of Cross Compliance has been under revision across the EU. A number of Cross Compliance requirements will change at EU level from 2015, although the key areas covered by the regime will remain largely unchanged.

1. Matters of special interest to the Constitutional and Legislative Affairs Committee

There are no specific issues to highlight to the committee.

2. Legislative background

The Common Agricultural Policy Single Payment and Support Schemes (Cross Compliance) (Wales) Regulation 2004 as amended will be revoked and replaced by a new SI on 1 January 2015 to coincide with the introduction of the new CAP regime.

The Welsh Ministers are designated for the purposes of section 2(2) of the European Communities Act 1972 in relation to the Common Agricultural Policy of the European Union by virtue of S.I. 2010/2690. This designation allows Welsh Ministers to make regulations for the purpose of implementing any EU obligation of the United Kingdom.

As a consequence of Common Agricultural Policy (CAP) reform, the regulatory structure of Cross Compliance is being revised across the European Union from 2015. The European Regulations establishing new rules for direct payments to farmers under support schemes within the framework of the common agricultural policy apply from 1 January 2014. However, insufficient time was available for the administrative and practical arrangements needed for the lodging of applications by farmers in 2014 to be set up in time by Member States. The European Union implemented transitional regulations enabling the current payment regimes to continue until 1 January 2015 by virtue of Regulation (EU) No 1310/2013 of the European Parliament and of the Council of 17 December 2013 laying down certain transitional provisions on support for rural development by the European Agricultural Fund for Rural Development (EAFRD), amending Regulation (EU) No 1305/2013 of the European Parliament and of the Council as regards resources and their distribution in respect of the year 2014 and amending Council Regulation (EC) No 73/2009 and Regulations (EU) No 1307/2013, (EU) No 1306/2013 and (EU) No 1308/2013 of the European Parliament and of the Council as regards their application in the year 2014 (“the Transitional Regulation”).

Regulation (EU) No 1306/2013 on the financing, management and monitoring of the common agricultural policy, published on 20 December 2013, removes and revises a number of the existing requirements, together with the structure of these requirements. The key areas covered by EU Cross Compliance will remain similar to the current regulation. The new Cross Compliance regime will come into force on 1 January 2015.

The instrument is subject to the negative resolution procedure (annulment).

3. Purpose & intended effect of the legislation

Part 2 of the Statutory Instrument

Part 2 of these Regulations make provision for the implementation of the integrated administration and control system for direct support schemes under the Common Agricultural Policy (CAP), including the Basic Payment Scheme (BPS) in Wales. They continue the arrangements which were in place for the Single Payment Scheme (SPS) to administer CAP schemes in line with EU Regulation 1306/2013 and Commission Implementing Regulations 640/2014 and 809/2014, which were produced following the EU CAP reform.

No Regulatory Impact Assessment has been prepared in relation to Part 2 of the regulation.

Part 3 of the Statutory Instrument

The changes to the European CAP requirements resulted in changes to the Cross Compliance regulatory framework from 1 January 2015. The Cross Compliance regime underpins the Basic Payment Scheme and the delivery of objectives under the new Rural Development Programme. Under the Cross Compliance regime, Member States have to ensure compliance by beneficiaries of direct payments with the prescribed Statutory Management Requirements (SMR) and can set further statutory obligations to be observed under the European framework of standards for Good Agricultural and Environmental Conditions (GAEC) of land. The GAEC requirements, as stipulated by the Common Agricultural Policy (Integrated Administration and Control System and Enforcement and Cross Compliance) (Wales) Regulations 2014, reflect the Welsh Government's objective to balance environmental protection measures and practical farming interests. The regime that will apply in Wales from 1 January 2015, will support key areas of delivery such as animal welfare, maintaining environmental and food standards and the protection of water, soils and the historic environment in Wales.

The following elements of the 2015 Cross Compliance arrangements will be updated and amended, in line with the new EC requirements and Working Smarter objectives:

1. Buffer strips along water courses
2. Water irrigation use
3. Protection of groundwater against pollution
4. Minimum soil cover
5. Minimum land management reflecting site specific conditions to limit erosion
6. Maintenance of soil organic matter
7. Retention of landscape features

5. Consultation

Details of the consultation are included in the Regulatory Impact Assessment at Part 2.

6. Regulatory Impact Assessment (RIA)



**Regulatory Impact Assessment (RIA)
Of changes to
Cross Compliance in Wales
Report to the Welsh Government**

Submitted to:

Sustainable Land Management Policy
Agriculture and Rural Affairs Division
Welsh Government

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Contents

Matters of special interest to the Constitutional and Legislative Affairs Committee	ii
Purpose & intended effect of the legislation	iii
Consultation	iii
GAEC 1a: Establishment of buffer strips along water courses	4
GAEC 1b: Supplementary Feeding within 10m of Watercourses	5
GAEC 1c: Pesticide No-spray Zones within 2m of Watercourses	7
GAEC 2a: Irrigation	12
GAEC 2b: Irrigation – wording changes	13
GAEC 3a: Groundwater Protection	14
GAEC 4: Minimum Soil Cover	15
GAEC 5: Minimum Land Management Site Specific Conditions to Limit Erosion	19
GAEC 6: Maintenance of Soil Organic Matter Level	26
GAEC 7a: Retention of landscape features – Scheduled Ancient Monuments	27
GAEC 7b: Retention of Landscape Features – Boundaries and Hedgerow Maintenance	31
GAEC 7d: Protection of Landscape Features – No Cultivation Rule Change	33
GAEC 7e: Protection of Landscape Features – TPOs and Felling Licences	35
GAEC 7f: Protection of Landscape Features – SSSIs	37
Statutory Management Requirements (SMRs)	39
• SMR 1a: Incorporation of Silage Slurry And Fuel Oil regulations Waterside Buffer Zones;	41
• SMR 1b: Groundwater - Construction Requirements for Stores;	41
• SMR 11: Food and Feed Law – TB Testing Non-Compliance.	41
SMR 1a: Incorporation of SSAFO Waterside Buffer Zones	42
Option 1c (ii), to not incorporate SSAFO waterside buffer zones under Cross Compliance would lead to a significant risk of disallowance (reduction in payment from EC due to non compliance).	43
SMR 1b: Groundwater - Construction Requirements for Stores	44
SMR 11: Food and Feed Law – TB Testing Non-Compliance	46
References.....	49
Appendix 1: Length of Water Courses for RIA Calculations.....	52
Appendix 2: Consultation analysis and response.....	54

Tables

Table 1: Reduction in pesticides entering water courses via surface flow from agriculture	9
Table 2: Soil Degradation Risk Associated with Post-Harvest Management	17
Table 3: Erosion Rates Associated with UK Crops in Wales.....	17
Table 4: Land cover in Wales.....	29
Table 5: Land area of SAMs by altitude in Wales	29
Table 6: Land area by land cover class	Error! Bookmark not defined.
Table 7: Penalty applied for late TB tests.....	46
Table 8: River length by DRN River Class in Wales	52
Table 9: River boundary length with agricultural use by DRN River Class - Arable	52
Table 10: River boundary length with agricultural use by DRN River Class - Pasture	53

Consultation

Stakeholders were consulted on Cross Compliance proposals during the 8 week consultation which ran from 23 May until 18 July.

Over 1000 stakeholders, including Farmers Unions, Environmental and Lobby Groups and Local Authorities were sent the consultation document directly via email. The consultation was also publicised on the Farming connect e-bulletin, the consultation e-bulletin and Gwlad. It was also published on the Welsh Government website.

44 written responses to the consultation were received. A summary of the Welsh Government response to the consultation and the analysis of the consultation responses is included at Appendix 2. Changes to proposals for Cross Compliance in 2015, resulting from the consultation are detailed in this document.

Competition Assessment

The proposed regulation has been assessed using the competition filter assessment and the regulation is unlikely to have a significant detrimental effect on competition.

Post implementation review

The implementation of the 2015 Common Agricultural Policy (CAP) Cross Compliance and Integrated and Administrative Control System (IACS) requirements, in Wales, will be reviewed in 2020 for the next European Commission CAP programming period. In addition, in the interim, the Welsh Government intends to review the following areas:

- The efficacy of Statutory Management Requirement 1 (SMR 1) will be reviewed under the 2015 review of The Water Resources (Control of Pollution) (Silage, Slurry and Agricultural Fuel Oil) (Wales) Regulations 2010 (SSAFO regulations) for any necessary changes to be implemented from January 2016.
- The Welsh Government will review the accuracy of Historic Environment Features (HEF) digitised maps for the purposes of Cross Compliance with a view to extending protection to HEF's under GAEC 7 by subsequent amendment to the regulations (post 2015) following further consultation with stakeholders.
- The Welsh Government will review the mapping constraints to designating Public Rights of Way as a landscape feature with requirements not to obstruct or deviate. Once these are resolved amend the Cross Compliance requirements under Good Agricultural and Environmental Condition 7 (GAEC 7) to include the Public Rights of Way requirement subject to further consultation with stakeholders.

GAEC 1a: Establishment of buffer strips along water courses

Background and options

Option 1a: Carry forward the existing provisions currently in operation in Wales (GAEC O) under the new GAEC 1.

Preferred option: 1a

Existing GAEC O requires that:

- Inorganic fertilisers and manufactured fertilisers must not be applied within 2 metres of a water course;
- Organic fertilisers (including manures and slurry) must not be applied within 10 metres of a water course;
- Organic fertilisers (including manures and slurry) must not be applied within 50 metres of boreholes, springs and wells.

Since the retention of GAEC O under GAEC 1 is mandatory, and there is no change to the current requirement, there is no impact to assess.

GAEC 1b: Supplementary Feeding within 10m of Watercourses

Background and options

Option 1b (i): Supplementary feeding is currently prohibited within 10 metres of surface water; this requirement which currently falls within GAEC D to be retained within the new GAEC 1.

Option 1b (ii): Remove the current supplementary feeding requirements.

Preferred option: 1b (i)

Livestock farmers are currently prohibited from allowing supplementary feeding within 10 metres of surface water. This rule is in place to achieve a range of environmental benefits, in particular for water quality and biodiversity. However, limiting the extent of land on which livestock are permitted to receive supplementary feeding does reduce flexibility for farmers and may concentrate poaching (damage caused to turf or sward by the feet of livestock) elsewhere.

Policy option GAEC 1b proposes to retain this rule. An alternative policy considered here is to remove the requirements.

Costs and Benefits

Option 1b (i)

Costs

The cost of retaining this requirement is that farmers lose the small additional flexibility of being able to feed within 10 m of surface water. This is an issue of management and no additional costs are likely to be incurred; as such this is judged to be of negligible cost to farmers.

Benefits

Summary of benefits: these are indirect and difficult to quantify. They relate to the avoidance of the loss of soil through additional poaching of land nearby watercourses. While small in scale at individual farm level, the impact of soil erosion might be larger on a national scale.

Option 1b (ii)

Costs

Lifting the restriction on feeding within 10 m of surface water will slightly increase pollution of surface water with effects on water management and biodiversity. The main affected group is the general public through loss of biodiversity, higher water prices from additional treatment costs and possible increased flooding and/or additional river dredging costs from silting of rivers.

Using data on the length of river courses (Primary and Secondary River classes from DRN (Detailed River Network)) and land use data, it is calculated that the total length of watercourse boundary on one side running through pasture in Wales is 10,141 kilometres, which amounts to 10,141 hectares of land within 10 metres of the water courses. This is 0.87% of the total area of grass (under 5 years old and permanent pasture) in Wales (Welsh Government, 2013). It's likely that every farm in Wales would have some surface water.

Preventing supplementary feeding within 10 m of a watercourse reduces the connectivity between the pollution source (which is the area of poached land around the feeders) and the receptor which in this case is the watercourse. This is likely to reduce the amount of pollution, which is mainly soil and faeces, reaching the water course.

The environmental benefits of not feeding within 10 metres of a water course are a very small proportion of the environmental benefits of a range of measures including fencing rivers, alternative water supplies and avoiding poaching (including by feeding practices) discussed below in relation to GAEC 5 to which the reader is referred.

Benefits

The benefits for farmers in terms of additional flexibility in supplementary feeding are judged to be negligible. Removing the prohibition on supplementary feeding within 10 metres of a watercourse allows a slightly larger area of land on which farmers are permitted to supplementary feed livestock. In many cases land within 10 metres of a water course will not be particularly suitable for supplementary feeding because of being low lying, boggy, remote from access etc.

Net benefit of the regulation (change)

While it is expected that there would be a tangible environmental benefit from the continued prohibition of feeding within 10 m of a watercourse, it is not possible to quantify this. The retention of this requirement is not considered to be overly onerous for farmers. Given that the ongoing cost to farmers of the preferred option will be negligible, the benefits, which are nearly all public benefits, are likely to exceed the costs. Supplementary feeding within 10 m of a watercourse offers flexibility to farmers, with limited monetary benefit, but can lead to substantive environmental losses to society.

GAEC 1c: Pesticide No-spray Zones within 2m of Watercourses

Background and options

Option 1c (i): The application of pesticides is to be prohibited within 2 m of a watercourse. This new requirement will apply in addition to the current requirements relating to the application of inorganic and manufactured fertilisers. Implement with derogations for control of invasive non native plants where permit from NRW has been obtained as necessary.

Option 1c (ii): No requirement as outlined in 1c (i).

Preferred option: 1c (i)

The use of pesticides is central to the economic efficiency of arable crops and cultivated fodder crops (organic systems do not use pesticides but are compensated through price premia). However, pesticides can have adverse impacts on terrestrial biodiversity and the ecosystem services which they provide (such as pollination). Moreover, if pesticides reach watercourses, they can have adverse impacts on water quality and aquatic biodiversity and can be expensive to; remove.

Policy Option GAEC 1c (i) proposes to ban the spraying of pesticides within 2 metres of a watercourse with derogation for the control of invasive non native plants where a permit from NRW has been obtained as necessary.

Key assumptions

It is assumed that farmers do not cultivate within 1m of a watercourse due to practical implications. It is also assumed that extending this 'buffer' to 2m will reduce the risks to water quality and biodiversity.

Costs and benefits

Option 1 c (i)

Costs

The application of pesticide is likely to affect arable crops and fodder crops. Very little pesticide is applied to grassland and where chemicals such as herbicides are applied, it will be possible to leave a 2m untreated strip with little effect on grass production.

Policy Option GAEC 7d proposes the requirement to not cultivate on a minimum of one metre adjacent to a watercourse. The 1 m no-cultivation protection zone means that the 2m pesticide buffer zone only reduces the cultivated crop by 1 metre. In carrying out this Impact Assessment it has been assumed that in practice farmers implement the 1m no-cultivation rule in fields of all sizes for practical reasons and hence only 1m will be lost as a result of the 2m pesticide-free buffers.

For arable crops and cultivated fodder crops there will be a loss of production, reducing the gross margin. As it is not practical to crop the strip of land which

receives no pesticide on the basis that crops (such as cereal crops) grown on field headlands suffer severe weeds challenge and to try to harvest a crop on this land will lead to problems with green corn, weed seeds such as cleavers etc. The practical response is to leave a 2m wide uncultivated margin which will usually naturally regenerate as grass. This means there will be a complete loss of crop on this area. However the cost of growing the crop will be saved and the effective loss is the Gross Margin after savings in the costs for fieldwork. The 2m buffer strip will need to be topped (removing tops of weeds to prevent spread) at least once a year. Occasionally there may be a problem with weeds if a cover crop is not established.

