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Commission II

Cadre juridique du droit de l'environnement pour la production agricole **– Legal framework of environmental Law for agricultural production –** Umweltrechtliche Rahmenbedingungen für die landwirtschaftliche Produktion

National report for the United Kingdom

Ludivine **PETETIN**, Lecturer in Law, University of Hull

Brian **JACK**, Lecturer in Law, Queen's University Belfast

Alicia **EPSTEIN**, PhD Candidate, University of Leeds

Co-Rapporteurs

Summary

Farmers receiving direct payments are mainly subject to two sets of agricultural management standards imposed by cross-compliance: first, as Statutory Management Requirements (SMRs) which relate to the areas of public, animal and plant health, environment and animal welfare; and, second, the standards of Good Agricultural and Environmental Condition (GAEC) which deal with the problems of soil erosion, soil organic matter and soil structure, and ensure a minimum level of maintenance to avoid the deterioration of habitats and the protection and management of water.

Agricultural land use and production is estimated to have contributed significantly to the accelerated declines in biodiversity and ecosystem services in the UK. The uplands, in particular, benefit heavily from CAP subsidies. Thus, CAP instruments have the potential to impact upon how soil and water are managed by farmers. However, these subsidies have not yet contributed to halting the process of soil and water degradation which has taken place over several decades.

Pillar 2 funded Agri-Environment Schemes (AES) have shown minimal success in recovering populations of farmland birds and other species as well as priority habitats. The aim is now for these schemes to contribute to nature restoration through the creation of buffer zones, stepping stones and wildlife corridors around specific sites to establish a coherent and resilient network, rather than focusing on target species. Higher Level Stewardships (HLS) are especially considered to be the most important tool for managing various components of England's ecological network and should therefore be expanded. Cooperation and active management now seem to be the central facets of biodiversity conservation and protection, especially with the major challenges which are now facing us: sustainable and green agriculture, food security and climate change.

1. Presentation of the National legal Structure

In the UK, agriculture and the environment have not been integrated in the constitutional system. Most of the formal sources for agricultural and environmental law are statutory.[1] Some of the main statutes dealing with agricultural and environmental law are: several Agriculture Acts, the Environmental Protection Act 1990, the Water Resources Act 1991, the Environment Act 1995, the Natural Environment and Rural Communities Act 2006 and the Town and Country Planning Act 1990. Secondary legislation is the second main source. These usually take the form of regulations derived from the power attributed to the relevant Secretary of State by a specific statute, such as the Water Resources (Control of Pollution) (Silage, Slurry and Agricultural Fuel Oil) (England) Regulations 2010, the Agriculture (Cross-compliance) (No. 2) Regulations 2009, The Nitrate Pollution Prevention Regulations 2008.

In England, apart from the general civil and criminal courts, there were until very recently two specific types of tribunals dealing with environmental and agricultural matters. The First-Tier Tribunal (Environment) hears appeals for civil sanctions or designation notices from the Environment Agency or Natural England.[2] It was created in 2008 following the Tribunals, Courts and Enforcement Act 2007. The other specialist tribunal was, until the end of June 2013, the Agricultural Land Tribunal (ALT). It mainly settled disputes and other matters between agricultural tenants and landlords arising from tenancy agreements under the Agricultural Holdings Act 1986. Since the 1st of July 2013 and the entry into force of the Transfer of Tribunal Functions Order 2013, the ALT has been abolished to provide cohesion within the administrative system and to increase both efficiency and case management in lands tribunals. All existing cases have been transferred to a new Property Chamber in the existing First Tier Tribunal. Appeals from a decision of the Property Chamber in the First Tier Tribunal will be to the Upper Tribunal, and thereafter to the Court of Appeal.

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[1] For the purposes of this paper, the main focus is on England (unless otherwise stated). Although England is part of the United Kingdom the legal systems and rural policies in the other parts of the UK –Wales, Scotland and Northern Ireland – are significantly different and it would require a separate paper to do justice to their perspectives. Some sections will, however, refer to the Northern Irish regime.

[2] The Regulatory Enforcement and Sanctions Act 2008 contains enabling powers to introduce civil sanctions.

The Department for Environment, Food and Rural Affairs (DEFRA) is the UK government department responsible for policy and regulations on the natural environment, biodiversity, plants and animals; food, farming and fisheries; environmental protection; and rural communities and issues.

Regulatory agencies implement and enforce the different statutes and regulations and therefore play a tremendous role in agricultural and environmental law. The main agencies in England are the Environment Agency, Natural England as well as local authorities (in particular for town and country planning).

2. The Legal Responsibilities of Agricultural Operators: An Overview of Environmental Obligations

Two aspects to cross-compliance ensure that the pressures on ecological networks are reduced: first, the specific European legal requirements, known as Statutory Management Requirements (SMRs) which relate to the areas of public, animal and plant health, environment and animal welfare; and second, the standards, based on the European legal framework, which require farmers to keep their land in Good Agricultural and Environmental Condition (GAEC). GAECs deal with the problems of soil erosion, soil organic matter and soil structure, as well as ensuring a minimum level of maintenance to avoid the deterioration of habitats and protection and management of water. It is important that these standards are enforced so as not to disadvantage those many landowners who adhere to them.

Pursuant to Regulation 73/2009[3] direct payments to farmers are made subject to a number of SMRs and standards of GAEC. In the UK, these cross-compliance requirements are determined separately by each devolved administration, taking into account the regional differences and circumstances under which they are intended to operate.

[3] Article 4, Council Regulation 73/2009/EU of 19 January 2009 establishing common rules for direct support schemes for farmers under the common agricultural policy and establishing certain support schemes for farmers, amending Regulations (EC)No 1290/2005, (EC) No 247/2006, (EC) No 378/2007 and repealing Regulation (EC) No 1782/2003 [2009] OJ L 30/16.

With regards to England, SMRs and standards of GAEC apply to all agricultural operators receiving subsidies in the form of the single farm payment (SFP) under Pillar I of the CAP, as well as those enrolled in the Rural Development Programme for England (RDPE) under Pillar II. For the purposes of this report the focus is on SMRs and GAECs that impose obligations on agricultural operators in the form of environmental regulations and minimum standards.

2.1. An Overview of Environmental Obligations of Farmers in England: SMRs and Standards of GAEC

Agricultural management standards required under EU – as well as national – law determines the list of SMRs and requirements for keeping land in GAEC in England.[4] There are currently 17 SMRs[5] and 16 measures that must be observed and implemented by farmers in order for their holdings to be recognised as being in GAEC.[6] The purpose of these GAEC standards is to provide a minimum level of environmental protection that applies to all holdings receiving direct payments and underscores the strategic importance of preserving the production capacity of agricultural lands in England. The following sections will focus, in particular, on some of the SMR and standards of GAEC that apply to soil and water management, habitats and wildlife protection and permanent pasture. In addition to these legal obligations that apply to farmers, voluntary measures and schemes will also be mentioned wherever relevant.

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[4] In accordance with Article 6 of Council Regulation 73/2009/EU each devolved administration in the UK has defined its minimum requirements for SMRs and GAECs based on the guidance provided in Annexes II and III of the regulation.

[5] Pursuant to Article 5 of Council Regulation 73/2009. A complete list of SMRs is available online at: http://rpa.defra.gov.uk/rpa/index.nsf/7801c6143933bb248025713f003702eb/c469ad87d7f02d5f80257ac5003b49bf!OpenDocument.