ADAS Calculation of lost income from 2m pesticide free strip along water courses

The total area of crops (excluding all grass) in Wales was 88,862 hectares in June 2011 (Welsh Government, Welsh Agricultural Statistics 2011) of which 55,066 hectares were cereals and the largest crop by area was winter wheat at 25,843 hectares.

ADAS has estimated the length of watercourse field boundaries running through tillage land using DRN (Detailed River Network) River Classes Primary Rivers, Secondary Rivers and Lakes (see Appendix 1). From the DRN data, the total length of watercourse boundaries with tillage land is estimated at 2,122 kilometres. The effective area lost per kilometre of river from a 2m buffer strip on one side of the watercourse is 0.1 hectares per kilometre, giving a total area of land lost of 212 hectares.

Using winter wheat as the tillage crop with the highest area to represent all tillage crops (includes all cereals and combinable crops, maize, roots, other crops for stock feeding etc.) then the average Gross Margin per hectare is £776 per hectare (Nix, 2012). Allowing for savings in the cost of establishment, growing operations and harvesting - which can be represented by a stubble to stubble contractor's cost for cereal growing of about £310 per hectare (Nix, 2012), the net loss is £466 per hectare. The naturally regenerating margin is likely to need to be topped once per year at a cost of £27 per hectare (Nix 2012). This gives a total net cost to the farmer of £493 per hectare, which on 212 hectares which amounts to a loss of £0.1 m per year to all farmers in Wales (precise calculation £104,624/year).

The Present Value of this economic loss over a 5 year period is calculated at £0.474 million.

Summary of costs: The affected group is arable farmers in Wales who may have additional costs of about £0.1 million per year.

Benefits

Water Management and Aquatic Biodiversity

There are 4 major pathways that pesticides can reach watercourses: it can drift outside of the area of where it was sprayed, it may leach through the soil, it could be carried as runoff, or it may be spilled accidentally. All the pesticides most commonly found in water are ones that are mobile and persistent. Metaldehyde (a chemical used in the majority of slug pellets used in agriculture) is the most frequently identified active substance, listed at 80% of sites impacted by pesticides. The other

active substances occurring most frequently are the herbicides propyzamide, carbetamide, chlorotoluron, 2, 4-D, mecoprop-P and MCPA. Studies by the UK government (Defra, 2012) show that pesticide concentrations exceed those allowable for drinking water in some samples of river water and groundwater.

Pesticides are of concern because of their unacceptability in drinking water, but certain pesticides such as pyrethroid insecticides, can have devastating effects on aquatic fauna. Environmental Quality Standards (EQSs) are concentrations set for individual pesticides above which it may be toxic to river organisms. Fish and other aquatic biota may be harmed by pesticide-contaminated water. Application of herbicides to bodies of water can cause plants to die, diminishing the water's oxygen and suffocating the fish. Repeated exposure to some pesticides can cause physiological and behavioural changes in fish that reduce populations, such as abandonment of nests, decreased immunity to disease, and increased failure to avoid predators (Pesticides Forum, 2014).

Approximately 18,000 tonnes of pesticide was applied in UK in 2012; half of this (by weight and area) was attributable to wheat crops. In 2007, 6.0% of indicator samples in England and Wales contained pesticide concentrations above 0.1 µg/l (Maximum Allowable Concentration under EC Drinking Water Directive); though in Wales this was only about 2%.

Table 1: shows the effectiveness of various buffer strip widths in reducing the proportional quantity of pesticide entry to watercourses. Although the range does vary considerably, this does suggest that the Option to prevent spraying of pesticides within 2m of watercourse should help to reduce these effects. However, watercourses and aquatic and terrestrial species may still be affected by application to and drift from elsewhere.

Table 1: Reduction in pesticides entering water courses via surface flow from agriculture

Width of buffer strip:	1 m	3 m	6 m
% pesticide reduction:	50-85%	45-86%	44-86%

(Source: Defra 2009 Table B2 page 37)

The most detailed reference on the subject of pesticide use near watercourses is the Impact Assessment of Changes to the Cross Compliance carried out by Defra in 2009, which looked at a number of options for buffer strips. Buffer strips Option 2 was for mandatory implementation of 3 m or 6 m buffer strips next to water courses on all arable land. This Impact Assessment produced quantified benefit estimates for 6 m buffers only for air quality, greenhouse gases (GHG) and phosphorus and sediment pollution. Total benefits in England were £42-67m per year. The arable sector in Wales is, however, considerably smaller. In Wales there are 85,000 hectares of arable land (June 2014 Survey of Agriculture and Horticulture: Results for Wales), whilst in England there is 4.8 million hectares of croppable land (Farming Statistics Final Land Use, Livestock Populations and Agricultural Workforce at 1 June 2014 - England.)

No monetary assessments have been made for the benefits of reducing pesticide pollution in the UK generically or Wales specifically. Estimates from a contingent valuation study in Ontario, Canada have been performed indicating marginal willingness to pay (WTP) in a range of USD 2.37 – USD 6.26 / household / year in 1993 to reduce pollution of surface and ground water by agricultural pesticides by 1% (Brethour & Weersink, 2001). Annual treatment costs in 2011 for pesticide removal were estimated at £96,000 in the Leam catchment in Warwickshire which covers 370 km², and abstracted water is processed at two treatment works which provide 4.5 million gallons of drinking water a day for a population of 160,000 people (Pesticides Forum, 2012).

The combined area of the Western Wales River Basin District, the Dee River Basin District, and the Welsh portion of the Severn River Basin District cover 26,100 km² respectively and provide water for over 2 million people. Given the monetary benefits realised in England and Canada, relating to decreased water treatment costs, and the effectiveness of the intervention as shown in Table 1, there could be material monetary benefits from implementing this intervention. However, transferring the benefits of the English and Canadian studies across to a Welsh scenario is difficult due to the significant differences between the geographical and land use contexts. Ontario and Warwickshire have a significantly higher ratio of arable to pasture than Wales, and this may explain why the frequency of Welsh pesticide levels exceeding the allowable threshold is much lower than in England. Moreover, any valuation on this basis would also over-estimate the value of the intervention since there are other sources of pesticide entry.

There is insufficient information to estimate the value of the benefits of reduced pesticide pollution resulting from a ban on spraying pesticides within 2 metres of a watercourse. However, it is possible that benefits might exceed costs in certain catchments with considerable arable land use.

Terrestrial Biodiversity

The excessive use of pesticides is one of the main causes of the decline of common farmland birds (e.g. corn bunting, grey partridge and yellowhammer) due to: reduced insect and seed food supplies; consuming granules or insects and worms that have consumed pesticides; or through habitat loss. In 2012 the corn bunting and grey partridge (farmland specialists) had each declined by approximately 90% relative to 1970 levels. Numbers of yellowhammer and other farmland specialists have approximately halved over the same period. Application of pesticides to crops that are in bloom can also kill bees (20% of the UK cropped area comprises insect pollinator-dependent crops), particularly neonicotinoid insecticides and fipronil. Honey bees, the most common pollinators of commercial field crops across the UK, showed a 23% decline in Wales between 1985 and 2005, in part due to pesticides. Frogs and bats are also affected by pesticide use, along with soil biota.

The same contingent valuation study in Ontario also produced per household values in a range of USD 2.04 – USD 5.66 for a marginal reduction in pesticide use to protect a variety of species at 1993 USD values (Brethour & Weersink, 2001). These values are more transferable as they reflect societal values rather than geographical ones which are likely to be similar between Canada and Wales. And, in principle, by reducing the area available to farmers to spray pesticides, there should be a

corresponding benefit in terrestrial biodiversity. However, with arable land use in Wales at just 162,000 ha, the 2m buffer alongside watercourses would represent approximately 212 ha or just 0.16% of this. As such the monetary benefit of this intervention for terrestrial biodiversity is likely to be negligible.

No allowance has been made in this Impact Assessment for the small area of land adjacent to water courses that would receive permits to apply pesticides to control non-native invasive weeds. These are likely to be for spot treatment of limited areas.

Summary of benefits: Aquatic Biodiversity: Reduced pesticide entry to watercourses will reduce harm to aquatic species. The benefits cannot be monetised but are likely to exceed the costs. The benefits accrue to the wider public through improved river ecosystems.

Net benefit of the regulation (change)

The costs and benefits from a 2m pesticide-free buffer in arable crops in Wales are likely to be small in scale. However, wider benefits from reduced cultivation near river courses and a marginal reduction in overall pesticide use in combination with reduced pesticide concentrations in water, lowering water treatment costs and decreasing impact on biodiversity, mean that the aggregate benefits are likely to be greater than the costs.

GAEC 2a: Irrigation

Background and options

Option 2a: Carry forward the existing water irrigation provisions currently in operation in Wales (GAEC M) under the new GAEC 2.

Preferred option: 2a

The Welsh Government proposal is to carry forward the existing water irrigation provisions currently in operation in Wales (GAEC M) under the new GAEC 2. Since the retention of GAEC M is mandatory, and there is no change to the current requirement, there is no impact to assess.

GAEC 2b: Irrigation – wording changes

Background and options

Option 2b: GAEC M wording to be further updated for GAEC 2 to highlight the importance of irrigation for agricultural purposes as well as reflect the establishment of Natural Resources Wales (NRW).

Proposed option: 2b

Wording in the verifiable standards will be updated to reflect the establishment of NRW. In addition the requirement will be more specific, the reference to ‘abstraction’ will be changed to ‘irrigation’ to reflect changes in the EC requirements. These minor changes have no regulatory impact.

GAEC 3a: Groundwater Protection

Background and options

Option 3a: Retain the current groundwater requirements as already established in GAEC P as this is a mandatory requirement.

Preferred option: 3a

Prior to 2014, the requirements under GAEC 3 (Protection of groundwater against pollution) were in SMR 2 (Protection of groundwater against pollution). Following a change in EC requirements, they were moved to their current position in GAEC P (Protection of groundwater against pollution). They will now be moved to new GAEC 3.

There is no change to the requirement and maintaining the current groundwater requirement is mandatory, therefore there is no regulatory impact.

GAEC 4: Minimum Soil Cover

Background and options

Option 4a: Ensure that erosion does not occur following harvest. Where land has been harvested with a combine, forage harvester or mower to comply with GAEC 4, one of the following must be met at all times between the day after harvest to the 1st March;

- (a) the stubble of the harvested crop remains in the land; or**
- (b) the land is prepared as a seedbed for a crop or temporary cover crop within 14 days, and**
 - (i) the crop, or temporary cover crop, is sown within a period of 10 days beginning with the day after final seedbed preparation, or**
 - (ii) if sowing within that 10-day period would mean breaching the requirement in paragraph 9(1), the crop, or temporary cover crop, is sown as soon as is practicable after it ceases to be waterlogged.**

You must protect soil by having a minimum soil cover except where establishing a cover would conflict with requirements under GAEC 5.

Preferred option: 4a

This is a mandatory change of wording from the existing wording of the current GAEC which requires:

“Where land has been harvested with a combine harvester, forage harvester or mower, to comply with requirements, one of the following conditions should be met at all times between the day after harvest to the 1st March:

- stubble of the harvested crop remains in the land*
- land is left with a rough surface following ploughing, discing or tine cultivation to encourage the infiltration of rain*
- land is sown with a temporary cover crop. If this becomes grazed out or cultivated during the post-harvest period, a rough surface must be left as soon as conditions permit*
- land is sown with another crop within 10 days of having been prepared as a seedbed or as soon as possible if severe weather prevents sowing in that period”*

The main change here is that the second bulleted point in the current GAEC has been removed to avoid disallowance and hence there is no longer provision to leave land with a rough surface after ploughing, discing or cultivation. This reduces operational flexibility for farmers at harvest since it prevents field cultivation (for example to partly prepare the land for sowing) more than 10 days before the next crop will be sown. This could reduce farmers’ ability to achieve optimal sowing dates for crops.

Key assumptions

There is an implicit assumption that leaving a rough cultivated soil surface will lead to additional soil erosion relative to that associated with working the land in unsuitable conditions (through no cultivation, establishment of a cover crop or planting within 10 days of cultivation).

Costs and benefits

Option 4a

Costs

To get crops drilled at the optimal time, one approach would be to get help from contractors to speed up the operation of going from stubble to drilled crop close to the ideal time. One way to represent this is to assume that all oilseed rape in Wales is followed by winter wheat and that assistance from contractors would be required for 50% of the area with this revised GAEC in force. The area of oilseed rape in Wales in 2011 was 5,215 hectares so contract help would be needed with 2,608 hectares at a cost of £60.54 per hectare. This gives a total cost to farmers per year of £0.158 million (precise calculation £157,858 per year) or an NPV over five years of £0.709 million. It is accepted that there will be other situations than oilseed rape where the revision of this GAEC causes problems in achieving optimal sowing dates but this calculation is thought to be a fair representation of the scale of the problem.

Summary of costs: The group that bears the cost of decreased flexibility in establishing crops is arable farmers in Wales. The annual cost is estimated at approx. £0.16 million per year.

Benefits

i) Removal of the option to leave land as a rough surface post-harvest after cultivation

Leaving a rough surface post-tillage is currently one of four post-harvest options which can be employed to limit soil degradation with corresponding impacts for soil erosion and surface water runoff. Removing this option requires farmers to choose one of the three other options or to take measures to prevent soil erosion as included in GAEC 5.

ADAS (2013) ranked post-harvest management options in terms of their efficacy in reducing soil degradation risk (Table 2). Removal of the rough surface option could be beneficial for earlier harvested crops. However, for later harvested crops such as vegetables, potatoes, sugar beet, maize, and salad crops a switch from rough surfaces to cover crops, next crop or stubbles could potentially exacerbate soil degradation and so to mitigate against this. GAEC 4 incorporates the line: *"You must protect soil by having a minimum soil cover except where establishing a cover would conflict with requirements under GAEC 5."* GAEC 5 also aims to limit soil erosion by incorporating the line: *"To prevent erosion on late harvested land or on land where a forage or root crop have been grazed out, if it is not possible to sow a cover crop, you must put in place appropriate measures to limit soil erosion."*

Table 2: Soil Degradation Risk Associated with Post-Harvest Management

Option	Risk (Lowest to Highest)
Cover crop (sown early autumn) – good vegetation cover	1
Next crop (sown early autumn) – good vegetation cover	2
Stubble with additional crop residue/mulch	3
Stubble – compaction removed where present	4
Rough surface	5
Stale seedbeds (cultivation sequence to control weeds)	6
Cover crop (sown post late autumn harvest)	7
Next crop (sown late autumn)	8

(Adapted from ADAS, 2013)

The implications of crop choice for current erosion rates in Wales are estimated in Table 3. This multiplies the known area of crop cover in Wales with erosion coefficients for these crops established in Boardman (2013). Even though the later-sown crops have much higher mean erosion rates, they represent a smaller component of overall erosion than earlier sown autumn crops, due to their scale.

Table 3: Erosion Rates Associated with UK Crops in Wales

Crop	Mean Rate (m³/ha/yr)	Welsh Crop Area (ha)	Total erosion (m³/yr)
Vegetables	5.08	456	2,316
Potatoes	2.53	1,705	4,314
Maize	4.48	12,805	57,366
Total Late Crops		14,966	63,997
Other Fodder	2.1	9011	18,923
Rape	1.92	5215	10,013
Cereals	1.8	55,066	99,119
Other	2.67	4,604	12,293
Total Other Crops		73,896	140,347
Total		88,862	204,344

(Adapted from Boardman, 2013; WAG, 2011)

A survey of English farmers (ADAS, 2012) suggests that 21% favour the rough surface method for cereals, oilseed rape or grain legumes, whilst 28% favour this method for potatoes, beet, maize, vegetables, salads, bulbs, and rhizomes. If these statistics were applied to Wales, and we assume that the loss of the rough surface method would exacerbate erosion in late autumn sown crops, but reduce erosion in earlier sown crops, the change would most likely reduce the c. 29,500 m³/yr of soil loss from earlier sown crops and increase the 17,900 m³/yr of soil loss from late autumn harvested crops.

On an overall basis, therefore the change could potentially be net positive, but it should be stressed that this does not take into account the relative magnitude of the change in soil loss due to the change in management regime, only the ranking. If the increase in erosion from not allowing a rough surface following late autumn sown

crops is proportionately greater than the benefits accrued from not allowing a rough surface following earlier sown crops, the result may be neutral or even negative. Furthermore, the spatial distribution of benefits may not be even as this will be determined by the location of crops in a given catchment and the collective decisions of farmers post this change.

Ideally, this change should be modelled using bands of effectiveness but in the interest of proportionality, this has not been done.

Assigning a monetary value to the benefit is also challenging because the magnitude of actual erosion reduction cannot be estimated. If this were possible, then the benefit could be estimated with reference to the total off-farm costs of erosion from agriculture (£106 million per annum according to Pretty *et al.*, 2000). In the absence of this data, no estimate of monetary valuation can be provided.

Summary of benefits: The beneficiaries are the wider public through reduced soil erosion to rivers resulting in improved aquatic environments, water quality and reduced silting of rivers. These benefits cannot be monetised but may exceed the costs. It is, however, mandatory to remove the rough surface option.

GAEC 5: Minimum Land Management Site Specific Conditions to Limit Erosion

Background and options

Option 5a (i): Overgrazing must be avoided. Poaching (damage caused to turf or sward by the feet of livestock) and rutting (damage caused turf or sward by a vehicle) must not occur to a level which causes soil erosion down slope or off site (site meaning field) including to watercourses and roads.

To prevent erosion on late harvested land or on land where a forage or root crop have been grazed out, if it is not possible to sow a cover crop, you must put in place appropriate measures to limit soil erosion.

An indicative list of appropriate measures (grubbing, ditches, sediment fences, etc) will be included in the guidance.

Option 5a (ii): Only include requirement: ‘Poaching and rutting must not occur to a level which causes soil erosion down slope or off site (site meaning field) including to watercourses and roads.’

Preferred option: 5a (i)

Overgrazing can cause accelerated soil erosion, which can have a range of environmental and economic impacts. The existing overgrazing requirements are intended to limit these impacts. Policy Option GAEC 5 (Option 5a (i)) would carry these requirements forward whilst policy Option 5a (ii) would only include outcome-focussed rewording.

Key assumptions

Assumptions for costing relate to the length of fencing of rivers required and the number of water points. There is a high degree of uncertainty over the estimates used.

Costs and benefits

Option 5a (i)

Costs

The approach to costing is as follows:

Overgrazing usually occurs where livestock are stocked at rates that exceed the production/carrying capacity of the land. It can also be associated with feeding stations, since supplementary feeding is used to maintain livestock outside when grazing is insufficient. Sacrifice areas (drier, level fields, with a grass buffer to protect watercourses, which are used to over winter stock) are sometimes used to protect a larger area of grazing from poaching damage. We have also assumed that overgrazing and poaching issues associated with livestock access to water courses primarily applies to cattle where they tread down the banks of watercourses. Unlike

sheep, cattle frequently stand in water for a long time and defecate in it. For the purposes of this costing exercise, we have also assumed that it applies to enclosed land and not the open hill. On the open hill fencing water courses would be impractical, visually intrusive, interfere with the movement of hefted sheep and affect walkers. The prevention of watercourse bank poaching and erosion can be costed as the cost of additional fencing along water courses plus the cost of providing alternative water supplies to the livestock.

In addition to a limited amount of fencing off river banks, avoiding poaching and rutting that leads to erosion associated with supplementary feeding was costed based on the time taken to move feeders to an alternative feeding site.

Cost of erecting fences along water courses to prevent soil erosion from treading of river banks plus alternative drinking water supply

The analysis of river length in Appendix 1 gives an estimate of 10,141 kilometres of pasture land boundaries along rivers. This estimate used Primary Rivers, Secondary Rivers and Lakes as the DRN River Classes but excludes Tertiary Rivers (as defined by DRN). In order to estimate the length of river boundaries which would need to be fenced to keep livestock from accessing the river, it is necessary to account for the fact that much of the river boundaries will not be grazed by livestock, are not accessible or are already fenced. On this basis we have used a very conservative estimate of the river length which would need to be fenced of 1% but it should be noted that there is an absence of any formal data to support it. For the 10,141 kilometres of river bank this results in an assumption that 101.4 kilometres of fencing is required.

A three line strained wire fence with posts 2.7m to 3.5m apart (MAFF, 1992) should prevent cattle from accessing river banks at a cost of c. £3 per metre (Nix J, 2012). This amounts to a total capital cost for fencing of £0.3 million (precise calculation, £304,200).

In addition to fencing the rivers it is necessary to provide watering facilities for grazing livestock that previously drank from the river. Options include pasture pumps, which allow cattle to pump water for themselves from a river; drinking bays with a concrete or stone ramp into the river for livestock access to water without crossing the fence; and drinking troughs, including the use of hydraulic rams where a mains water supply is not available.

Pasture pumps were used in this costing exercise, as they are a cost effective and increasingly common way to provide water to cattle. One pasture pump can provide sufficient water for about 15 cattle, which implies that three pasture pumps are needed at each watering point for 45 cattle. Each pasture pump costs around £350 to purchase and install (Nix, 2012). If a typical field is roughly square-shaped and around 4 hectares it will have a length along a watercourse (assuming one side only) of 200 m. Grazing cattle often have access to four or five fields, so a watering point (with three pasture pumps) every 500 m along a river would be sufficient (this assumes access to five fields, only half of which have an adjacent water course - 5 divided by 2 = 2.5 fields with 200 m of water course per field). To meet the estimated national water course fencing requirement (101.4 km) would require the

installation of 203 water points and 608 pasture pumps at a capital cost of £0.2 million (precise calculation £212,958).

A rough approximation of the total capital investment cost of fences and alternative water supplies is therefore £0.5 million (precise calculation £517,140). Using an annual maintenance cost of 2%, this equates to a Present Value of approx. £0.56 million over 5 years.

The cost of moving feeders

The main cost of moving feeders is extra time for the farmer. The feeders may often be moved within the field in which they are placed. With a little forethought, stocks of baled hay and silage can be placed so that there is little extra time involved in placing them into feeders on a daily basis.

A reasonable assumption is that there are groups of 45 cattle feeding from four feeders. Moving the feeders will require a tractor (possibly with a loader) to move the feeders onto fresh ground by dragging or lifting them. If this happens 6 times per winter instead of an existing 2 times, and the time taken is an hour (including any travelling time from the farm), the cost will be about £20 per hour for the tractor (110 hp tractor, Nix, J. 2012) and £10 per hour for the farmer’s labour or £30 in total per feeding station move. For a feeding station moved an additional 4 times per year the cost will be £150 per year.

In Wales there were 1.1 million cattle (precise figure 1,123,449) of all sizes and types in 2013 (Welsh Government, 2014). The proportion of cattle housed in winter is very variable. For dairy cattle it would be close to 100%. For suckler cows the proportion would be much lower. It has been assumed that overall about 80% of cattle are housed in winter. If the un-housed cattle are in groups of 45 with four feeders this suggests 4,993 groups of cattle out-wintered. This gives a total cost for Wales of £0.6 million per year in annual cost (precise calculation £603,167). This equates to a Present Value of approx. £2.2 million over 5 years.

The impact of moving feeders more often may also be that more pasture gets slightly poached. Where this is permanent pasture it cannot be reseeded without an EIA (Environmental Impact Assessment). However, the aim of moving the feeding stations more frequently is to reduce the amount of serious poaching damage to grassland.

Summary of costs: The affected group is farmers who have the additional transitional cost of fencing rivers and the annual cost of moving feeders more frequently.

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Best Estimate	0.5	0.61	2.8

Benefits

Soil Management

The primary concern of uncontrolled grazing is the loss of vegetative cover due to frequent grazing, trampling or grazing the plants too close to the soil. This often weakens root systems and exposes and compacts the soil. Soil degradation increases the risk of soil erosion and nutrient losses from pastures and can, in turn, pollute surface waters. Sediment runoff is higher for heavily grazed watersheds (river catchments) compared to lightly grazed watersheds as vegetation increases stream bank strength to resist erosion (Bilotta *et al.*, 2007). Sediment runoff also tends to be higher on steep rather than gentle slopes; Mwendera *et al.* (1997) found that slopes exceeding 5.8% are likely to suffer soil erosion even under moderate grazing pressure.

The Environment Agency estimates that erosion moves 2.2 m tonnes of arable topsoil each year in England and Wales (UK NEA, 2011). Large areas of extensive grazing on seasonally wet vulnerable soils and erosion of steep slopes are causing reduced productivity in Wales. The total off-farm costs of erosion from agriculture in the UK have been estimated at around £106m (Pretty *et al.*, 2000). No estimates have been made for the Welsh specific costs, and pro-rata transfers may not be reliable due to differences between English and Welsh terrain and agricultural land use.

Water Management

Cattle and sheep grazing on heavy textured (fine textured) soils can change soil structure and hydrology, increasing flood risk. Rutting can cause soil erosion and thus the deposition of sediment in ditches and water courses. Where livestock are allowed to graze close to watercourses, stream bank or streambed disturbances can occur, leading to bank erosion and thus sedimentation and silting-up of watercourses, and typically the watercourse becomes wider and shallower. When soil and silt is added to a watercourse, this can cover spawning gravel and smother incubating eggs, reducing fish survival rates. Sediment on the stream-bed also reduces the range of habitats available for other organisms, such as invertebrates, to occupy and so reduces their numbers. Concentrated poaching on the banks of watercourses can also reduce the provision of marginal vegetation. Fish and other aquatic species rely on the health of the riparian (riverside) vegetation as it is an important component of fish habitat providing cover, shade and food for fish.

Concentrated fouling close to or within watercourses may also affect water quality, with manure deposited immediately adjacent to a stream having a much greater influence on stream bacteria loading than that deposited further away. Livestock manure contains a number of contaminants, such as ammonium, nitrates, nutrients (nitrogen, potassium and phosphorous), pathogens and solids (salt) that degrade water quality and adversely affect the domestic use of water as they contain pathogens such as *Cryptosporidium parvum* and *E. coli* which are a human health concern (McAllister & Pott, 2012). Aquatic species may be affected due to eutrophication and subsequent algal blooms and oxygen-deficient waters; manure is

a high oxygen demanding substance meaning there is less oxygen available for fish and invertebrates.

Cattle tend to defecate in water when allowed access (as well as on the land nearby) and are also responsible for much poaching. Thus the option to locate supplementary feeding at least 10m away from watercourses should greatly reduce the likelihood and prevalence of bank erosion, trampling of riparian vegetation and concentrated manure entering the watercourses. Aquatic species are extremely vulnerable to sedimentation and pollution from agricultural land, so the benefit to biodiversity is significant.

The similar 'no spread zone' requirement within 10m of water bodies in England has resulted in moderate reductions in microbial pathogens in water bodies. This is important as faecal indicator organisms (FIOs) remain the biggest cause of failures in water quality in the UK. Though only 3% of Welsh water bodies failed for chemical quality in 2012, just 36% of all water bodies in Wales achieved Good Ecological Status. The incidence of algal blooms per water body in the UK (1990-1999) was found to be highest in Wales. The benefit to water quality is also expected to be significant.

There is a considerable literature on overall economic benefits attributable to water quality improvements in the UK, and some specific to Wales. For example:

- Dŵr Cymru spent £67.0m on treating raw water from watercourses in 2012/13 and £70.2m in 2013/14 (Dŵr Cymru Cyfyngedig, 2014). These costs would be increased if the water was of a lower quality as a result of increased cattle related pollutants.
- Defra's 2007 WT07065 study by the Institute of Grassland and Environmental Research (Defra, 2009) highlighted the effects of agricultural pollution on water and placed values on the costs. The cost to society of each kilo tonne (kT) of pollutant released from agriculture has then been derived as: £0.51m to £0.89m per kT of nitrate; £26.16m to £44.52m per kT of phosphorous; and £0.14m to £0.22m per kT of sediment (2006-7 prices).
- Non-market benefits associated with improvements in water quality in rivers and lakes in England and Wales in 2009 have also been valued (UK NEA, 2011). The total benefits of improvement to Good quality status post 2015 were estimated as follows: current Moderate quality status = £766.4m/yr.; Poor = £300.1 m/yr.; Bad = £64.8 m/yr.; Not known = £8.8 m/yr. On a per household basis, the marginal WTP for step wise increments (low to medium, medium to high) in water quality under the WFD are within the range of £45-£85 / household / year (Morris & Camino, 2011). With 1.3 m households in Wales (ONS, 2011), this would suggest that the Welsh would benefit to the order of £58.5 m - £110.5 m / yr from such an increment.

Build-up of sediment may also contribute to localised flooding. The flood related costs of poor agricultural soil management and breakdown of soil structure have been estimated by the Environment Agency in 2007 to be in the range of £29-128 million per year, whilst flood risk to property in Wales has been estimated in 2008 at £200 million (Environment Agency Wales, 2008). However, information linking this value to land management to limit erosion *per se* was not available.

Biodiversity

Overgrazing and supplementary feeding can damage sensitive grassland and other habitats (e.g. blanket bog, heaths, species rich grassland, native broadleaf woodland and mires). Grazing directly affects plant communities in several ways, including the processes of biomass growth, internal allocation of resources, litter dynamics, recruitment of new plants, and plant stature/longevity. Grazing indirectly affects competitive relationships among species, community composition, percent ground cover, soil development, and successional development of plant communities. When plants are grazed, there is a die-off of root material proportional to the amount of foliage removed. In terms of supplementary feeding, farmers frequently select sheltered woodlands or hard, dry rocky outcrops with 'thin' soils that are often of ecological interest. Winter feeding away from buildings, particularly on or adjacent to semi-natural and sensitive habitats (mentioned above), can result in trampling, poaching or rutting by vehicles, as well as nutrient enrichment from concentrated fouling.

Monetised Benefit

In the absence of a Wales specific economic study on erosion costs, and with a multiplicity of factors governing soil loss above and beyond the intervention, there are difficulties in attributing a monetised value to the specified intervention. A specific estimate of the benefit has not been made. However, given the significant economic values associated with soil erosion and water quality in the UK, this intervention which seeks to address multiple factors in its causation is likely to have considerable benefits.

Summary of benefits: There are benefits in reducing soil erosion into watercourses which will improve water management and improve aquatic ecosystems. These benefits cannot be monetised but may exceed the costs of this measure.

Option 5a (ii)

Costs

In practice soil erosion occurs on all sloping areas of land under all types of land cover. The issue here is accelerated soil erosion caused by high levels of poaching and rutting. This wording is much less specific about the measures which farmers must take. There is the implication that only a small proportion of the measures costed above will be required to eliminate the most extreme examples of poaching and rutting causing soil erosion. Since these extreme examples will cause most of the pollution by soil erosion and involve only a small share of the cost, the cost benefit ratio will be much improved.