[6] Pursuant to Article 6 of Council Regulation 73/2009. A complete list of GAECs is available online at: http://rpa.defra.gov.uk/rpa/index.nsf/UIMenu/CC81AD645B12CE67802573B000506186?Opendocument.

2.1.1. Soil and Water Protection: Obligations of English Farmers

One of the main requirements for keeping soil in GAEC is to carry out a so-called Soil Protection Review (SPR). According to GAEC 1, farmers in England must carry out an SPR of their soil at least once a year, although they may be required to carry out additional reviews if they should notice any changes to their soil.[7] Also, they are required to record and follow up any incidents of waterlogged land that occur on their holding. In such cases farmers must address and remediate any damage caused by accessing waterlogged land within 12 months in order to prevent further soil deterioration. Failure to do so may result in legal liability for farming operators.

In addition, GAEC 1 imposes certain post harvest management obligations that apply to some crops, such as oil seeds, requiring farmers to fulfil at least one of the post-harvest management procedures issued in the cross-compliance guidance.[8] Soil is further protected under GAEC 1 by restricting the extent and conditions under which burning of vegetation may be carried out on agricultural land. With regards to the latter, it may also be noted that many farmers have signed up to additional private codes aimed at soil protection. One such example is The Heather and Grass Burning Code (HGBC), which is a voluntary code that sets out good practice relating to how and when to burn organic residue in order to minimise the impact of such practices upon soil erosion and deterioration.[9]

The potentially harmful effects of sewage sludge upon soil are addressed by SMR 3, which requires farmers to follow a number of sewage management procedures aimed at reducing soil deterioration.[10]

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[7] Standards for GAEC are numbered from 1-19 (please note that GAEC 2-4 have been repealed).
[8] DEFRA, 'The Guide to Cross-Compliance in England' (2013 edition). Available online at:
http://rpa.defra.gov.uk/rpa/index.nsf/7801c6143933bb248025713f003702eb/C469AD87D7F02D5F80257AC5003B49BF/$FILE/cross%20compliance%20guidance%202013%20v1%200.pdf.
[9] The Heather and Grass Burning Code is Available online at:
http://www.naturalengland.org.uk/Images/heathergrassburningcode_tcm6-7795.pdf.
[10] SMR requirements are numbered from 1-17.

With regards to water management, SMRs 2 and 4 are of particular relevance, as they set out and reinforce existing obligations of farmers to minimise the pollution of groundwater caused by pesticides and fertilisers. SMR 2 covers activities, which lead directly or indirectly to the discharge of pollutants into groundwater and reflects the list of 'groundwater activities' that are subject to The Environmental Permitting (England and Wales) Regulations 2010.[11] According to Article 12 of these regulations, operators are under a general obligation to obtain an environmental permit from the Environmental Agency before such activities can be carried out. Furthermore, any conditions or notices included in such a permit must be fully observed for operators to be considered to have fully complied with SMR 2.

SMR 4 reflects the legal obligations imposed on farmers under The Nitrate Pollution Prevention Regulations 2008[12] and aims specifically to reduce the rate and risk of groundwater pollution caused by agricultural production in designated Nitrate Vulnerable Zones (NVZs). For entities operating in such zones, compliance with SMR 4 includes a list of management measures that must be carried out, such as planning the use of livestock manure as a means of minimising superfluous and unnecessary fertiliser use. Other requirements include, creating a risk map of all land to which Nitrogen (N) will be applied, compliance with the livestock manure (N) farm limit and compliance with spreading limits and closed periods during which N application is not permitted. In addition, agricultural operators must also keep records of all N and fertiliser applications made to land within an NVZ holding.

The risks of water pollution due to agricultural activity are also addressed by GAEC 14, 18 and 19, which aim to protect watercourses, hedgerows and water resources in general. GAEC 14 specifically aims at limiting the extent to which fertilisers and pesticides runoff enters water systems by prohibiting farmers from applying such chemicals within 2 metres of the centre of any waterway. Furthermore, in accordance with GAEC 18, agricultural producers are required to obtain a water abstraction licence for irrigation purposes and comply with all terms of such a licence in order to fulfil their cross-compliance obligations. GAEC 19 aims to further protect waterways from runoff by requiring farmers to observe and identify specified no spread zones on their

[11] The Environmental Permitting (England and Wales) Regulations 2010, SI 2010/ 675, Schedule 22, para.3.
[12] The Nitrate Pollution Prevention Regulations 2008, SI 2008/2349 – as amended.

holdings where fertilisers must not be applied at any time, typically in proximity to wells and surface water. To this effect, farmers are required to keep detailed records and maps of all such water resources on their holdings and to update these whenever it is necessary.

2.1.2. Habitat and Wildlife Conservation

The second major priority of the existing legal obligations that apply to farmers is the protection of habitats and wildlife. These have largely been transposed into SMRs and GAECs for the purposes of cross-compliance and can be found in three main pieces of English legislation: The Wildlife and Countryside Act 1981 (as amended), The Countryside and Rights of Way Act (2000) and The Conservation of Habitats and Species Regulations 2010.[13] These acts primarily aim to transpose EU directives in this area, but have been found to overlap and create certain inconsistencies when being transposed into SMRs and GAECs. For this reason, The Conservation of Habitats and Species Regulations 2010 have recently been amended along with some changes to the cross-compliance rules.[14]

SMR 1 lays down general rules, which make it an offence to kill or injure wild birds, as well as to destroy or disrupt their nests and eggs in the process of farming.[15] It also requires farmers to obtain written consent from Natural England before carrying out 'specified operations'[16] in Special Protected Areas (SPAs). The procedure for attaining such consent has now been streamlined with similar procedures required under SMR 5 (for carrying out specified operations in Special Areas of Conservation (SAC)), as well as GAEC 6 (for carrying out specified operations on Sites of Significant Scientific Interest

[13] The Conservation of Habitats and Species Regulations 2010, SI 2010/490 – as amended by The Conservation of Habitats and Species (Amendment) Regulations 2012, SI 2012/1927.
[14] DEFRA, 'The Guide to Cross-Compliance in England' note 8 at 5.
[15] The Wildlife and Countryside Act 1981, s. 1.
[16] A specified operation is one that has been listed as likely to damage the special interest features of the area.

(SSSIs). The procedure and requirements to obtain written consent to carry out such operations are now the same for all three types of the designated sites.[17]

One of the most important cross-compliance obligations aimed at protecting habitats and wildlife is GAEC 5 on environmental impact assessments (EIA). GAEC 5 largely reflects The Town & Country Planning (Environmental Impact Assessment) Regulations 2011[18], which require that certain changes to land use be screened and assessed for their environmental impact before they can be carried out. This may entail that farmers and landowners are required to carry out an EIA when considering modifying the way in which they use their land or holdings. However, despite providing a degree of habitat and wildlife protection in those cases where an EIA is required of a landowner, it has nonetheless been observed that the regulations appear to be less ambitious in their attempts to regulate changes in agricultural land use than those of other sectors (e.g. forestry).[19]

One consequence of such differing levels of ambition may be that farmers shifting to, e.g. energy crops may not be required to carry out an EIA of such a production decision, even though a switch to energy crops might have an environmental impact on e.g. carbon sequestration levels and biodiversity.[20] The latter can, perhaps, be explained by the fact that the legislation focuses on changes in agricultural land use linked to intensification rather than diversification or extensification.[21] However, the limited obligation to carry out an EIA entails that potentially negative impacts of crop diversification simply may not be assessed in many instances. It may also be added that EIAs are only required to be carried out on holdings of more than 2 acres, which entails that land parcels of a lesser size are not obliged to carry out a similar assessment.[22]

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[17] The Conservation of Habitats and Species (Amendment) Regulations 2012.
[18] The Town and Country Planning (Environmental Impact Assessment) Regulations 2011, SI 2011/1824. These are also known as EIA Regulations. See also, The Wildlife and Countryside Act 1981.
[19] A.M. Coleby et al. 'Environmental Impact Assessment, Ecosystems Services and the Case of Energy Crops in England' (2012) 55 Journal of Environmental Planning Management 269 at 372.
[20] Ibid, 372.
[21] The Town and Country Planning (Environmental Impact Assessment) Regulations 2011, SI 2011/1824, Schedule 2.
[22] The Environmental Impact Assessment (Agriculture) (England) (No. 2) Regulations 2006, SI 2006/2522, Schedule 1.