Summary of costs: The revised rewording would concentrate enforcement on the most pronounced cases of soil erosion caused by grazing livestock. It is assumed that the cost would be 20% of Alternative 1.

COSTS (£m)	Total Transition (Constant Prices) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
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Best Estimate	0.10	0.12	0.56

Benefits

The framework for assessing the benefit is the same as has been used to assess Option 5 a (i). This means the same difficulties apply in terms of assessing the value specific to the intervention. However, as the scope of intervention is narrower, the expected benefit would also reduce compared to Option 5a (i).

Summary of benefits: The benefits of 5a (ii) accrue to the general public through improved water management and better aquatic ecosystems.

GAEC 6: Maintenance of Soil Organic Matter Level

Background and options

Option 6a: In taking an outcome based approach we propose the following requirement:

To comply with GAEC 6 the following requirements must be met:

- **Comply with the Stubble Burning Regulations with no change to current guidance.**
- **Comply with the Heather and Grass Burning Regulations.**
- **Comply with the Environmental Impact Assessment Regulations (EIA Agriculture).**

No obligatory Soil Assessment Record.

Option 6b: Only include requirement to ‘Comply with the Stubble Burning Regulations with no change to current guidance.’

Preferred option: 6a

Organic matter is important for soil fertility, soil carbon, climate change mitigation, soil structure, and soil biodiversity. As such, organic matter in soils should be protected. Policy Option 6a includes a suite of proposals to maintain soil organic matter.

These requirements are currently in Cross Compliance and so there is no regulatory change. The stubble burning provision is required as a minimum by EU regulations. The other two (grass burning and EIA) are UK provisions. As there is no change in the regulations there is no impact to assess.

Costs and benefits

Option 6a

Costs

Nil

Benefits

Nil

GAEC 7a: Retention of landscape features – Scheduled Ancient Monuments

Background and options

Option 7a (i): To retain current protection for Scheduled Ancient Monuments (SAM's).

Option 7a (ii): Remove the current protection for Scheduled Ancient Monuments (SAM's).

Preferred option: 7a (i)

The Welsh Government proposes to retain current protection for Scheduled Ancient Monuments (SAMs). These are currently a GAEC F (Scheduled Ancient Monuments) requirement, but would move to new GAEC 7. This is the Welsh Government's main proposal which has been compared against the option of removing this requirement to protect SAMs under Cross Compliance.

The main requirements of current GAEC F are:

- No work to a Scheduled Ancient Monument may be carried out without formal consent from Cadw e.g. ploughing, fencing, drainage, track upgrades etc.
- Comply with all consent requirements in full
- Do not destroy or damage a Scheduled Ancient Monument
- Do not damage scheduled historic features through activities which cause or encourage soil erosion or ground disturbance on ancient monuments, e.g.:
 - overgrazing (also note GAEC B)
 - growth of invasive scrub or vegetation
 - trampling or poaching
 - vehicle tracking, particularly on steep slopes or when ground conditions are wet
 - supplementary feeding (also note GAEC D)
 - cultivation encroachment
 - storage of equipment, materials and rubbish

Key assumptions

Removing protection for SAMs from Cross Compliance may lead to behavioural change among farmers if they perceive that the likelihood of being penalised is reduced.

Costs and benefits

Option 7a (i)

There would be no regulatory impact of maintaining Scheduled Ancient Monuments in GAEC 7 as there would be no change.

Option 7a (ii)

Costs

The cost of removing the obligation to protect SAMs from Cross Compliance would be that Cadw would lose what they regard as a valuable tool to help protect SAMs. As noted above, outside of Cross Compliance there is legislation protecting SAMs. However, this requires criminal prosecution to apply the penalties rather than the simpler administrative action taken to apply Cross Compliance penalties.

The Cross Compliance protection for SAMs is found by CADW to be very effective in protecting SAMs. Farmers tend to take possible Cross Compliance penalties very seriously, because it involves the possible loss of a proportion of their main farm subsidies. Criminal prosecution tends to be seen by farmers as a much more remote possibility. The costs of this option would be greater damage to SAMs because of the lower protection they would receive. These are public costs in that the whole community values these assets.

Over 4,000 SAMs are now recorded in the Welsh Schedule, the majority of which are found on farmland.

The removal of the SAMs protection under Cross-Compliance would not result in a reduced legal level of protection for these sites which derive their status from the Ancient Monuments and Archaeological Areas Act 1979. However, it may result in a behavioural shift in farmers to reduce care of SAMs as legal processes would be more costly for the Welsh Government and a weaker deterrent than the possible reduction of subsidies, which is purely administrative. There is no evidence base to estimate the proportional decrease in the levels of compliance with the protection of SAMs which would occur if it was removed from Cross Compliance.

The monetary implications of increased damage to SAMs are also difficult to evaluate. ECOTEC (2010) reported that the historic environment is a vitally important sector of the Welsh economy, supporting over 30,000 jobs (13,000 indirect/induced) and contributing around £1.8 billion (£950m indirect/induced) in output and £840 million (£406m indirect/induced) to Wales's national gross value added (1.9% of Welsh GVA). Similarly, English Heritage (2010) found that £1 of investment in the historic environment generates £1.6 of additional economic activity over a ten year period.

However, neither report disaggregates the values associated with SAMs, Listed Buildings, and Historic Environment Features (HEFs), nor does it distribute value in terms of the site's intrinsic features. Much of the output and GVA (39.3%) in the ECOTEC study was attributed to the tourism industry which is likely to focus around certain specific, well-known and well-managed sites with significant above-ground footprint. The value of the many lesser known, below-ground sites is more nebulous. Cadw (2011) does use various criteria to assess the significance of a historic asset which include the evidential value, the historical value, the aesthetic value, and the communal value. However, these are not explicitly scored on a rating or ranked scale, so it is not possible to use this as a basis of attributing the value calculated by ECOTEC.

Given this lack of information and the unknown level of compliance reduction that might occur it is not possible to assign a monetary estimate to the potential costs which would ensue. However it is likely that the benefits to farmers of removing the

protection of SAMs from Cross Compliance would be less than the environmental costs.

Summary of costs: Cadw would lose a useful tool that assists in the protection of Scheduled Ancient Monuments. There would be greater damage to these monuments and it would reduce the value placed on them by the general public.

Benefits

Most SAMs occur on extensively farmed land such as low intensity grazing. Where land is intensively farmed, and particularly where it has been ploughed, SAMs have often been lost in the course of history.

The benefits to farmers of removing SAMs from Cross Compliance would be small because the protection under the Ancient Monuments and Archaeological Areas Act 1979 would remain. The penalty for causing damage can be an unlimited fine or two years imprisonment, or both. It is very unlikely that farmers would deliberately carry out operations that would render them liable to prosecution. Hence the type of deliberate land use change that would give a significant financial benefit to farmers is unlikely. Where problems occur it is often inadvertent such as farmers causing damage through over-grazing without realising the consequences for SAMs.

The total area of SAMs in Wales is 5,959 ha. Of these 5,037 ha are on the three land cover classifications shown in the table below and the remaining 921 ha are on other land cover classes such as urban. The 5,037 ha is made up of the following land cover based on Corine 2006 land cover data.

Table 4: Land cover in Wales

Type of land cover	Area (ha)	% of area
Arable	344	7
Pasture	2,689	53
Mainly natural	2,003	40
Total (in these land cover classes)	5,037	100
Land in other land cover classes	922	
Total area of SAMs	5.959	

The altitude of the land scheduled for SAMs is as below.

Table 5: Land area of SAMs by altitude in Wales

Altitude	Area (ha)	% of area
<100 m	1,654	28
100 – 300 m	2,449	42
> 300 m	1,746	30
Total	5,850	

In the table above it can be seen that a small area of SAMs has been lost in the process of allocating it by altitude (5,850 ha compared to 5,929 ha). Approximately 28% is at altitudes below 100 metres, 42 % between 100 and 300 metres and 30% at altitudes above 300m.

The consent requirements allow certain works to be carried out without the need to apply for Scheduled Monument Consent. (Cadw, 2007). In their guide “Scheduled Monument Consent”, Annex 1 Class 1, Agricultural, Horticultural and Forestry, lists operations which may be done without consent. This allows the carrying out of operations previously carried out lawfully in the same location and spot within that location within the period of six years immediately preceding the date on which works commence but excluding a number of categories. In the case of ploughed land, the soil must not be disturbed to a deeper depth than that at which ploughing has previously been carried out. Other operations (including the disturbing of soil to more than 30 cm depth on land other than ploughed land, sub-soiling, drainage, turf removal etc.) are also excluded. Hence it is currently possible for scheduled land to be to be in arable cultivation but there are strict rules which apply to what can be done. If SAMs were removed from Cross Compliance these other laws to protect them and the penalties for breaking them would continue to be in force and hence there is very limited financial benefit for farmers from the change.

The financial benefit to farmers of removing the cross compliance requirement to protect SAMs is negligible.

Summary of benefits: The main beneficiaries would be farmers who would no longer be at risk of penalties through Cross Compliance. As there would still be legal penalties for deliberate damage to SAMs the scope for land use change would be negligible and thus few other financial benefits would accrue to farmers.

GAEC 7b: Retention of Landscape Features – Boundaries and Hedgerow Maintenance

Background and options

Option 7b: To retain protection for boundaries currently within GAEC E within the new GAEC 7 and maintain the current closed period for hedgerow trimming.

Preferred option: 7b

The proposal is to retain protection for boundaries currently within GAEC E within the new GAEC 7 and maintain the current closed period for hedgerow trimming from 1 March to 31 August. It is mandatory to retain the closed period for hedgerow trimming throughout the bird breeding and rearing season. Evidence shows that the main bird breeding and rearing season runs from 1 March to 31 August in Wales. Since the requirement is not being changed there will be no regulatory impact.

GAEC 7c: Protection of Landscape Features – Ponds, Ditches and Field Margins

Background and options

Option 7c: Specific landscape feature provisions currently under GAEC N will be retained under GAEC 7.

Preferred option: 7c

The Welsh Government proposes to move the requirement, to protect ponds, ditches and field margins, from the current GAEC N to the new GAEC 7. To the extent that this merely changes the location of the rule but does not affect its substance, there is no impact to assess. Since the retention of this requirement is mandatory, and there is no change to the current requirement, there is no impact to assess.

GAEC 7d: Protection of Landscape Features – No Cultivation Rule Change

Background and options

Option 7d (i): Retain traditional boundaries including stone walls, stone-faced banks, hedges and earth banks, slate fences, and watercourses.

Do not to cultivate (e.g. ploughing, rotoation, tined, disc harrowing) land within 1 metre of hedges, earth banks and watercourses.

Option 7d (ii): Remove this requirement entirely from Cross Compliance.

Preferred option 7d: (i)

The current rule is as follows: *Do not cultivate (e.g. ploughing, rotoation, tined, discs) land within 1 metre of a traditional boundary within fields which are greater than 2 hectares in size. Traditional boundaries include stone walls, stone faced banks, hedges, and earth banks, slate fences and watercourses.*

The effect of the change, outlined in Option 7d (i), is to apply the no cultivation rule to fields below 2 hectares in size. This would affect land on these fields under all tillage including temporary grass.

Key assumption

The extent to which farmers currently cultivate within 1 metre of a traditional boundary is not known but this would be challenging in practical terms. In calculating the cost of the 2 metre no pesticide buffer zone at GAEC 1c above it was assumed that farmers would leave a no cultivation distance of 1 metre on fields below 2 hectares and the same assumption would apply here. As such we assume there is no economic cost associated with extending the scope of GAEC 7d to fields below 2 hectares in size.

Costs and benefits

Option 7d (i)

Costs

The potentially affected group is farmers but it is thought unlikely that they currently cultivate to within 1 metre of traditional boundaries in fields of less than 2 hectares.

Benefits

Traditional boundaries are valuable historic and aesthetic landscape features. In addition, some, such as hedgerows, earth banks, and water courses provide significant biodiversity benefits.

The processes of cultivation can cause direct physical damage to these features or indirect damage to species which rely on them as habitats and ecological corridors.

This can be in the form of physical disturbance, noise, or biochemical disturbance through pesticides and fertiliser.

Summary of benefits: The benefits are thought to be low because cultivation closer than 1 metre from traditional boundaries is thought to be impractical and uncommon. Any benefits would accrue to the general public through preservation of landscape and biodiversity.

Option 7d (ii)

Costs

Removing the requirement may cause low level impact to biodiversity and the historic environment.

Benefits

Farmers may benefit a little from being allowed to cultivate within 1 metre of hedgerows, earth banks, and water courses.

Conclusion

If the assumption that farmers rarely cultivate within 1 metre of traditional field boundaries is correct then both the costs and the benefits of extending the prohibition to fields below 2 hectares are close to zero. Where farmers do cultivate within 1 metre, the value of the loss of benefits is expected to exceed any returns from cropping.

GAEC 7e: Protection of Landscape Features – TPOs and Felling Licences

Background and options

Option 7e (i): Existing tree preservation and felling provisions are retained.

Option 7e (ii): Remove existing tree preservation and felling provisions. Only have requirement to ‘Retain trees in a line, in a group or isolated.’

Preferred option: 7 e(i)

The Welsh Government propose that existing tree preservation and felling provisions currently in GAEC J will be retained in new GAEC 7. This is not a change in regulation and so there is no regulatory impact to assess. However, an option under consideration is to remove existing tree preservation and felling provisions and only have a requirement to ‘*Retain trees in a line, in a group or isolated.*’

The current GAEC J requires compliance with Tree Preservation Orders (TPOs) issued by Local Authorities and compliance with Felling Licence requirements. So this option does not remove the obligations on farmers in respect of TPOs and Felling Licences. Failure to obtain a felling Licence, where one is necessary can lead to prosecution. The maximum fines are £20,000 for destroying a tree protected by a TPO and up to £2,500 for anyone who does not completely destroy a tree but has carried out works without consent.

This change will save some administrative cost in carrying out compliance checks. It will no longer be necessary to carry out field checks for breach of TPOs, check that Felling Licences have been obtained and adhered to or to check that Restocking Notices or Orders have been adhered to.

Key assumptions

Taking TPOs and Felling Licences out of Cross Compliance may reduce the level of compliance through behavioural change. Removing the TPO and Felling License specifications within Cross Compliance but adding a requirement to ‘Retain trees in a line, in a group or isolated’ would potentially bring all trees within the scope of GAEC 7e.

Costs and benefits

Option 7e (i)

Costs

Since Option 7e (i) represents no change to the current requirement, there is no impact to assess.

Benefits

Since Option 7e (i) represents no change to the current requirement, there is no impact to assess.

Option 7e (ii)

Costs

There is a considerable evidence base identifying the economic benefits of woodland (as a whole) and urban trees (Quine *et al.*, 2011; iTree, 2014). No estimates have been made as to the economic value of amenity trees within enclosed farmland. However, they are known to contribute to a range of ecosystem services with material economic value, including landscape value, habitat provision (in particular for pollinators), and functional connectivity (Manning *et al.*, 2006).

Even if a value could be ascribed to such trees, it would be difficult to assess the impact of the change proposed above as removing the TPO and Felling License specifications within Cross Compliance but adding a requirement to 'Retain trees in a line, in a group or isolated' would potentially bring all trees within the scope of GAEC 7e.

Summary of costs: Any reduction in protection of trees may affect landscape quality and biodiversity to the detriment of society.

Benefits

Removal of the requirement would give a small saving in the administration of Cross Compliance checks.

GAEC 7f: Protection of Landscape Features – SSSIs

Background and options

Option 7f (i): Retain existing SSSI's provisions from GAEC K within GAEC 7 with no change to the current guidance.

Option 7f (ii): Remove existing SSSI's provisions from GAEC K.

Preferred option: 7f (ii)

Currently SSSIs are protected by Cross Compliance under GAEC K. The proposal is to remove existing SSSI's provisions from GAEC K as 'Biological SSSI's' will be protected as environmentally sensitive permanent grassland under the greening elements of Pillar of the Common Agricultural Policy. SSSI's will be protected as environmentally sensitive permanent grassland under the option to extend beyond those areas designated as SPA's and SAC's required for greening. This would not remove all penalties for breaking the law, including fines of up to £20,000 under the Countryside and Rights of Way Act. This change will save some minor administrative cost of carrying out checks for Cross Compliance. These currently check:

- The activities listed on the operations likely to damage the special interest (OLDSI) list are not being carried out without written consent, or under the terms of an SSSI Management Agreement;
- That no damage has been caused by any operations;
- That management notices and restoration orders have been complied with.

Geological SSSI's, currently protected by GAEC K would not be protected under greening, however protection would remain under the Wildlife and Countryside Act 1981.

Key assumptions

Maintaining SSSI provisions within Cross Compliance serves to encourage farmers to meet their obligations.

Costs and benefits

Option 7f (i)

Costs

Since Option 7f (i) represents no change to the current requirement, there is no impact to assess.

Benefits

Since Option 7f (i) represents no change to the current requirement, there is no impact to assess.

Option 7f (ii)

Costs

SSSIs would still retain their protection under UK legislation, but enforcement would be more expensive as legal, rather than administrative processes would be incurred. In addition, another financial incentive to avoid damage to and conserve SSSIs would be removed. There may therefore be a behavioural change where fewer farmers comply with the provisions of the CRWA resulting in a degradation of SSSI quality.

The monetary value of ecosystem services provided by SSSIs in England and Wales has been assessed through a WTP study (Christie & Rayment, 2012). Summed values for the services provided by the current management regime are £42.66 / household / year, which would equate to a Welsh value of £55,458,000 / year (at 2010 values).

Evaluating the marginal impact on this value as a result of a reduction in the protection of SSSIs is not possible but environmental costs are likely to be higher than any benefits accruing to farmers from this rule change.

Summary of costs: Society: Removing existing SSSI's provisions from GAEC K would not remove all penalties for breaking the law but might lead to reduced overall condition due to behavioural change by farmers.

Benefits

The benefits for farmers of removing SSSI protection from Cross Compliance are very small because the sort of systematic land use change which would bring financial benefits are prevented by other legislation protecting SSSIs. Retaining existing SSSI provisions under GAEC 7, as proposed in the consultation, could create double jeopardy when applying sanctions.

Summary of benefits: Removing existing SSSI's provisions from GAEC K will save some minor administrative cost of carrying out checks for Cross Compliance and will prevent the risk of double jeopardy.

Statutory Management Requirements (SMRs)

SMRs are mainly existing EU obligations covering environmental, public health, plant health and animal health and welfare standards and are not amendable at a national level. The SMR's will remain largely unchanged except for the following mandatory changes:

- SMRs have been renumbered;
- Four SMRs (sewage sludge and three relating to animal diseases) have been deleted and a further one (groundwater) has been changed to a GAEC requirement.

Further details are in the following table:

Current SMR's/GAEC	2015 SMR/GAEC
SMR1. Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds (OJ L 103, 25.4.1979, p. 1) Article 3(1), Article 3(2)(b), Article 4(1), (2) and (4) and Article 5(a), (b) and (d)	SMR 2
SMR2. Council Directive 80/68/EEC of 17 December 1979 on the protection of groundwater against pollution caused by certain dangerous substances (OJ L 20, 26.1.1980, p. 43) Articles 4 and 5	GAEC 3 from 2014 Similar to current arrangements
SMR3. Council Directive 86/278/EEC of 12 June 1986 on the protection of the environment, and in particular of the soil, when sewage sludge is used in agriculture (OJ L 181, 4.7.1986, p. 6) Article 3	Removed
SMR4. Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources (OJ L 375, 31.12.1991, p. 1) Articles 4 and 5	SMR 1
SMR5. Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild flora and fauna (OJ L 206, 22.7.1992, p. 7) Article 6 and Article 13(1)(a)	SMR 3
SMR6. Council Directive 2008/71/EC of 15 July 2008 on identification and registration of pigs (OJ L 213, 8.8.2005, p. 31) Articles 3, 4 and 5	Same
SMR7. Regulation (EC) No 1760/2000 of the European Parliament and of the Council of 17 July 2000 establishing a system for the identification and registration of bovine animals and regarding the labelling of beef and beef products (OJ L 204, 11.8.2000, p. 1) Articles 4 and 7	Same
SMR8. Council Regulation (EC) No 21/2004 of 17 December 2003 establishing a system for the identification and registration of ovine and caprine animals (OJ L 5, 9.1.2004, p. 8)	Same

Articles 3, 4 and 5	
SMR9. Council Directive 91/414/EEC of 15 July 1991 concerning the placing of plant protection products on the market (OJ L 230, 19.8.1991, p. 1) Article 3	SMR 10
SMR10. Council Directive 96/22/EC of 29 April 1996 concerning the prohibition on the use in stock farming of certain substances having a hormonal or thyrostatic action and of beta-agonists (OJ L 125, 23.5.1996, p. 3) Article 3(a), (b), (d) and (e) and Articles 4, 5 and 7	SMR 5
SMR11. Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety (OJ L 31, 1.2.2002, p. 1) Articles 14 and 15, Article 17(1) (1) and Articles 18, 19 and 20	SMR 4
SMR12. Regulation (EC) No 999/2001 of the European Parliament and of the Council of 22 May 2001 laying down rules for the prevention, control and eradication of certain transmissible spongiform encephalopathies (OJ L 147, 31.5.2001, p. 1) Articles 7, 11, 12, 13 and 15	SMR 9
SMR13. Council Directive 85/511/EEC of 18 November 1985 introducing Community measures for the control of foot-and-mouth disease (OJ L 315, 26.11.1985, p. 11) Article 3	Removed
SMR14. Council Directive 92/119/EEC of 17 December 1992 introducing general Community measures for the control of certain animal diseases and specific measures relating to swine vesicular disease (OJ L 62, 15.3.1993, p. 69) Article 3	Removed
SMR15. Council Directive 2000/75/EC of 20 November 2000 laying down specific provisions for the control and eradication of bluetongue (OJ L 327, 22.12.2000, p. 74) Article 3	Removed
SMR16. Council Directive 91/629/EEC of 19 November 1991 laying down minimum standards for the protection of calves (OJ L 340, 11.12.1991, p. 28) Articles 3 and 4	SMR 11
SMR17. Council Directive 91/630/EEC of 19 November 1991 laying down minimum standards for the protection of pigs (OJ L 340, 11.12.1991, p. 33) Article 3 and Article 4(1)	SMR 12

SMR18. Council Directive 98/58/EC of 20 July 1998 concerning the protection of animals kept for farming purposes (OJ L 221, 8.8.1998, p. 23) Article 4	SMR 13
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The following SMRs will be implemented differently to avoid risk of disallowance:

- SMR 1a: Incorporation of Silage Slurry And Fuel Oil regulations Waterside Buffer Zones;
- SMR 1b: Groundwater - Construction Requirements for Stores;
- SMR 11: Food and Feed Law – TB Testing Non-Compliance.

SMR 1a: Incorporation of SSAFO Waterside Buffer Zones

Background and options

Option SMR 1c (i): Incorporate the buffer zones, as required by the SSAFO regulations, under SMR 1.

Option SMR 1c (ii): No requirement as outlined in 1c (i).

Preferred option: SMR 1c (i)

Key assumptions

It is assumed that bringing existing SSAFO requirements for waterside buffer zones into Cross Compliance will increase awareness among farmers and improve compliance levels through behaviour change.

Costs and benefits

Option SMR 1 c (i)

Costs

The buffer zones, as required by the Water Resources (Control of Pollution) (Silage, Slurry and Agricultural Fuel Oil) (Wales) Regulations 2010 (commonly abbreviated as SSAFO regulations), will be incorporated under SMR 1, as required under the Nitrates Directive. Welsh Government suggests there is no additional regulatory impact as this is already a statutory requirement. The penalties for contravening the SSAFO regulations are up to £5,000 in a magistrates court or unlimited in a Crown Court. Hence there is no increase in the maximum penalty under Cross Compliance.

There could be some small impact of bringing SSAFO within Cross Compliance if it leads to more penalties for breaches because it is administratively simpler than making prosecutions. In addition, a few farmers could be penalised through Cross Compliance and be prosecuted too, this would entail a small administrative cost for Welsh Government.

Summary of costs: Farmers are the main affected group and may suffer penalties through reduction in the farm subsidies if non-compliant with SSAFO requirements for waterside buffer zones.

Benefits

Bringing SSAFO under Cross Compliance could lead to greater benefits through improved awareness and compliance by the industry. There could thus be an increase in industry costs and an increase in benefits, most of which are public benefits which do not accrue to the industry. Any changes in costs and benefits are very small and too difficult to quantify.

Summary of benefits: Benefits might accrue to the wider public through additional protection of ground water. The benefits cannot be quantified.

Option SMR 1c (ii)

Costs

Option 1c (ii), to not incorporate SSAFO waterside buffer zones under Cross Compliance would lead to a significant risk of disallowance (reduction in payment from EC due to non compliance).

Benefits

Farmers would not receive penalties through reduction in the farm subsidies if non-compliant with SSAFO requirements for waterside buffer zones.

SMR 1b: Groundwater - Construction Requirements for Stores

Background and options

Option SMR 1b (i): No requirement to ‘introduce construction requirements for silage and slurry stores in 2016 for the protection of groundwater from uncontrolled disposal or discharge to the environment’.

Option SMR 1b (ii): Retain the current groundwater requirements as already established in GAEC P as this is a mandatory requirement.

Preferred option: SMR 1b (ii)

The Welsh Government proposes that they will introduce into SMR 1 construction requirements for silage and slurry stores in 2015 for the protection of groundwater from uncontrolled disposal or discharge to the environment. It is suggested that there is no additional regulatory impact as this is an existing statutory requirement. There could be some small impact of bringing SSAFO within Cross Compliance if it leads to increased awareness and a perception of increased risk of penalty for breaches as it is administratively cheaper than making prosecutions. In addition, a few farmers could be penalised through Cross Compliance and also be prosecuted. While it could lead to greater benefits through improved compliance by the industry, there would also be an increase in associated industry costs in doing so. The benefits, most of which are public benefits, do not accrue to the industry. Any changes in costs and benefits are very small and too difficult to quantify. In their response to the consultation on this proposed change to Cross Compliance, the FUW Farmers Union of Wales) was concerned that the incorporation of the construction requirements for silage and slurry stores from SSAFO might imply the loss of the exemption for all stores constructed before 1991 and not substantially modified since. However there was no proposal or intention to remove this exemption.

Key assumptions

It is assumed that bringing existing SSAFO requirements in relation to silage and slurry store construction into Cross Compliance will increase awareness among farmers and improve compliance levels through behaviour change.

Costs and benefits

Option SMR 1b (i)

The Welsh Government suggests there will be no additional regulatory impact as this is already a statutory requirement under SSAFO. However this option carries significant risk of disallowance of claims of farm subsidies from the EU.

Option SMR 1b (ii)

The Welsh Government suggests there will be no additional regulatory impact as this is already a statutory requirement under SSAFO. This option is judged to remove the risk of disallowance of claims of farm subsidies from the EU.

Costs

A small number of additional farmers, currently not adhering to SSAFO requirements, could suffer non-compliance penalties through bringing SSAFO regulations in relation to silage and slurry store construction into SMR 1 but this is difficult to quantify. As these farmers are considered to be already acting illegally, these costs should not be considered.

Benefits

The main benefit of bringing SSAFO requirements for silage and slurry store construction into SMR 1 in NVZs from 2016 is to reduce the risk of disallowance of claims of farm subsidies from the EU. There may also be some minor benefit through improved industry compliance with SSAFO.

SMR 11: Food and Feed Law – TB Testing Non-Compliance

Background and options

Option SMR 11a (i): Apply an automatic penalty to CAP payments in all cases where a TB test is overdue by one day or more and not just those who are found at cross compliance inspection to have an over due TB test.

Option SMR 11a (ii): Maintain the current system, only penalise at inspection where breach identified. No admin check for all beneficiaries.

Preferred option 11a (i)

Testing is an essential part of the strategy to control bovine tuberculosis (bTB) and takes place annually throughout Wales and six monthly in the Intensive Treatment Areas. Since January 2014, farmers who are found at Cross Compliance inspections to be late with TB tests attract a penalty against CAP payments as follows.

Table 7: Penalty applied for late TB tests

Degree of lateness of TB tests	Penalty - % of Direct Payment withheld
1 day – 3 months	1
3 – 12 months	3
Over 12 months	5

Source: Welsh Government 2014.

Policy Option SMR 11 a(i) proposes that from January 2015 the penalties in Table 7 would automatically be applied to Direct Payments in all cases where a TB test was overdue by one day or more, not just to those who are found at Cross Compliance inspections to have an overdue TB test.

Key assumptions/sensitivities/risks

Maintaining strict TB testing schedules will improve the effectiveness of this policy at a very marginal level.

Costs and benefits

Option 11a (i)

Costs

In their response to the consultation The FUW were primarily concerned with broader TB eradication policy issues such as possible reductions in compensation for animals due to the introduction of table valuations and the prohibition of farmers' action against the TB reservoirs in wildlife, principally badgers. The CLA were concerned about the accuracy of administrative data on which automatic penalties would have to be based. Neither organisation raised cost implications of ensuring the TB tests take place on time as they recognise the importance to disease control of timely testing.

The current system for fixing TB tests is that farmers are given advance notice by the AHVLA (Animal Health and Veterinary Laboratories Agency)¹ when a test is required to be carried out, for example they are given 4 months' notice of the date by which the test must be completed. It is the farmer's responsibility to arrange the test with his Official Veterinarian in that window.

The main change here is the increased penalty through Cross Compliance sanctions which will become automatic wherever late testing takes place. This change will make it very expensive for a farmer to be late with a TB test. The consequence is likely to be near 100% compliance with the testing regime. The cost to farmers will be the slightly increased frequency of TB tests – mainly additional labour to gather stock and assist with the test. Even farmers who currently get the TB tests done in time are likely to do them slightly earlier to safeguard against the chance of late testing penalties.

If Welsh Government (WG) applied the overdue TB testing administrative check (being notified of every type of test that went overdue for all customers) WG would have picked up 1260 cross compliance breaches in the first seven months of 2014 compared to 2298 cross compliance breaches in the first seven months of 2013. In 2013 there was a 30 day tolerance for late TB testing under Cross Compliance, and no penalty was applied if the tests were late up to 30 days. From the 1 January 2014, penalties of one per cent were applied to farmers found at inspection to be between one day and three months late for their TB test, resulting in the significant decrease of late tests. In total for 2013 there were 3,500 overdue TB tests, data for 2014 calendar year is not available.

Given the 4 month window in which farmers can get their cattle tested it is hard to maintain that there is additional cost caused by getting the test done in time. There will be circumstances when farmers who have made prudent plans to get their tests done in good time experience *force majeure*. These unforeseeable events excusing the farmer from fulfilment of the requirement to get the TB test carried out might have to be considered before automatic penalties were applied. An obvious example would be sudden ill health of the farmer.