There are additional GAECs, such as GAEC 15, which seek to protect habitat and wildlife by, for instance, placing restrictions on farmers as to any changes and removals of hedgerows on their holdings. Considering that hedgerows provide habitats for a variety of wildlife, these detailed rules aim at protecting biodiversity as well as the central landscape features which hedgerows constitute in many parts of rural England.

2.1.3. Permanent Pasture

In addition to SMRs and GAECs, the English implementation of CAP has also aimed at encouraging farmers to maintain existing permanent pasture as far as possible.[23] DEFRA has explicitly stated that a failure to do so may result in specific obligations for farmers to maintain certain proportions of permanent pasture in the long-term. Thus, in recognition of the positive environmental effects of permanent pasture in England, DEFRA has adopted measures to encourage the maintenance of existing levels of permanent pasture to avoid large-scale conversions into arable land. It may, for instance, be relevant to consider the positive environmental impacts of maintaining land under permanent pasture when carrying out an EIA in accordance with GAEC 5. Currently, however, English farmers are not under a legal obligation to maintain permanent pastures, but DEFRA has emphasised that this could become a requirement if the national level of permanent pasture declines in the future. This would entail that anyone that has converted permanent pastures to other purposes 24 months prior to their latest SPS application could, potentially, be required to reconvert such land if the national level of permanent pasture declines.[24]

2.2. Environmental Obligations in Northern Ireland

The Single Farm Payment scheme is currently implemented in Northern Ireland under the Common Agricultural Policy Single Payment and Support Schemes

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[23] Pursuant to Article 6(2) of Council Regulation 73/2009/EU.
[24] DEFRA, 'The Guide to Cross-Compliance in England' note 8 at 10.

Regulations (Northern Ireland) 2010[25] and the Common Agricultural Policy Single Payment and Support Schemes (Cross-compliance) Regulations (Northern Ireland) 2005.[26] In Northern Ireland, the Department of Agriculture and Rural Development, a government department of the Northern Ireland Executive, is the payment authority responsible for making single farm payments to individual farmers. As required in all Member States, a system of control authorities has been established to ensure that farmers comply with the cross-compliance requirements imposed by Council Regulation 73/2009.[27] Cross-compliance inspections are undertaken by three control authorities in Northern Ireland- the Department of Agriculture and Rural Development Service Delivery Group, the Department of Agriculture and Rural Development Veterinary Service and the Northern Ireland Environment Agency.[28] Each control authority inspects at least one per cent of farm businesses submitting claims for single payment, to ensure compliance with the particular SMRs or GAECs for which that control authority is responsible. The approach to penalties for both negligent and intentional breaches of cross-compliance conditions has been co-ordinated at United Kingdom level to ensure that, as far as possible, a farmer in Northern Ireland receives the same level of penalty as a farmer in England, Scotland or Wales for a similar breach.

Under the Common Agricultural Policy Single Payment and Support Schemes (Cross-compliance) Regulations (Northern Ireland) 2005 farmers in Northern Ireland receiving single farm payments must comply with each of the SMRs listed in Council Regulation 73/2009. In addition they are also required to comply with the following good agricultural and environmental conditions:

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[25] S.R. 2010/174.
[26] S.R. 2005/6 as amended, most recently by the Common Agricultural Policy Single Payment and Support Scheme(Cross Compliance) (Amendment) Regulations 2012, S.R. 2012/452.
[27] Council Regulation 73/2009.
[28] See M. Dowling, D. Graham, B. Jack, *Northern Ireland Agri-Food Better Regulation and Simplification Review* (Department of Agriculture and Rural Development 2009) 167.

2.2.1. Soil Management

1.—(1) A farmer shall prevent soil from being poached, except where:

(a) poaching of soil is a necessary consequence of measures taken to ensure animal welfare during periods of extreme weather conditions;

(b) the waterlogged soil is within 5 metres of a gateway or other access point and access is required over the waterlogged soil to land that is not waterlogged;

(c) the waterlogged soil is on an established track to land that is not waterlogged;

(d) poaching of soil is a necessary consequence of harvesting a crop of fresh vegetables or fruit in circumstances where such produce would deteriorate if not harvested as a matter of urgency; or

(e) poaching of soil is a necessary consequence of works that are required to improve the drainage of the waterlogged soil.

(2) A farmer shall ensure that during the period after harvest until the 1st March in the following year one of the following conditions is met in respect of cultivated land:

(a) the stubble of the harvested crop remains in the land;

(b) the land is sown with a temporary crop cover; or

(c) the land is left with a rough surface following ploughing or discing.

Supplementary feeding

2.—(1) A farmer shall ensure that no supplementary feeding site is located on any part of his land that constitutes part of a semi-natural habitat or a historic monument.

(2) A farmer shall ensure that no supplementary feeding site is located within:

(a)10 metres from a waterway;

(b)50 metres from a borehole; or

(c)250 metres from any borehole currently used to provide water intended for human consumption.

(3) Without prejudice to paragraph 1(1)(a), a farmer shall rotate and manage supplementary feeding sites so as to prevent poaching on his land.

(4) A farmer shall not permit sacrifice areas on land except where the land is improved grassland or arable land and where the gradient of the land does not permit liquid runoff.

(5) Where a sacrifice area is permitted, the land on which it is located shall, either:

(a)be ploughed and sown in the following spring; or

(b)be allowed to regenerate naturally the following spring provided that the land has at least 90% grass coverage by the 31st May in that year.

Overgrazing

3. Without prejudice to paragraph 2(4), a farmer shall not permit land to be overgrazed, except where:

(a)the land is located within 5 metres from a gateway or laneway; or

(b)overgrazing is a necessary consequence of measures taken to ensure animal welfare during periods of extreme weather conditions.

Undergrazing

4.—(1) A farmer shall not permit land to be undergrazed.

(2) A farmer shall ensure that land is not degraded to the extent that the land is not capable of returning to agricultural production by the start of the next growing season by the presence of any of the following species of plant: rhododendron, gorse, giant hogweed, Japanese knotweed and any noxious weed within the meaning of Article 3 of the Noxious Weeds (Northern Ireland) Order 1977.[29]

Field Boundaries

5.—(1) Except with the prior written approval of the Department, a farmer shall not permit:

(a)the removal of any dry stone wall, hedge or earthbank;

(b)the infilling of any open sheugh or ditch; or

(c)the laying of a drainage pipe in any open sheugh or ditch.