In nearly all cases there is no additional farmer cost caused by the reinforced sanction to get bovine TB tests done within the 12 month deadline.

Summary of costs: Farmers and society: There will be a very small increase in the (private and public) cost of testing cattle for TB because of marginally more frequent testing. Other key non-monetised costs by 'main affected groups': Farmers and society: There will be a very small increase in the (private and public) cost of testing cattle for TB because of marginally more frequent testing.

¹ From October 2014, animal and plant health inspection functions have been brought together in a single agency, the Animal and Plant Health Agency (APHA).

Benefits

More frequent testing will in principle lead to private benefits of less disease in the farmer's own herd (through earlier recognition of reactors and avoidance of spread within the herd) and wider benefits among the local farming community who will be less at risk from cross infection from neighbouring herds whose owners are discouraged from letting TB testing fall overdue.

This is expected to result in benefits to the cattle industry in Wales through a reduced incidence of TB. There will also be some savings to the Welsh Government through reduced compensation costs. The benefits cannot readily be monetised but are likely to exceed the cost.

Summary of benefits: Farmers and society: The benefits will accrue initially to individual farmers who have diseased animals removed from their herds more promptly. There will also be benefits for neighbouring farmers who have a reduced risk of cross-infection from herds that are late to test for TB. There may be a small saving in compensation costs for the Welsh Government.

Option 11a (ii)

Option 11a (ii) would represent is no change to the current requirement, so there is no impact to assess.

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Appendix 1: Length of Water Courses for RIA Calculations.

ADAS carried out some GIS analysis to help with the calculations for GAEC 1 and GAEC 5 – field boundaries of tillage land and grassland bordering on water course in Wales. This work used the DRN (Detailed River Network) data which has a River Type attribute of Primary, Secondary or Tertiary Rivers. This was cross referenced with the European Corine land cover 2006 data (100m raster), which is freely available with the “Arable land” class for the analysis of GAEC 1 and 2 m wide pesticide free field boundaries and “Pastures” for the managed grassland areas for GAEC 5 and the fencing of river sides to avoid soil erosion and pollution. In addition to rivers the lake boundary areas were estimated.

As background, this analysis gives the following total lengths for rivers and lakes in Wales

Table 8: River length by DRN River Class in Wales

DRN River Class	Total length in Wales (km)
Primary rivers	7,953
Secondary rivers	5,897
Tertiary rivers	41,640
Lakes	458

These lengths were compared with the length of rivers in Wales quoted in other documents. For example NRW in its WFD river acidification risk assessment gives a total length of rivers in Wales of 7,152 kilometres. This is close to the above figure for “Primary Rivers”.

Analysis for GAEC 1, 2m Pesticide Free Strips through Tillage Land

Length of boundaries with watercourses – allows for land on both sides.

Table 9: River boundary length with agricultural use by DRN River Class - Arable

DRN River Class	Length - km
Primary rivers	1,215
Secondary rivers	905
Tertiary rivers	3,257
Lakes	2
Total	5,379

Note: Corine land cover class “arable”.

In carrying out the calculation of the cost of Cross Compliance, ADAS has used the distances for Primary Rivers, Secondary Rivers and Lakes. More work is needed to understand the definitions of these River Classes and which ones are most appropriately used in the costings.

Analysis for GAEC 5, Fencing rivers to prevent soil erosion into them by grazing livestock.

Length of boundaries with watercourses – allows for land on both sides.

Table 10: River boundary length with agricultural use by DRN River Class - Pasture

DRN River Class	Length - km
Primary rivers	9,348
Secondary rivers	696
Tertiary rivers	43,299
Lakes	97
Total	53,440

Note: Corine Landover “pastures”.

Cross Compliance Proposals for 2015

Executive summary

The Welsh Government recently held a consultation on its Cross Compliance Proposals for 2015. The consultation ran from 23 May 2014 to 18 July 2014. 44 written responses were received to the consultation. A broad spectrum of interests had submitted responses, from farmers and land managers, farming organisations and unions to statutory organisations, anglers, water companies, and environmental organisations and charities. A Cross Compliance telephone survey and a series of workshops were also undertaken by ADAS on behalf of the Welsh Government to identify how Cross Compliance had influenced farmer behaviour and practice in Wales.

For all questions asked of the consultees the majority of respondents were largely in support of the Welsh Government's Cross Compliance and Good Agricultural and Environmental Condition (GAEC) proposals for 2015. For **Questions 1 and 2** which related to the Welsh Government's proposals under GAEC 1: Establishing buffer strips for water courses, around 71% were in agreement with the proposals as presented. For **Questions 3 and 4** which related to GAEC 3: Protection of Groundwater against pollution, 49% were in agreement with the proposals, however, 24% of those who expressed an opinion opposed the proposal.

Questions 5 and 6 centred on the European Commission's (EC's) GAEC Soils requirements and the Welsh Government's proposals to carry forward the majority of existing soil protection provisions including the Soil Assessment Record, under the new Cross Compliance requirements covering GAEC 4, 5 and 6 from 2015. The focus however, would be to prevent soil damage and take a more outcome based approach rather than the previous focus on process. The Welsh Government's proposals also recommended that the current requirements for supplementary feeding, overgrazing, Environmental Impact Assessment (Agriculture) and the Heather and Grass Burning Code be located within these soil GAEC's. 53% of respondents were in favour although a minority of 22% were against the proposals.

Questions 7 - 10 related to the Welsh Government's proposals for landscape features and actions to be retained under the new GAEC 7 Retention of Landscape features. 58% of respondents were in support of the Welsh Government's proposals. A significant minority (28%) were against the proposals presented.

Question 11 related to Food and Feed Law – TB Testing non-compliance. The Welsh Government proposed that existing rules be strengthened so that a penalty would be automatically applied to Direct Payments in all cases where a TB test is overdue by one day or more and not just to those who are found at Cross Compliance inspections to have an overdue surveillance (WHT/IA12) TB test. Only 24% of the respondents agreed with the proposal while a larger number (32%) of respondents disagreed with the proposal.

Looking to the future, **Question 12** considered Public Rights of Way and the opportunities open to modernise and simplify legislation on Public Rights of Way in Wales. Within the context of potential future developments 46% of respondents agreed with the proposal to include the maintenance of Public Rights of Way under Cross Compliance in Wales. The same percentage of respondents (46%) did not support the proposal.

Questions 13 – 15 considered the concept of General Binding Rules (GBRs) and also future proposals to explore the potential for GBR's to be developed in relation to

the sustainable management of natural resources in Wales. 58% of respondents supported the Welsh Government's proposals. 31% were against the proposals presented.

Analysis of Responses and Welsh Government response

Good Agricultural and Environmental Condition (GAEC 1) – Establishment of buffer strips along watercourses

This section highlighted the Welsh Government’s proposals to carry forward the existing provisions currently in operation in Wales (GAEC O) under the new Cross Compliance GAEC 1 arrangements in 2015 and retain the requirement to prohibit unsuitable supplementary feeding within 10 meters of a watercourse.

This section also set out the Welsh Government’s proposal to incorporate buffer zones as required by the Water Resources (Control of Pollution) (Silage, Slurry and Agricultural Fuel Oil) (Wales) Regulations 2010 (SSAFO Regulations) under GAEC 1.

Two questions were asked:

Question 1: Do you agree with the introduction of the buffer zone for field silage required by SSAFO regulations for the protection of water from pollution?

Table 1 Respondents views on Qu. 1

	Number of respondents	% of those expressing an opinion
Strongly Agree	7	23.33%
Agree	14	46.67%
Neither agree nor disagree	6	20%
Disagree	2	6.67%
Strongly disagree	1	3.33%
Total	30	

70% of respondents agreed or strongly agreed with the proposals. Water companies and Environmental Bodies felt that the proposal would assist in preventing diffuse water pollution and would help rivers achieve ‘Good’ ecological status under the Water Framework Directive (Directive 2000/60/EC of the European Parliament).

A minority of 10% did not support the proposal. Farming Unions raised concerns over gold plating and the financial impact on farm businesses, being penalised under Cross Compliance, if they did not adhere to the requirement.

Welsh Government response

In line with the Welsh Government’s Working Smarter principles, our intention is to incorporate the buffer zones under SMR 1, as required by the SSAFO regulations under the Nitrates Directive. The requirement, under Cross Compliance, will only

apply to farmers within a Nitrate Vulnerable Zone. Welsh Government will continue to monitor the impacts on water quality of these measures as implemented and will extend the provisions if there is evidence that this is necessary. The requirement will be reviewed as part of the SSAFO review, with any changes being implemented from January 2016.

Question 2: Do you agree with the introduction of pesticide application buffer zones?

Table 2 Respondents views on Qu. 2

	Number of respondents	% of those expressing an opinion
Strongly Agree	7	34.38%
Agree	14	37.5%
Neither agree nor disagree	6	18.75%
Disagree	2	6.25%
Strongly disagree	1	3.13%
Total	32	

72% of respondents agreed or strongly agreed with the proposals whilst 9% disagreed or strongly disagreed. Supporters of the proposal cited its importance in tackling diffuse pollution, reducing customer costs in meeting drinking water quality targets and improving biodiversity.

Those disagreeing with the proposal requested derogation for control of non-native species where a pesticide has been approved for use near water and where Natural Resources Wales (NRW) permission had been obtained as necessary. They also claimed that farmers in other EU Member States had access to more plant protection products (or herbicides), and so this requirement would mean that Welsh farmers wouldn't be able to operate on a level playing field.

Welsh Government response

Following consultation, the Welsh Government intends to prohibit the application of pesticides within 2 m of a watercourse in addition to the current requirements relating to the application of inorganic and manufactured fertilisers. In response to concerns around control of non-native species, derogation will be permitted to control invasive non-native plants where a permit from NRW has been obtained as necessary.

Good Agricultural and Environmental Condition (GAEC 3) – Protection of groundwater against pollution.

This section outlined proposals to retain the current groundwater provision against pollution under Cross Compliance. It also outlined proposals, following review of the SSAFO regulations in 2014-2015, to introduce construction requirements for silage and slurry stores in 2016 for the protection of groundwater from uncontrolled disposal or discharge to environment.

Two questions were asked:

Question 3: Do you agree with the principle of including silo and slurry store construction standards within Cross Compliance?

Table 3 Respondents views on Qu. 3

	Number of respondents	% of those expressing an opinion
Strongly Agree	7	25.93%
Agree	8	29.63%
Neither agree nor disagree	6	22.22%
Disagree	3	11.11%
Strongly disagree	3	11.11%
Total	27	

56% of respondents believed that such proposals would be beneficial whilst 22% had concerns over the proposal. Environmental groups felt that including silo and slurry store construction standards would reduce the risk of pollution incidents. These standards would also make farms more resilient to adverse weather and make more efficient use of nutrients.

Farming representatives felt that the inclusion of these standards under Cross Compliance was unnecessary as requirements under the SSAFO regulations are legally binding. Concerns were raised that farms would face significant cost in renewing stores for silage, slurry and oil which would be disproportionate to the environmental benefit. The requirement would impact on up to 97% of farmed area, and would provide no capital grant aid. They also recommended that this option should not be considered until the 2014-2015 review of the SSAFO regulations in Wales.

Welsh Government response

In line with the Welsh Government's Working Smarter principles, our intention is to introduce construction requirements for silage and slurry stores in 2015 into SMR 1, as required by the Nitrates Directive. The requirement, under Cross Compliance, will only apply to farmers within a Nitrate Vulnerable Zone. The Welsh Government will continue to monitor the impacts on water quality of these measures as implemented and will extend the provisions if there is evidence that this is necessary. The requirement will be reviewed as part of the SSAFO review, with any changes being implemented in January 2016.

Question 4: are there any other requirements that should be added to this GAEC for the protection of groundwater?

Table 4 Respondents views on Qu. 4

	Number of respondents	% of those expressing an opinion
Yes	12	42.86%
No opinion	9	32.14%
No	7	25%
Total	28	

43% of respondents supported the inclusion of SSAFO requirements to protect groundwater. In addition, suggestions were made in relation to the better maintenance and operation of septic tanks, the prevention of the disposal of hazardous or polluting substances/materials into old mine workings and prevention of diffuse pollution from run-off of hazardous or polluting substances. Some of the 25% opposing further requirements recommended that access to information and guidance on pollution prevention and partnership working was preferred to further regulation.

Welsh Government response

We intend to retain the current groundwater requirements as already established in GAEC P from 2013 as this is a mandatory requirement. In line with Working Smarter principles, no further requirements will be added, however, guidance and information on pollution prevention will be provided. The inclusion of SSAFO requirements under GAEC 3 will be further considered under the review of the SSAFO regulations, with any necessary changes to be implemented in January 2016.

Soils Overview (GAECs 4, 5 & 6)

This section of the consultation considered the Welsh Government's proposals to carry forward the majority of existing soil protection provisions currently in operation in Wales (GAEC A), including the Soil Assessment Record, under new Cross Compliance requirements covering GAEC 4, 5 & 6 from 2015. The focus, however, would be to prevent soil damage and take a more outcome based approach rather than the previous focus on process. The GAECs would be reworded to reflect this.

This section also outlined the Welsh Government's proposals that current requirements for supplementary feeding, overgrazing, Environmental Impact Assessment (Agriculture) and the Heather and Grass Burning Code would be included within these soil GAECs.

Two questions were asked:

Question 5: Do you agree with the Welsh Government's proposals for meeting the requirements of GAEC 4, 5 & 6?

Table 5 Respondents views on Qu. 5

	Number of respondents	% of those expressing an opinion
Strongly Agree	5	19.23%
Agree	10	38.46%
Neither agree nor disagree	6	23.08%
Disagree	4	15.38%
Strongly disagree	1	3.85%
Total	26	

The majority of recipients (58%) were broadly in favour of the proposals, whilst 19% disagreed with the proposals. Respondents arguing both for and against the proposals emphasised that maintaining soils in good condition was a priority.

Good Agricultural and Environmental Condition (GAEC 4) – Minimum Soil Cover

Those respondents not in favour of the proposals for GAEC 4 highlighted concerns that the requirement could be detrimental to soils (for example compaction would be caused by travelling on wet soil to sow a cover crop). They also raised concerns that grazed roots or forage would no longer be allowable. Concern was also raised that cover crops would not be eligible as an EFA under greening whilst fallow land would be eligible.

Welsh Government response

The Welsh Government can confirm that land sown with temporary grass or wild bird seed cover crops or stubble is eligible as a fallow crop and therefore as an Ecological Focus Area under CAP greening. Concerns raised over grazed roots or forage have been addressed under GAEC 5.

In response to concerns raised over the measure being detrimental to soils, the Welsh Government will allow derogation to ensure Minimum Soil Cover does not conflict with GAEC 5. The revised wording will read as follows:

Where land has been harvested with a combine, forage harvester or mower to comply with GAEC 4, one of the following must be met at all times between the day after harvest to the 1st March:

- *Stubble of the harvested crop remains in the land;*
- *Land is sown with a temporary cover crop;*
- *Land is sown with another crop within 10 days of having been prepared.*

You must protect soil by having a minimum soil cover except where establishing a cover would conflict with requirements under GAEC 5.

Good Agricultural and Environmental Condition (GAEC 5) – Minimum land management requirements reflecting site specific conditions to limit erosion

Those respondents not in favour of the proposed requirement under GAEC 5 opposed the outcome focused rewording of the current overgrazing requirements. They also did not support transferring requirements for GAEC B – Overgrazing or GAEC D – Supplementary feeding.

Those respondents in favour of the GAEC 5 proposals felt that supplementary feeding often led to heavy poaching and erosion in sensitive habitats. Such respondents highlighted that measures to protect against soil erosion and compaction would be beneficial in improving water quality and decreasing flood risk. It was recommended that loss of habitat condition should be used as an indication of threat of soil erosion. It was indicated that fencing off of water bodies can be intrusive in the environment and that softer options such as electric fences might be better whilst stock are on site.

Welsh Government response

In light of the consultation responses, the Welsh Government has modified the wording of this requirement to ensure that farmers have flexibility in the practical application of this requirement without decreasing the protection offered to the environment. In response to the concern raised that grazed roots or forage would no longer be allowable, and to protect soils when it is too late in the year for a cover crop to take, we have included the line:

To prevent erosion on late harvested land or on land where a forage or root crop have been grazed out, if it is not possible to sow a cover crop, you must put in place appropriate measures to limit soil erosion.

The revised wording will read as follows:

Overgrazing must be avoided. Poaching and rutting must not occur to a level which causes soil erosion down slope or off site (site meaning field) including to watercourses and roads.

To prevent erosion on late harvested land or on land where a forage or root crop have been grazed out, if it is not possible to sow a cover crop, you must put in place appropriate measures to limit soil erosion.

An indicative list of appropriate measures (grubbing, ditches, sediment fences, etc.) will be included in the guidance.

In response to concerns raised by stakeholders, the guidance and verifiable standards will state that a protective layer of vegetation, sufficient to mitigate against the grazing impact on soils, is necessary and overgrazing must be avoided.

Question 6: Are there any additional provisions that you believe could be introduced to protect minimum soil cover?

Table 6 Respondents views on Qu. 6

	Number of respondents	% of those expressing an
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		opinion
Yes	12	48%
No opinion	7	28%
No	6	24%
Total	25	

48% of respondents to this question felt additional provisions could be added to protect soil cover. Suggested provisions include:

- 2m buffer strips for livestock next to watercourses/livestock exclusion from water courses;
- 10m buffer strip for cultivation;
- Education on soil management;
- Rotate feeding/watering stations at regular (stated) intervals particularly during winter months;
- Hedgerow cover;
- Tree buffers on watercourses;
- Tree belts on slopes;
- Naturally regenerating vegetation as winter cover;
- Overwinter stubble to receive no pre or post harvest herbicides;
- Change grazing to reduce poaching and soil erosion. This could include mixed grazing strategies using both sheep and more hardy cattle breeds.
- NRW to monitor soils.

Those respondents not in favour of additional provisions (24%) cited concerns related to additional costs and regulatory burden on businesses which would put them at a disadvantage compared to other EU Member States.

Welsh Government response

In light of the responses received, the Welsh Government does not intend to introduce additional measures to those proposed in the consultation. However, comments will be taken into account whilst producing guidance. In response to concerns raised over the new 'No first plough and no new drainage of organic soil/peat soils' requirements, these will be removed from the new GAEC 6. In line with Working Smarter objectives and in response to concerns raised in the consultation process, we intend to remove the requirement to keep a Soils Assessment Record. Farmers will, however, be advised that a Soil Assessment Record could be used as supporting evidence to lower penalty if a breach of GAEC 6 is found.

In taking an outcome based approach we intend to implement the following requirement:

To comply with GAEC 6 the following requirements must be met:

- *Comply with the Stubble Burning Regulations with no change to current guidance.*
- *Comply with the Heather and Grass Burning Regulations.*
- *Comply with the Environmental Impact Assessment Regulations (EIA Agriculture).*

No obligatory Soil Assessment Record.

Good Agricultural and Environmental Condition (GAEC 7) – Retention of Landscape features

This section outlined the Welsh Government’s proposals for landscape features and activities to be retained under the new GAEC 7 provision.

Four questions were asked:

Question 7: Should Cross Compliance be extended to include Historic Environment Features (HEFs)?

Table 7 Respondents views on Qu. 7

	Number of respondents	% of those expressing an opinion
Yes	17	58.62%
No opinion	4	13.79%
No	8	27.59%
Total	29	

59% of the respondents were supportive of protecting HEFs through Cross Compliance; they highlighted that HEFs are important factors in the richness, quality and sense of place in our landscape.

28% of respondents did not support the proposal, citing concerns regarding restrictions being placed on day-to-day farm management decisions, health and safety issues relating to traditional buildings and remnant structures, potential problems with enforcement and concerns relating to the inaccuracy of HEF mapping.

Welsh Government response

Taking account of the responses received and further representations on potential problems with enforcement and mapping issues, the Welsh Government has decided not to include HEFs under Cross Compliance from 2015. We will however

review the accuracy of HEF digitised maps for the purposes of Cross Compliance with a view to extending protection to HEFs under GAEC 7 by subsequent amendment to the regulations (post 2015), allowing for a further period of consultation with stakeholders about how this could be practically applied.

Question 8: Given the importance of traditional boundaries to the historic Welsh landscape, should they be retained regardless of their condition, except for the purposes of widening existing access points up to 10 metres to enable machinery and animal access? If not, can you suggest other criteria to determine what boundaries should be protected/ retained?

Table 8 Respondents views on Qu. 8

	Number of respondents	% of those expressing an opinion
Yes	18	60%
No opinion	4	13.33%
No	8	26.67%
Total	30	

60% of respondents believed that traditional boundaries should be retained regardless of their condition, except for the purposes of widening access points for machinery and livestock, whilst 27% did not support the proposal. Those supporting the proposal cited habitat connectivity, biodiversity, and historic and cultural value of traditional boundaries regardless of their condition. Those opposing the proposal felt that the Welsh landscape is a dynamic changing environment and that removal of traditional boundaries should be permissible where replaced elsewhere (offsetting).

Welsh Government response

Given the importance of traditional boundaries to the historic Welsh landscape, the Welsh Government will proceed with implementation of the proposal.

Question 9: Do you agree with the cutting and removal of scrub proposal?

Table 9 Respondents views on Qu. 9

	Number of respondents	% of those expressing an opinion
Strongly Agree	3	10.71%
Agree	10	35.71%

Neither agree nor disagree	4	14.28%
Disagree	7	25%
Strongly disagree	4	14.29%
Total	28	

46% of respondents to this question supported the proposal to extend the hedge cutting and trimming requirements to include scrub. They highlighted that scrub is an important habitat for nesting birds during the breeding and rearing season and difficult to check for nesting birds.

39% of respondents expressed concerns over the proposal, most notably because control of scrub is an eligibility requirement for the Basic Payment Scheme and the new requirement might cause confusion amongst farmers. Concerns were also raised over gold plating and Working Smarter.

The consultation also proposed to retain the protection for boundaries currently within GAEC E within the new GAEC 7 and maintain the current closed period for hedgerow trimming. Some objected to this proposal citing concerns relating to health and safety and the removal of the current derogations. Others welcomed maintaining this requirement but raised concerns around livestock causing damage to hedges.

Welsh Government response

Taking account of the responses received and the practical difficulties surrounding definitions and controllability that this measure would create, the Welsh Government has decided not to extend the hedgerow cutting dates to include scrub.

In addition to maintaining the current closed period for hedge trimming we will be maintaining current derogations for health and safety reasons, hedgerow restoration and arable land with sufficient conditions attached to the derogations to mitigate against any negative impact to breeding and rearing birds.

Question 10: Do you think further clarification is needed on the best means to prevent the spread of invasive non-native plants?

Table 10 Respondents views on Qu. 10

	Number of respondents	% of those expressing an opinion
Yes	23	76.67%
No opinion	6	20%
No	1	3.33%

Total	30	
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The vast majority of respondents (77%) believed that further clarification was needed on the best means to prevent the spread of invasive non-native plants. Guidance, in particular, should be provided to ensure easy recognition of invasive non-native plants and best practice methods to control and prevent spread. Concerns were raised in relation to the effort required on adjacent land managed by utility providers and maintainers of the transport infrastructure. Action by farmers should be part of a national effort, using an appropriate mix of regulation, advice and incentives.

The consultation also outlined the proposal to include the EC's optional requirement for avoiding invasive plant species. The consultation incorporated our intention to include an invasive injurious weeds requirement as in the present GAEC C. Some respondents raised concerns relating to the phrase 'reasonable steps to locate existing stands of invasive non-native plants' as they felt that it was far too open ended. They also raised concerns relating to the costs farmers would incur as a result of the proposed measure. Some welcomed the requirement but called for further resources to tackle invasive non-native plants.

The consultation highlighted that protecting farmland from under grazing and abandonment would be a requirement of payment eligibility.

Welsh Government response

In light of the responses received the Welsh Government will provide further clarification and guidance on the best means to prevent the spread of invasive non-native plants. This will likely be provided in the Code of Good Agricultural Practice to ensure it is available to all farmers, not just those in Cross Compliance.

The control of invasive species requirement is optional under the EC requirements and control of invasive species will be included in minimum agricultural activity requirements for the Basic Payment Scheme. Including this requirement under GAEC would be an unnecessary duplication and would provide no additional environmental benefit.

Control of invasive injurious weeds as in the present GAEC C will not be included in the new GAEC as we have received advice from the EC that, unless a species is listed in domestic legislation as an invasive species, we can not include it under this GAEC.

As proposed in the consultation, protecting farmland from under grazing and abandonment will be a requirement of payment eligibility.

FURTHER OPTIONS FOR CROSS COMPLIANCE INCLUSION 2015

This section highlighted the importance of the Welsh Government TB Eradication Programme to Welsh farming and for infected animals to be identified as early as possible in order to minimise the risk of spread of disease. It also underlined the Welsh Government's proposal for existing rules to be strengthened so that from January 2015 a penalty would automatically be applied to Direct Payments in all cases where a TB test was overdue by one day or more and not just to those who are found at Cross Compliance inspections to have an overdue TB test.

One question was asked:

Question 11: Do you agree that from January 2015, the existing rules should be further strengthened so that a penalty is automatically applied to Direct Payments in all cases where a TB test is overdue by one day or more and not just to those who are found at Cross Compliance inspections to have an overdue surveillance (WHT/IA12) TB test?

Table 11 Respondents views on Qu. 11

	Number of respondents	% of those expressing an opinion
Strongly Agree	1	4%
Agree	5	20%
Neither agree nor disagree	11	44%
Disagree	4	16%
Strongly disagree	4	16%
Total	25	

A minority of 24% of respondents welcomed the proposal for TB testing whilst 32% disagreed. Respondents from both sides of the argument supported TB testing as an important biosecurity measure. Those disagreeing with the automatic penalty application drew attention to a need for derogations for extenuating circumstances.

Welsh Government response

Given the importance of the Welsh Government TB Eradication Programme to the future of Welsh farming and the need for infected animals to be identified as early as possible in order to minimise the risk of spread of disease, the Welsh Government will implement the proposal as proposed within the consultation.

From 1 January 2015, a penalty will automatically apply to Basic Payments in all cases where a TB test is overdue by one day or more and not just to those who are found at Cross Compliance inspections to have an overdue TB test.

Article 2.2 of 1306/2013 defines force majeure and exceptional circumstances that apply to all cross compliance requirements including overdue TB tests. Guidance on TB late testing exceptional circumstances protocol will be included in Gwlad articles, farmer fact sheets (covering all new cross compliance requirements), the updated 'When the inspector calls guidance', as well as Basic Payment Scheme literature. A more detailed Q and A will be provided to veterinary practices and industry stakeholders so they can help to raise awareness and encourage TB tests to be arranged on time and (Animal and Plant Health Agency) APHA correspondence issued in relation to TB testing will highlight the new requirements.

LOOKING AHEAD – POTENTIAL FUTURE DEVELOPMENTS

This section explored further future provisions and opportunities for improved environmental outcomes and sustainable management of natural resources in Wales. This included ways to modernise and simplify legislation on public rights of way in Wales for the benefit of landowners, users and local authorities. The section also considered the Welsh Government's proposals to further explore the potential for General Binding Rules to be developed in relation to the sustainable management of natural resources.

Four questions were asked:

Public Rights of Way

Question 12: What are your views on the above potential PRow approach?

Table 12 Respondents views on Qu. 12

	Number of respondents	% of those expressing an opinion
Strongly Agree	10	28.57%

Agree	6	17.14%
Neither agree nor disagree	3	8.57%
Disagree	7	20%
Strongly disagree	9	25.71%
Total	35	

Within the context of potential future developments, 46% of respondents agreed with the proposal to include, at a future date, the maintenance of Public Rights of Way under Cross Compliance in Wales. The same percentage (46%) disagreed with the proposal.

Those agreeing with the proposal highlighted the following issues:

- The contribution of walking in Wales (direct spending to Welsh economy) was estimated at £632 million in 2009;
- Access to PRoW benefits the general health of the public;
- Taxpayers pay for the direct subsidies to farmers and expect to be able to access public footpaths

Those disagreeing with the proposal felt that the requirement to maintain Public Rights of Way should be implemented as soon as possible. Others disagreeing with the proposal cited the following concerns:

- Responsibility is with Local Authorities and subject to local authority 'policing';
- Such obligations already exist under Whole Farm Code of Glastir;
- Lack of relevance to keeping land in Good Agricultural and Environmental Condition

Welsh Government response

The Welsh Government intends to review the mapping constraints to designating Public Rights of Way as a landscape feature (including requirements not to obstruct or deviate). Once these constraints are resolved an amendment to the Cross Compliance requirements under GAEC 7 to include the Public Rights of Way requirement subject will be considered, subject to further consultation with stakeholders.

General Binding Rules

Question 13: Do you agree with the scope of activity for General Binding Rules, as suggested above?

Table 13 Respondents views on Qu. 13

	Number of respondents	% of those expressing an opinion
Strongly Agree	3	11.54%
Agree	12	46.15%
Neither agree nor disagree	3	11.53%
Disagree	2	7.69%
Strongly disagree	6	23.08%
Total	26	

The majority (58%) of respondents agreed with the scope of activity for General Binding Rules (GBRs) in Wales and believed that GBRs could play an important role in reducing diffuse pollution, flood risk and soil loss. Supporters felt that it would be a useful tool in the regulatory framework to ensure that all land managers adhered to good practice. This would protect the environment from the cumulative effects of diffuse pollution. It was felt that, if GBRs were to be introduced, the current regulatory framework would have to be reviewed and rationalised to accommodate GBRs and to achieve Working Smarter objectives.

A significant minority of 31% of respondents disagreed with the scope of the activity for GBRs. Those disagreeing with the proposal were opposed to their introduction and felt that they would add a further layer of bureaucracy. They also felt that the scope was too broad. Some felt that more effective enforcement of existing environmental legislation was necessary with particular concern raised that 1% inspection for Cross Compliance was insufficient and that inspections should be targeted to high risk farms, particularly as a small number of cases give rise to the greatest number of problems.

Welsh Government response

As outlined in the consultation, this is a potential future development which the Welsh Government will revisit at a later date.

Question 14: Do you agree that NRW would be the appropriate enforcement body for General Binding Rules?

Table 14 Respondents views on Qu. 14

	Number of respondents	% of those expressing an opinion
Strongly Agree	2	7.14%
Agree	13	46.42%
Neither agree nor disagree	6	21.43%
Disagree	2	7.14%
Strongly disagree	5	17.86%
Total	28	

The majority of respondents (54%) believed that NRW should be appointed as the enforcement body if GBRs were introduced, especially if they possess sufficient resources. It was recommended that their introduction should be preceded by a comprehensive public awareness campaign directed at the relevant stakeholders, and provision of an NRW advisory service to assist understanding and facilitate delivery.