(2) Without prejudice to sub-paragraph 1(a), where a tree is growing in a hedge removal of such tree is permitted without obtaining the prior written approval of the Department where:

(a)its removal is necessary for reasons of human health or public safety; or

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[29] SI 1977/52.

(b)the tree is used for timber, provided that a sapling replaces the tree in the hedge within a reasonable time.

(3) A requirement to obtain the prior written approval of the Department at sub-paragraph 1(b) or (c) shall not be necessary in the case of a permanently dry sheugh or ditch.

(4) A farmer shall not permit the carrying out of hedge cutting, coppicing, or laying of hedges between the 1st March and 31st August, except where this is necessary for reasons of human health or public safety.

Protection of semi natural habitats and historic monuments

6. A farmer shall ensure that where any of the following features is found on his land, it is retained without impairment:

(a)a semi-natural habitat;

(b)a shelterbelt;

(c)a historic monument.

Compliance With Statutory Provisions

7.—(1) A farmer shall comply with any stop notice served upon him under regulation 22(1) and any reinstatement notice served upon him under regulation 24(1) of the Environmental Impact Assessment (Uncultivated Land and Semi-Natural Areas) Regulations (Northern Ireland) 2001.[30]

(2) A farmer shall comply with any tree preservation order in force in relation to any tree on his land.

New Works

8. Except with the prior written approval of the Department, a farmer shall not undertake any new drainage works, or carry out any ploughing, clearing, levelling, re-seeding or cultivation, on previously uncultivated land or semi-natural habitats.

Burning of Ground Cover

9. A farmer shall not permit the burning of heather, gorse, or ferns between 15th April and 31st August.

Interpretation

10. In this schedule:

"arable land" means land on which cereal or oil-seed rape crops are grown;

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[30] S.R. 2001/435.

"borehole" means a hole which has been drilled in land in order to provide a water supply whether or not currently in use for this purpose;

"discing" means breaking up the surface of land mechanically by means of a thin flat revolving disc;

"earthbank" means a ridge constructed from soil which forms part of a field boundary;

"historic monument" has the same meaning as in Article 2(2) of the Historic Monuments and Archaeological Objects (Northern Ireland) Order 1995;[31]

"improved grassland" means grassland on which more than 20% of the sward is comprised of ryegrass, timothy, red fescue or white clover;

"overgrazing" means grazing land with livestock in such numbers as to damage the growth, quality or species composition of vegetation on that land to a significant degree;

"ploughing" means making furrows in land mechanically, by breaking and turning over the soil;

"poaching" means the prolonged trampling of waterlogged soil by animals or humans or the use of machinery or vehicles on waterlogged soil;

"sacrifice area" means a supplementary feeding site which is grazed bare by livestock;

"semi-natural habitat" means an area which is not subject to an intensive farming regime, such as an area of moorland, scrub, heath, wetlands, species rich grassland, broadleaf woodland, a coastal habitat, or waterway. These examples are without prejudice to the generality of the expression;

"shelterbelt" means a row of trees planted on land to provide shelter from prevailing winds;

"supplementary feeding site" means any land under the control of a farmer (other than a farm building or farmyard) where concentrates, fodder or mineral licks are fed to livestock;

"tree preservation order" has the same meaning as in Article 65 of the Planning Order (Northern Ireland) 1991;[32]

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[31] SI 1995/ 1625.
[32] SI 1991/ 1220.

"undergrazing" means permitting the growth, quality or species composition of grazed vegetation to deteriorate significantly through the lack of, or through insufficient, grazing or management;

"waterway" has the same meaning as in Article 2(2) of the Water (Northern Ireland) Order 1999.[33]

In addition to the SMR and GAEC obligations imposed by cross-compliance, farmers in Northern Ireland must also comply with a number of other environmental obligations under national environmental laws:

2.2.2. Water Protection

The principal water pollution offence in Northern Ireland is set out in Article 7 of the Water (Northern Ireland) Order 1999. Under this provision:

a person commits an offence if, whether knowingly or otherwise—

(a) the discharges or deposits any poisonous, noxious or polluting matter so that it enters a waterway or water contained in any underground strata; or

(b) he discharges or deposits any matter so that it enters a waterway or water contained in any underground strata and tends either directly or in combination with similar acts (whether his own or those of another) to impede the proper flow of the water of the waterway or strata in a manner leading or likely to lead to pollution or a substantial aggravation of pollution due to other causes or of its consequences.

Most cases are prosecuted in magistrates courts, where the court can impose a fine of up to £20,000 or sentence a landowner to up to 3 months in prison, or both. More serious pollution cases may be prosecuted in the Crown Court, which has a power to impose a fine and/or a sentence of imprisonment for up to 2 years. In practice fines tend to be well below the maximum stipulated and sentences of imprisonment are very unusual.

Leaks of silage and slurry effluent from defective storage facilities and of agricultural fuel oils have been a common cause of water pollution. To tackle

[33] SI 1999/662.

this issue the Control of Pollution (Silage, Slurry and Agricultural Fuel Oil) Regulations (Northern Ireland) 2003 stipulate minimum storage standards that farmers must meet when storing these materials on their farms. [34] In addition to generally tackling water pollution, these Regulations also help to address the issue of eutrophication, which of course is one of the objectives of the Nitrates Directive. Due to the problem of eutrophication within its freshwater lochs, Northern Ireland has chosen to declare total territory, effectively designating its entire land surface as an NVZ under the Nitrates Directive. Consequently all farmers across Northern Ireland are required to implement Northern Ireland's nitrate action plan. These obligations are imposed by the Nitrates Action Plan Programme Regulations (Northern Ireland) 2010.[35] The Nitrates Directive only addresses the role of nitrate in eutrophication. However, phosphorous pollution also plays an important role in freshwater eutrophication. To tackle this issue Northern Ireland has enacted the Phosphorous (Use in Agriculture) Regulations (Northern Ireland) 2006.[36] These Regulations use soil testing measures to link the use of phosphorous based fertilisers to crop/grass requirements and require farmers to observe measures designed to minimise soil run-off. Although the Nitrates Directive does not require Member States to address the issue of phosphorous pollution, it is likely to have an important bearing on Northern Ireland's ability to meet the water quality standards introduced by the Water Framework Directive 2000.

2.2.3. Soil Protection

There are no specific measures in Northern Ireland beyond the GAEC conditions within cross-compliance.

2.2.4. Habitat and Wildlife Conservation

The legislative approach adopted in Northern Ireland mirrors that adopted in England and Wales, in that important wildlife habitats are designated as Areas

[34] S.R. 2003/ 319.
[35] S.R. 2010/411.
[36] S.R. 2006/488.

of Special Scientific Interest (SSSIs in England and Wales). The Environment Order (Northern Ireland) 2002[37] mirrors the impact of the Countryside and Rights of Way Act 2000 in England and Wales in reforming the legislative landscape concerning these areas. As in England and Wales, it is government policy in Northern Ireland to designate European sites identified under the Wild Birds Directive 2009 or the Habitats Directive 1992 as being Areas of Special Scientific Interest before they are designated as European sites. The Conservation (Natural Habitats etc.) Regulations (Northern Ireland) 1995,[38] as amended, apply to these European sites. As in England and Wales, these Regulations act as an additional layer of protection on top of that applicable under the Environment Order 2002 – for example requiring an appropriate assessment of any plan or project likely to damage the integrity of the site that is not required for site conservation purposes. The SMR cross-compliance conditions imposed upon farmers in Northern Ireland (SMR 2) include the obligation to observe the legal requirements imposed in relation to both Areas of Special Scientific Interest and European Sites.