25% of respondents believed that an alternative enforcement body should be appointed. Concern was conveyed that NRW was a significant landowner which would constitute a conflict of interest. Some felt that NRW might be placed in a difficult position if they were acting as an independent environmental advisor as well as an enforcement body for WG.

Welsh Government response

As outlined in the consultation, this is a potential future development which the Welsh Government will revisit at a later date.

Question 15: Do you agree that variable monetary penalties would be an appropriate enforcement mechanism for General Binding Rules?

Table 15 Respondents views on Qu. 15

	Number of respondents	% of those expressing an opinion
Strongly Agree	5	19.23%
Agree	8	30.77%
Neither agree nor disagree	5	19.23%
Disagree	4	15.38%
Strongly disagree	4	15.38%
Total	26	

Half of the respondents believed that variable monetary penalties would be an appropriate enforcement mechanism for GBRs. Those in support felt that variable monetary penalties should be used alongside appropriate levels of monitoring, enforcement, advice, industry engagement, guidance and positive action to address breaches of rules in the long term (for example, a whole farm plan to reduce risk of pollution/sedimentation of watercourses).

A significant minority (31%) believed that variable monetary penalties would not be an appropriate enforcement mechanism; these respondents disagreed with the principle of introducing GBRs, believing they would force additional penalties, red tape and administrative burdens upon the industry.

Welsh Government response

As outlined in the consultation, this is a potential future development which the Welsh Government will revisit at a later date.

Summary table of decisions

New GAEC	Consultation proposal	Maintain as proposed in consultation? Yes/No. If no, what has changed?
GAEC 1 - Establishment of buffer strips along water courses	The Welsh Government proposes to carry forward the existing provisions currently in operation in Wales (GAEC O) under the new Cross Compliance GAEC 1 arrangements in 2015.	Yes.
	We also propose to retain the requirement to prohibit unsuitable supplementary feeding within 10 meters of a watercourse under GAEC 1.	Yes.
	<p>The buffer zones, as required by the SSAFO regulations, would be incorporated into GAEC 1. This would include and address the following:</p> <ul style="list-style-type: none"> • field silage (that is silage not made in bales or silos, but on open land) must not be made within 50 meters of a water abstraction point of any protected water supply source; • The SSAFO Regulations, when re-made in 2010 were modified slightly, bringing in flexibility for farmers to store slurry within 10m of inland freshwaters or coastal waters, providing they first agreed precautions in writing with the then Environment Agency- now NRW; • There are currently no similar arrangements with respect to silage made in silos, or big bales, or agricultural fuel oil. We are considering the merits 	No. The buffer zones, as required by the SSAFO regulations to be incorporated under SMR 1 as a minimum. This requirement will apply to farmers in NVZs only.

	<p>or otherwise of including similar arrangements to allow flexibility in sites for silage within the planned revision of SSAFO scheduled for 2014-2015;</p> <ul style="list-style-type: none"> • Widening flexibility for those farmers who discuss proposals with NRW embodies 'Working Smarter' principles. 	
	<p>We propose that the application of pesticides would be prohibited within 2m of a watercourse in addition to the current requirements relating to the application of inorganic and manufactured fertilisers.</p>	<p>No. As proposed in consultation but with derogation for control of invasive non native plants where permit from NRW has been obtained as necessary.</p>
<p>GAEC 2 - Water irrigation use - compliance and authorisation procedures</p>	<p>The Welsh Government proposes to carry forward the existing water irrigation provisions currently in operation in Wales (GAEC M) under new Cross Compliance GAEC 2 arrangements in 2015. Wording of the GAEC provision would be amended to reflect the importance of irrigation for agricultural purposes as well as reflect the establishment in Wales of Natural Resources Wales.</p>	<p>Yes.</p>
<p>GAEC 3 - Protection of groundwater against pollution</p>	<p>The Welsh Government proposes to retain the current groundwater requirements as already established in GAEC P as this is a mandatory change.</p>	<p>Yes.</p>

	<p>We also propose to introduce, following a review of the SSAFO regulations in 2014-2015, construction requirements for silage and slurry stores in 2016 for the protection of groundwater from uncontrolled disposal or discharge to the environment.</p>	<p>No. Place requirement: 'introduce construction requirements for silage and slurry stores in 2015' into SMR 1 to only apply requirement to farmers in NVZ.</p>
<p>GAEC 4 - Minimum Soil Cover</p>	<p>In taking an outcome based approach we propose the following rewording of the requirement currently under GAEC A:</p> <p>Where land has been harvested with a combine, forage harvester or mower to comply with GAEC 4 one of the following must be met at all times between the day after harvest to the 1st March:</p> <ul style="list-style-type: none"> • Stubble of the harvested crop remains in the land; • Land is sown with a temporary cover crop; • Land is sown with another crop within 10 days of having been prepared. 	<p>No. Additional derogation given: You must protect soil by having a minimum soil cover except where establishing a cover would conflict with requirements under GAEC 5.</p>
<p>GAEC 5 - Minimum land management site specific conditions to limit erosion</p>	<p>We propose that existing Overgrazing requirements, currently under GAEC B, would be carried forward into the new GAEC 5 with no change to current guidance except for the following outcome focused rewording:</p> <ul style="list-style-type: none"> • Poaching and rutting must not occur to a level which causes soil erosion down slope or off site (site meaning field) including to watercourses and roads; • Stock would not be allowed unrestricted access to watercourses where this leads to erosion of soil to the watercourse; • Do not allow stock to overgraze, trample and 	<p>No. Proposal has been simplified: Overgrazing must be avoided. Poaching and rutting must not occur to a level which causes soil erosion down slope or off site (site meaning field) including to watercourses and roads.</p> <p>To prevent erosion on late harvested land or on land where a forage or root crop have been grazed out, if it is not possible to sow a cover crop, you must put in place appropriate measures to limit soil erosion.</p> <p><i>An indicative list of appropriate measures (grubbing, ditches, sediment fences, etc) will be</i></p>

	<p>poach the soil where this causes soil erosion or bankside erosion along watercourses;</p> <ul style="list-style-type: none"> • Feeding stations must be relocated prior to trampling causing erosion down slope or off site. 	<p><i>included in the guidance.</i></p>
	<p>We propose that the current supplementary feeding requirements are replaced with a new requirement under GAEC 5.</p>	<p>No. Requirement removed as adequately covered by requirement: 'Poaching and rutting must not occur to a level which causes soil erosion down slope or off site (site meaning field) including to watercourses and roads.'</p>

<p>GAEC 6 – Maintenance of soil organic matter level through appropriate practices including ban on burning arable stubble, except for plant health reasons.</p>	<p>In taking an outcome based approach we propose the following requirement: To comply with GAEC 6 the following requirements must be met:</p> <ul style="list-style-type: none"> • Comply with the Stubble Burning Regulations with no change to current guidance; • Comply with the Heather and Grass Burning Code; • Comply with the Environmental Impact Assessment Regulations (EIA Agriculture); • No first plough of organic soils/peat soils (defined as soils with an organic horizon deeper than 40cm); • No new drainage of organic soils/peat soils (defined as soils with an organic horizon deeper than 40cm). <p>In order to ensure the Soil Assessment Record reflects the new structure and also the additional proposed provisions it would be revised with the inclusion of pictorial examples identifying risk.</p>	<p>No. Removal of the obligation to keep a Soil Assessment Record and the following requirements have been removed:</p> <ul style="list-style-type: none"> • No first plough of organic soils/peat soils (defined as soils with an organic horizon deeper than 40cm); • No new drainage of organic soils/peat soils (defined as soils with an organic horizon deeper than 40cm). <p>In taking an outcome based approach we will implement the following requirement: To comply with GAEC 6 the following requirements must be met:</p> <ul style="list-style-type: none"> • Comply with the Stubble Burning Regulations with no change to current guidance. • Comply with the Heather and Grass Burning Regulations. • Comply with the Environmental Impact Assessment Regulations (EIA Agriculture). <p>No obligatory Soil Assessment Record.</p>
<p>GAEC 7 - Retention of landscape features</p>	<p>The Welsh Government proposes to retain the current requirements under GAEC F (Scheduled Ancient Monuments).</p>	<p>Yes.</p>

	<p>Historic Environment Features To introduce protection for Historic Environment Features which have been mapped. Farmers would be required to:</p> <ul style="list-style-type: none"> • Retain traditional buildings and remnant structures; • Do not damage any Historic Environment Features identified; • Do not damage or disturb any “Historic Park” or “Historic Garden” on the Register of Historic Parks and Gardens. <p>The inclusion of HEFs under Cross Compliance would provide a mechanism for ensuring protection from deliberate damage or destruction.</p>	<p>No. We intend to review the accuracy of HEF digitised maps for the purposes of Cross Compliance with a view to potentially extending protection to HEF’s under GAEC 7 by subsequent amendment to the regulations (post 2015) subject to further consultation with stakeholders.</p>
	<p>Boundaries The Welsh Government proposes to retain the current GAEC E - Boundaries requirements within the new GAEC 7 and maintain the current closed period for hedgerow trimming.</p>	<p>Yes. In addition to maintaining the current closed period for hedge trimming, officials recommend maintaining current derogations for health and safety reasons, hedgerow restoration and arable land.</p>

	<p>Scrub The Welsh Government proposes to extend the hedgerow cutting and trimming requirements to include scrub. The Cross Compliance closed period for scrub removal would also run from 1 March to 31 August.</p> <p>For the purposes of this GAEC, scrub is defined as areas of bramble/briar & gorse which are greater than 10 x10 meters. Individual scrub areas less than 10 x10 meters can be checked to establish if nesting birds are present. If nesting birds are found to be present in these smaller areas of scrub, the scrub should not be removed or cut until birds have finished nesting, in line with the Wildlife and Countryside Act 1981.</p> <p>Exemptions to cut or remove scrub in the closed period would be considered under the following criteria:</p> <ul style="list-style-type: none"> • issues of human or animal health or safety; • when you need to control or treat serious causes of harm to plant health; • or serious pest or weed infestation; • where winter cutting is inappropriate for overriding environmental reasons, for example to avoid disturbance to a European protected species. 	<p>No. We do not intend to extend current hedgerow cutting and trimming requirements to include scrub.</p>
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	<p>Retention of specific landscape features The Welsh Government proposes to extend the requirement to not cultivate land within 1 metre of a traditional boundary to all field parcels. The requirement would read as follows:</p> <p>Do not cultivate (e.g. ploughing, rotovation, tined, disc harrowing) land within 1 metre of a traditional boundary. Traditional boundaries include stone walls, stone-faced banks, hedges and earth banks, slate fences, and watercourses.</p>	<p>No. The requirement not to cultivate within 1 m of stone walls, stone faced banks and slate fences has been removed. The requirement will be applied to all field parcels as follows:</p> <p>Retain traditional boundaries including stone walls, stone-faced banks, hedges and earth banks, slate fences, and watercourses.</p> <p>Do not to cultivate (e.g. ploughing, rotovation, tined, disc harrowing) land within 1 metre of hedges, earth banks and watercourses.</p>
	<p>The Welsh Government proposes to carry forward the existing retention of specific landscape features provisions currently in operation in Wales (GAEC N) under the new Cross Compliance GAEC 7 requirements in 2015.</p>	<p>Yes.</p>
	<p>Tree Preservation and Felling To retain tree preservation and felling requirements within GAEC 7.</p>	<p>Yes.</p>
	<p>Invasive Plant Species and Under Grazing The Welsh Government proposes to include the following requirements for Invasive Plant Species under GAEC 7:</p> <ul style="list-style-type: none"> • Take reasonable steps to prevent the spread of invasive non-native plants including: Rhododendron, Giant Hogweed, Japanese Knotweed and Himalayan Balsam; • Take reasonable steps to locate existing stands of invasive 	<p>No. Requirement removed. Invasive species requirements will be included in minimum agricultural activity requirements for the Basic Payment Scheme.</p> <p>Guidance on identifying Invasive Non-Native plants will be included in the Code of Good Agricultural Practice.</p>

	<p>non-native plants and prevent the movement of soil or plant fragments or seed that would cause further spread;</p> <ul style="list-style-type: none"> • Control invasive injurious weeds such as Common Ragwort, Spear Thistle, Creeping Field Thistle, Broadleaved and Curled Dock and act upon notices given under the Weeds Act. This requirement is retained as in the present GAEC C; • Requirements to protect farmland from under grazing and abandonment would be a requirement of payment eligibility. 	
	<p>Sites of Special Scientific Interest (SSSIs) To maintain SSSIs within GAEC 7 with no change from the current guidance for them.</p>	<p>No. Requirement removed. 'Biological SSSIs' will be protected as environmentally sensitive permanent grassland under the greening elements of Pillar 1 of the Common Agricultural Policy.</p>
<p>Further Option for Cross Compliance inclusion 2015 SMR 11: Food and Feed Law – TB Testing Non-Compliance</p>	<p>The existing verifiable standard was amended from January 2014 so that farmers who were found at Cross Compliance inspections to be between 1 day and 3 months late in that calendar year attracted a penalty against CAP payments. The Welsh Government's proposal is that this is strengthened so that from January 2015 a penalty would automatically be applied to Direct Payments in all cases where a TB test is overdue by one day or more and not just to those who are found at Cross Compliance inspections to have an over due TB test.</p>	<p>Yes.</p>

<p>Looking Ahead Potential Future Developments Public Rights of Way (PRoW)</p>	<p>Public Rights of Way We are looking at ways to modernise and simplify legislation on public rights of way for the benefit of landowners, users and local authorities. One of the areas we are considering for the future is the digitisation of the definitive maps. Every local authority has digitised working copies of the maps but the statutory definitive maps remain in hard copy format. A requirement to standardise maps to a regulated electronic format should provide more consistent up to date information for public use of paths across Wales. In the future, once this is achieved, we would consider including maintenance of Public Rights of Way under Cross Compliance in Wales.</p>	<p>No. We intend to review the mapping constraints to designating Public Rights of Way as a landscape feature with requirements not to obstruct or deviate. Once these are resolved amend the Cross Compliance requirements under GAEC 7 to include the Public Rights of Way requirement subject to further consultation with stakeholders.</p>
<p>General Binding Rules (GBRs)</p>	<p>General Binding Rules The proposal is to explore further the potential for General Binding Rules to be developed in relation to the sustainable management of natural resources. This could, for example, include establishing General Binding Rules for low-risk activities which fall within the following areas:</p> <ul style="list-style-type: none"> i. Activities liable to have an adverse impact on the water environment, including: <ul style="list-style-type: none"> -activities linked to diffuse pollution, -abstraction of water from the water environment; ii. Activities liable to impact on flood-risk; iii. Activities liable to have an adverse impact on soil quality; 	<p>As outlined in the consultation, this is a potential future development which the Welsh Government will revisit at a later date.</p>

	<p>iv. Activities liable to have an adverse impact on biodiversity.</p> <p>Once the need for a General Binding Rule is identified and the evidence for taking a proposal forward is assessed, then further work would be needed to set out the process and scrutiny requirements that must be met for a General Binding Rule to be taken forward.</p> <p>If General Binding Rules were used in the areas listed above, we propose that Natural Resources Wales would be the enforcement body, and in addition that NRW may impose variable monetary penalties for a breach of the rules. These would be in line with NRW's existing powers to issue variable monetary penalties as detailed under the Regulatory Enforcement and Sanctions Act 2008.</p>	
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