2.2.5. Permanent Pasture

EU law requires Member States to ensure that no more than 10% of permanent pasture is converted nationally. The Department of Agriculture and Rural Development also applies this obligation in relation to Northern Ireland. The Common Agricultural Policy Single Payment and Support Schemes (Cross-compliance) Regulations (Northern Ireland) 2005 also authorise the Department to reduce this percentage, should it be reduced by the European Union, and to require farmers to reconvert land should it become evident that the 10% ceiling will not be met in any year.[39]

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[37] SI 2002/3153.
[38] S.R. 1995/411.
[39] S.R. 2005/6, at Article 5.

3. The Environmental Impact of Subsidies of the CAP on Agriculture

The natural environment of the UK has been heavily shaped by agricultural activity over the centuries. Likewise, since the UK accession to the EU, the implementation of the CAP and other EU regulations have been heavily influential in determining how agricultural operators impact and interact with the natural environment. With this in mind, the following sections will focus on the environmental impacts that CAP subsidies have had on soil and water systems; biodiversity; and greenhouse gas emissions (climate change) in England; before assessing similar issues in Northern Ireland.

3.1. Environmental Impact on Soil and Water Systems

Soil is one of the invaluable and non-renewable resources central to agricultural activities. Healthy soil provides essential nutrients for food and fibre, as well as, important ecosystem services that can serve to keep waterways clean and contribute to carbon storage and sequestration, among other things.[40] It follows that poor management of soil can lead to soil erosion and the degradation of soil quality and structure, which can, in turn, impact on productivity, yields and water retention capacities. Furthermore, the crucial role of soil for water purification and filtration means that many of the water resources on which the UK depends could face increasing pollution if healthy soils are not preserved and prioritised.

Despite the legal responsibilities of farmers to protect soils outlined above, soil quality on agricultural lands has continued to deteriorate in many parts of the UK. With regards to England, in particular, the most critical threats to soils include organic matter decline, soil compaction and soil erosion.[41] Some estimates indicate that as much as 70% of soil erosion in England stems from

[40] Natural England, 'Farming in the Uplands for Cleaner and Healthier Soil' (Natural England, 2010) at 2.

agricultural practices and inadequate management techniques.[42] Concerns over soil erosion are especially pertinent in the English uplands, which are primarily located within the northern part of the country and encompass open landscapes of moorland peaks and valleys that are principally used for pastoral farming and grazing. The, already, poor soils and steep slopes entail that it is extremely difficult to farm in these marginal areas, which is reflected in their designation as EU Less Favourable Areas (LFAs). However, despite their marginal production value, the uplands remain important ecological zones, not least for the ecosystem services they provide but also for soil quality and water purification. Furthermore, the heavy reliance upon CAP subsidies in this region entails that CAP instruments have the potential to impact upon how soil is managed by SPS recipients. Support for such management has been further enhanced by a specially designed entry level stewardship (ELS) program, the Uplands ELS.[43] Unfortunately, however, CAP subsidies do not appear to have contributed – as was hoped – to halting the process of soil degradation that has taken place over several decades.

Soil degradation continues to threaten upland holdings and water resources that rely on these soils for filtration and purification ecosystem services. The most widespread threat to England's surviving semi-natural habitats is Eutrophication because it is one of the main threats facing freshwater and terrestrial habitats.[44] Another main threat is the risk of nitrate (N) and phosphorous (P) runoff that take place when soils lose their retention capacity. This was pointed out by a recent study, which found that voluntary agricultural stewardship schemes under Pillar 2 of the CAP have been insufficient to significantly reduce N and P runoff, partly due to poor soil management. However, the research also pointed out that agricultural stewardship does have

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[41] DEFRA, 'Safeguarding our Soils: A Strategy for England' (DEFRA, 2009). Available online at: http://archive.DEFRA.gov.uk/environment/quality/land/soil/documents/soil-strategy.pdf.

[42] Cranfield University, 'Soils Degradation'. Available online at: http://www.cranfield.ac.uk/sas/nsri/ezine/6223%20cra01%20cost%20of%20soil%20degradation_2.pdf.

[43] Uplands ELS as well as other types of ELS will be developed in the following sections.

[44] J. Lawton et al. 'Making Space for Nature: A Review of England's Wildlife Sites and Ecological Network' (2010) 8.

the potential to mitigate runoff, but questioned the extent to which voluntary measures could accomplish such goals.[45]

That being said, DEFRA has pointed out that some improvements of soil quality in England have been recorded following implementation of CAP instruments such as cross-compliance, as well as national initiatives such as the Catchment Sensitive Farming Delivery Initiative.[46] The initiative is a joint project between the Environment Agency and Natural England, funded by DEFRA and the RDPE. It provides advice to farmers to help them implement changes in farming to reduce the risk of water pollution and help them achieve water quality standards. A key objective is that rivers achieve good ecological status in terms of water quality.

The Catchment Sensitive Farming Capital Grant Scheme has been offered to land managers in priority catchments in England since 2007 to support the improvement or installation of facilities that would benefit water quality by reducing diffuse pollution from agriculture. There is a range of items available such as watercourse fencing, roofing for manure stores. The Capital Grant Scheme is a competitive scheme based on catchment-level priorities as identified. £15.5 million were awarded in 2013/14 for the scheme. Securing an agreement is therefore not guaranteed and acceptance depends on the quality of all applications. Another limitation can be further mentioned: applicants must be in the capacity to make a 50% contribution towards capital works.

3.2. The Impact of Agriculture on Biodiversity and Ecosystems

As is the case in other European countries, changes to agricultural land use and production is estimated to have contributed significantly to the accelerated declines in biodiversity and ecosystem services that have been observed in recent years. It has, for instance, been estimated that cultivated land increased

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[45] P. Kay et al. 'The Effectiveness of Agricultural Stewardship for Improving Water Quality at the Catchment Scale: Experiences from an NVZ and ECSFDI Watershed' (2012) 422-423 Journal of Hydrology 10 at 10.
[46] DEFRA, 'Safeguarding our Soils, note 41, at 5.

by 40% between 1940 and 1980[47] and, importantly, that more than half of the country's SSSIs are currently located on farmland. Considering that a large proportion of English farmers receive direct payments, it is reasonable to assume that CAP instruments have had– and will continue to have – a significant impact on how agricultural activity and production is carried out. In this light, the implementation of CAP policies in England can act as an indirect driver of biodiversity loss, if such policies encourage production and management practices that directly impact upon biodiversity. The latter was pointed out in the UK Ecosystem Assessment, which noted that land management regimes under the CAP do indeed have the potential to impact, both negatively and positively, upon ecosystems and biodiversity in England.[48]

Biodiversity loss has occurred with regards to various species and it has been estimated that almost 70% of the UK farmland animal and plant species have been threatened by land use practices and agricultural intensification.[49] A telling example of such decline is that of farmland bird populations, which is often used as an indicator of overall biodiversity, as these species tend to be at the top of farmland food chains and occupy a wide range of habitats. Though the populations of some farmland birds have increased in recent years, estimates show that an overall decline of almost 50% has nonetheless occurred between 1970 and 2011.[50] There are various factors that have led to these declines, but habitat loss has been a driving cause of the decline in farmland bird species and in the overall loss of biodiversity.[51] Thus, those bird populations that have suffered the largest declines are those that are dependent upon farmland habitats, such as the Grey Partridge and the Corn Bunting. According to DEFRA, changes in farming practices such as increased pesticide use, the loss of mixed farming systems and poor land management practices, are largely responsible for the loss of such bird habitats and biodiversity in England and

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[47] UK National Ecosystem Assessment, The UK National Ecosystem Assessment: Synthesis of the Key Findings, (2011) at 8.
[48] Ibid, 26.
[49] Ibid, 69.
[50] DEFRA, 'Wild Bird Population in the UK, 1970-2001' (2012) at 6. Available online at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/85736/Wild_birds_statistical_release_1970-2011_UK.pdf.
[51] L. G. Firbank et al. 'Assessing the Impact of Agricultural Intensification on Biodiversity: a British Perspective' (2008) 363 Philosophical Transactions Royal Society 777 at 781.

throughout the UK.[52] With regards to the impact of CAP instruments, Birdlife International has further pointed out that cross-compliance has failed to provide the intended protection for several bird species whose populations continue to decline due to farming practices that harmful to biodiversity.[53]

There have also been large declines of insects and pollinators, two thirds of which have experienced such declines. Bee populations, for instance, have been especially negatively impacted by high mortality rates, loss of hives and reduced capacity to pollinate crops.[54] The latter is of particular importance, as bees account for a large amount of the crop pollination that takes place on English farmland. This is an important ecosystem service, upon which future food production and yields rely. Furthermore, it illustrates the fact that biodiversity loss is often accompanied by the additional loss of important ecosystems and the services that they provide. Ecosystem services refer to a variety of natural processes, which shape and affect the environmental resources that we all depend on. Many of these services are provisioning services, such as nutrient cycle, and regulating services, such as pest and disease control, as well as crop pollination. Importantly, many of these ecosystem services are fundamental for agricultural production to be possible in the first place. In this sense biodiversity loss and the decline of ecosystem services is not only a problem that can be caused by agriculture; when it occurs, it may also become a major concern for agriculture itself. Despite the serious decline in pollinators such as bees in England, the UK government was one of the member states that voted against the recent EU-wide moratorium on the nenicotinoid pesticides that have been blamed for much of this decline.[55]

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[52] DEFRA, 'Wild Bird Population in the UK, 1970-2001', note 50.
[53] Birdlife International, 'Through the Green Smokescreen: How is CAP Cross Compliance Delivering for Biodiversity?' (Birdlife International, 2010) at 20.
[54] House of Commons Environmental Audit Committee, 'Pollinators and Pesticides' (Seventh Report of Session 2012-2013) at 5.
[55] See: Commission Implementing Regulation 485/2013 EU of 24 May 2013 amending Implementing Regulation (EU) No 540/2011, as regards the conditions of approval of the active substances clothianidin, thiamethoxam and imidacloprid, and prohibiting the use and sale of seeds treated with plant protection products containing those active substances [2013] OJ L 139/12.

3.3. Climate Change

Projections for the UK have indicated that climate change is likely to entail increasingly sporadic and unpredictable weather patterns, with the potential to impact considerably upon agriculture and food production. A pertinent example may be provided with reference to the summer of 2012, which was the wettest on record in 100 years and which entailed great reduction in yield for many affected farmers.[56] The UK government has repeatedly stated that climate change has a highly complex impact and interaction with agricultural activity. On the one hand, climate change is likely to amplify the degradation and quality of soils as extreme weather conditions could serve to increase runoff of nutrients, decline in biodiversity and with it the loss of organic matter and micronutrients that are vital to food production and ecosystem services.[57] On the other hand, agriculture also has a role in climate change mitigation, for instance by reducing the level *greenhouse gases (GHG)* stemming from agriculture and also by adopting practices and measures that enhance carbon storage.[58]

With regards to the latter, UK soils have been estimated to store some 10 billion tonnes of carbon and are therefore increasingly of strategic interest for climate change mitigation. In particular the peat soils of the uplands are particularly central to any such strategy, as they are one of the few types of long-term land surface storage that can be significantly enhanced through good management by land users.[59] In recognition of such potentials, DEFRA is in the process of developing climate change adaptation strategies and has already offered farmers some options to address climate change under the ELS scheme. Despite such acknowledgements, however, the Lawton report indicated that stored carbon continues to decrease annually across England due to agricultural activity and farming practices.[60]

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[56] See, for instance: BBC News, 'Summer "Wettest in 100 Years", Met Office Figures Show'. Available online at: http://www.bbc.co.uk/news/uk-19427139.
[57] DEFRA, 'Safeguarding our Soils: A Strategy for England', note 41.
[58] Ibid.
[59] K. Hubacek et al. 'Ecosystem Services in Dynamic and Contested Landscapes: The Case of UK Uplands' in M. Winter, M Lobley (eds) *What is Land For? The Food, Fuel and Climate Change Debate* (Earthscan 2009) at 173.
[60] Lawton report, note 44 at 6.

3.4. The Situation in Northern Ireland

The following comments are drawn from the Department of the Environment publication, *Our Environment, Our Heritage, Our Future: State of the Environment Report for Northern Ireland*.[61]

"Changes to the Common Agricultural Policy and the long term restructuring of the agricultural industry in Northern Ireland has reduced farm numbers, increased specialization and intensified production within sectors such as dairy.

The most significant change has been a decrease in hill or rough land and increase in the area of grass crops associated with dairying and more intensive beef production. Drainage works have greatly assisted this drive for intensification by increasing the capacity of rivers, thereby providing outfalls for land drainage and reducing flooding.

Intensification has results in increase of emissions of many pollutants to the air and water environments. As well as the loss or gain of a range of landscape features, restructuring will also impact on other land uses such as forestry and the quality of our wetlands and peatlands." [62]

3.4.1. Air pollution

"The agriculture sector contributes to both air pollution and greenhouse gas emissions, since it accounts for the majority of ammonia and methane emissions in Northern Ireland.

At a local level, ammonia is released close to manure storage tanks, animal housing facilities, including intensive pig and poultry units, or fields on which slurry has been spread. Ammonia is rapidly deposited downwind of the emission source. There are particular pressures on sensitive habitats in areas of intensive livestock production.

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[61] Department of the Environment, 2008.
[62] Ibid, 23.

Agriculture forms the third biggest contributor to total emissions of greenhouse gases in Northern Ireland because of the quantity of methane released by cattle and its greater potency when compared with carbon dioxide. Around 86% of Northern Ireland's methane emissions from agriculture arise from gases produced during digestion, and a further 14% from the management of animal wastes.

In addition agricultural soils provide a major source of nitrous oxide in Northern Ireland, from denitrification of fertilizer nitrogen and animal manures applied to the ground."[63]

3.4.2. Biodiversity

"The last century has seen both the decline in numbers and the loss of species as a result of impacts on their habitats. In the last few decades there has been a substantial change in our agricultural methods, driven by the need to produce more food and reforms to the Common Agricultural Policy. This has resulted in a general increase in stocking rates, especially of sheep, and to overgrazing across the whole island of Ireland, especially in upland areas.

Other effects of modern farming practices have been to reduce the environmental value of many areas of wildlife and semi-natural habitats through such activities as increased land drainage, land reclamation, increased fertilization, increased silage making and removal of features such as hedgerows and ditches."[64]

In addition the report also highlights the role that agriculture has in relation to water pollution. It identifies diffuse pollution from agriculture as a major problem in relation to the achievement of the Water Framework Directive's water quality standards and the issue of eutrophication.[65] In the latter area, the report points out that diffuse pollution from agriculture is responsible for over seventy per cent of the nitrogen load and fifteen per cent of the phosphorous loading carried within rivers.[66]

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[63] Ibid, 35.
[64] Ibid, 110.
[65] Ibid, 80.
[66] Ibid, 59.

4. The Application of CAP Subsidies to the Safeguard of Biodiversity

Over half the land area of the UK is currently under productive agriculture or developed land (around 70% of England is currently farmed) which has resulted in the loss of biodiversity and habitats.[67] Agriculture has changed the English landscape by ploughing, draining and fertilising what were semi-natural heaths, chalk grasslands and lowland wet grasslands. In England, the green revolution of agricultural intensification impacts on land-use pressures which resulted in the fragmentation and isolation of semi-natural habitats. The loss of meadows, hedgerows and ponds combined with the increased use of pesticides, the abandonment of mixed farming as well as changes in cropping have all had a significant negative impact.[68]

Agriculture has also led to biodiversity loss: molluscs, moths, butterflies, bumblebees, amphibia (newts, frogs and toads), reptiles, mammals (particularly bats), and farmland birds [80% of farmland birds have disappeared since the 1960s, in particular tree sparrows by 97%, corn buntings by 87%, and turtle doves by 85%].[69] There have been rapid losses of more than 50% in the last 25 years of once common species, such as hedgehogs, house sparrows and common toads.[70] Plants of arable farmland also struggle as a consequence of the use of the developments in farming leading to the decline of these crucial nectar and pollen sources which has a knock-on effect for insect pollinators.[71]

Since the late 1940s, sites for wildlife (SSSI) have developed but at the beginning they were not backed by a regime with adequate management. There was almost no notification of the sites, so that most owners and managers were not even aware that their land had become an SSSI. The Wildlife and Countryside Act (1981) introduced notification systems and new laws to prevent damage. Increased protection followed, but often sites were still

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[67] UK National Ecosystem Assessment, note 47 at 29.
[68] RSPB et al., 'The State of Nature in the UK and its Overseas Territories' at 77. Available online at: www.rspb.org.uk/Images/stateofnature_tcm9-345839.pdf.
[69] Lawton report, note 44 at 9. See also, UK National Ecosystem Assessment, note 47 at 29.
[70] Lawton report, note 44 at 9.
[71] State of Nature report, note 68 at 19.

deteriorating as no proactive management was required. It is the Countryside and Rights of Way Act (2000) which introduced legislation to encourage active management of wildlife sites through statutory consultation mechanisms, management agreement and planning controls. Since there has been a substantial improvement in the management of national wildlife sites, the SSSIs and National Nature Reserves (NNRs). Active management from landowners and managers is now vital. As a result, since 2000, the rate of favourable (or recovering) English SSSI has increased from 50% to 93%.[72]

The Lawton Report summarises what needs to be done for habitats and wildlife conservation in four words: *more, bigger, better* and *joined* to create a coherent and resilient network.[73] Ecological and natural connections are needed between existing sites. To achieve these objectives SSSIs are not sufficient. Farmers and land managers have been identified as key actors in the success of establishing a coherent and resilient ecological network, in particular by expanding environmentally-friendly farming techniques. This is why agri-environment schemes (AES) were developed as they can be used as biodiversity-offsetting mechanisms.

4.1. Agri-Environment Schemes

Agri-environment schemes (AES) are funded from Pillar 2 of the CAP. Modulation from Pillar 1 to Pillar 2 of the CAP allows for greater AES funding as the UK uses the provision for additional transfers at a rate of 12%. Thus, all AES are subsided by both pillars. As required by EU regulations, AES are co-financed by DEFRA from the RDPE. AES are the dominant component of Pillar 2. At present there are more than 58,000 agri-environment scheme agreements in England. The area of land in AES in England has increased from around 5.1 million hectares in 2006 to 6.5 million hectares in 2011, which is almost 66% of the agricultural land in England.[74] In 2011, direct payments made to farmers totalled £3.44 billion: payments not linked to production, including the Single Payment Scheme, represented £3.11 billion; payments linked to production came to £25 million; and payments under the

[72] Lawton report, note 44 at 13.
[73] Ibid, 3.

agri-environment schemes were £400 million.[75] Therefore, AES represent only a small part of the subsidies allocated and given to farmers.

In 1987, the first AES in the UK, Environmentally Sensitive Areas, were intended to cover implementation costs and replace the income which could be gained by farming land more intensively. Today, AES require farmers to demonstrate good environmental practice: they provide payments to farmers who adopt land management and farm practices, which are beneficial to the environment. The schemes are run by Natural England, on behalf of DEFRA.

84% of the area of habitats identified as a national priority for protection and restoration eligible for AES is under agreement: for example, 41% of hedgerows in England are actively managed under AES with a further 6% having been restored in the last 10 years.[76] Lowland semi-natural grasslands and heathlands have been the centre of conservation actions due to their importance for biodiversity.[77] Targeted initiatives have seen breeding populations of certain nationally scarce farmland birds significantly increase: for example cirl bunting by 130% (1992–2003) and stone curlews by 87% (1997–2005).[78]

This confirms that early AES were successful at countering declines in rare farmland birds, such as corncrakes and stone-curlews, and also provided benefits beyond the target species – for instance brown hares have also benefited from habitat provided for stone-curlews.'[79] These data show how AES have been successful at increasing populations of certain species as well as having positive side effects on other species. These incentives schemes are key to manage ecological networks.[80] These networks of wildlife sites provide space for nature and support the provision of ecosystem services.

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[74] UK National Ecosystem Assessment, note 47 at 9.
[75] DEFRA et al, 'Agriculture in the United Kingdom' (2011) at 101.
[76] Natural England, 'Agri-environment schemes in England 2009: A review of results and effectiveness' (2009) 41.
[77] State of Nature report, note 68 at 26.
[78] Natural England, 'Agri-environment schemes 2009', note 76 at 41.
[79] State of Nature report, note 68 at 20.
[80] Lawton report, note 44 at 81.

The two agri-environment schemes available in England are the English Woodland Grant Scheme (EWGS) and Environmental Stewardship.

4.2. The Forestry Scheme

The English Woodland Grant Scheme (EWGS), together with regulation and voluntary compliance with UK Forestry Standards (the reference standards for sustainable forest management in the UK), has successfully encouraged positive woodland management. The Forestry Commission offers seven grants to help create and enhance woodlands for environmental and social benefits, such as biodiversity and public access:[81] (1) the Woodfuel Woodland Improvement Grant (Woodfuel WIG) supports the sustainable production of woodfuel and other timber products; (2) the Woodland Improvement Grant (WIG) funds capital projects such as rhododendron clearance; (3) the Woodland Management Grant (WMG) supports regular management work, for example pest control; (4) the Woodland Creation Grant (WCG) helps towards the cost of establishing new woodland; (5) the Woodland Planning Grant (WPG) provides funding to assist with the production of a management plan; (6) the Woodland Assessment Grant (WAG) contributes to cost of work to collect information that will help woodland manager decision making; and (7) the Woodland Regeneration Grant (WRG) helps to reestablish trees after a period of felling.

4.3. Environmental Stewardship

Environmental Stewardship is an AES that provides funding to farmers in England to deliver effective environmental management on farm land. It goes beyond the Single Payment Scheme requirement to maintain land in GAEC and supports the good stewardship of the countryside. ES is a multi-objective scheme which seeks to conserve and manage wildlife as well as enhancing landscape, protecting the historic environment, promoting public access and

[81] Forestry Commission, 'English Woodland Grant Scheme'. Available online at: www.forestry.gov.uk/ewgs.

protecting natural resources.[82] The current aim is for ES to contribute to nature restoration through the creation of buffer zones, stepping stones and wildlife corridors around specific sites.[83] This is in line with the Lawton Report.

The various ES schemes have been embraced by farmers. There are four elements to Environmental Stewardship: Entry Level Stewardship (ELS); Organic Entry Level Stewardship (OELS); Uplands Entry Level Stewardship (Uplands ELS); and Higher Level Stewardship (HLS), which will now be detailed.[84]

4.3.1. Entry Level Stewardship

The Entry Level Stewardship (ELS) is the primary scheme open to all farmers and land managers in England. It is designed to be a simple, multi-objective and flexible scheme. 67% of England's agricultural land is currently in ELS. ELS agreements are for five years. It rewards farmers for the adoption of specific environmental land management practices on their land. It can also complement existing farm practices and help meet other requirements such as cross-compliance. The aim is to provide financial incentives in return for some minimal management. ELS have several environmental objectives including: (1) managing arable habitats for farmland birds; for water voles, dragonflies, newts and toads; for arable plants; for bats and dormice; for butterflies, bees and vulnerable grassland; for brown hare; (2) managing the land for cleaner water and healthier soil; (3) managing the land to focus on climate change.[85]

ELS depends on priority statutory or wildlife areas. Various packages are offered and each package informs farmers on how to achieve a specific environmental goal. Options for ELS relate to boundary features; trees and woodland; buffer strips; arable land; soil and water; grassland outside Severely Disadvantaged Areas (SDAs); mixed stocking on grassland; and, grassland and

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[82] GOV.UK, 'Environmental Stewardship'. Available online at: https://www.gov.uk/environmental-stewardship.
[83] DEFRA, Natural Environment White Paper, 'The Natural Choice: Securing the Value of Nature' (2011) at 25.
[84] The Environmental Stewardship (England) Regulations 2005, SI 2005/621 – as amended.
[85] Natural England, 'Entry Level Stewardship: Environmental Stewardship Handbook' (2013) at 5.

moorland inside SDAs.[86] Farmers can select any combination of options that they think is the most appropriate to their farming business, which gives them some leeway in managing their environmental practices.[87] It contains very strict and detailed requirements which are compatible with other schemes/programmes, such as the NVZ action programme.

Options are designed to be deliverable without advisory input or targeting, and therefore are aimed to be minimal and not to impact negatively on farming operations. This laissez-faire approach means the scheme is relatively inexpensive to administer, and processing of agreements is quick and simple.[88] This, however, raises concerns in relation to the actual positive environmental impact of the scheme as the final aim seems to prioritise farming by preventing from putting too onerous burdens on farmers rather than aiming at biodiversity protection and conservation per se.

The scheme has, however, been generally less successful than was expected to deliver conservation outcomes because free choice of options for applicants has resulted in skewed and uncoordinated uptake, favouring hedgerow management, low input grassland and margin enhancement.[89] Furthermore, certain options are not delivering as they could be because they require more management guidance than is available.[90] This is why other types of ES should be encouraged.

4.3.2. Organic Entry Level Stewardship

The Organic Entry Level Stewardship (OELS) is the organic strand of ELS and therefore possesses similar objectives and options. It is geared to organic and organic/conventional mixed farming systems and is open to all farmers not receiving any Organic Farming Scheme aid. To be part of such a scheme, the land must be first registered as 'fully organic' or 'in conversion to organic farming' with an Organic Inspection Body. Farmers receive a fixed payment – of £60 per ha, per year – for all organic land entered into the scheme. Aid for

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[86] Ibid, 6.
[87] Lawton report, note 44 at 88.
[88] Ibid, 89.
[89] Ibid.
[90] Ibid.

converting farmed land to organic farming is also available through OELS at rates of £175 per hectare per year for the first two years of the OELS agreement on improved land.

4.3.3. Uplands Entry Level Stewardship

Uplands Entry Level Stewardship (Uplands ELS) was created in February 2010 to support hill farmers with payments for environmental management. Uplands ELS succeeds the Hill Farm Allowance (HFA) and is open to all farmers with land in SDAs (moorland, commons and grassland/arable categories), regardless of the size of the holding. The objective of this change is to move away from the compensatory nature of the HFA and towards a more targeted scheme which rewards farmers for maintaining and improving the upland landscape and environment. Once more, proactive management is the priority. The aim for Uplands ELS is to maintain and improve the biodiversity, natural resources, landscape and historical values of the uplands, and contribute to climate change mitigation and adaptation through effective environmental management. It ensures that agriculture continues to make its contribution to rural society and the managed environment of the English uplands by compensating farmers for the difficulties of farming in SDAs.[91]

As well as a set of compulsory requirements applied to all SDAs, agreement holders will also need to deliver one or more options to meet the targets for their holding. Options can be selected from the existing suite of ELS options and/or from Uplands ELS options. There are many management options to choose from. They relate to boundary features; trees and woodland; historic and landscape features; the protection of soil and water; upland grassland and moorland.[92] This can include cattle grazing; maintenance of traditional farm buildings; stone wall restoration and woodland/watercourse fencing. These choices ensure that farmers have the flexibility to select the right options for their farm business.

Currently, as around 40% of the uplands is still managed under historic agri-environment schemes (the Environmentally Sensitive Area and Countryside

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[91] DEFRA, 'Uplands Policy Review' (2011) at 28.
[92] Natural England, 'Environmental Stewardship Handbook' at 6.

Stewardship Schemes), the Upland Transitional Payment (UTP) has been designed to make sure that farmers unable to benefit from the Uplands ELS continue to receive specific uplands support.[93]

Such a focus on the uplands is crucial as hill farmers, are faced with economic pressure to intensify their management of enclosed land to increase productivity, as well as to abandon unenclosed rough grazing land. Agri-environment schemes can provide crucial support to farmers wishing to maintain extensive cattle and sheep grazing – an often unprofitable farming system, but one that is vital to maintaining habitats and varied vegetation, such as dwarf shrub heath and rough pasture.[94]

4.3.4. Higher Level Stewardship

Higher Level Stewardship (HLS) involves more complex and higher types of management and agreements specifically tailored to local circumstances. It is a targeted and competitive scheme. HLS applications will be assessed against specific local targets, and agreements will be offered where they meet these targets and represent good value for money. This 'cost-benefit analysis' could nevertheless be detrimental and prevent further nature conservation only because certain options are too expensive.

HLS is at present targeted in 110 areas across England. It aims at delivering significant environmental benefits for wildlife, landscape, the historic environment and resource protection through complex environmental management. HLS requires support and advice from Natural England's advisers, to develop agreements that will deliver environmental benefits over a ten year period. Such a length of time seems to be more adapted to environmental protection compared to the 5 year period for other ELS.

In order to enter an HLS, farmers must also apply for, or already be in, ELS, OELS or Uplands ELS (in all but a few specific situations). The combination of various schemes could result in more environmental benefits but it could also

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[93] The Rural Payments Agency, 'RPA Starts 2012 Round of Payments for Hill Farmers'. Available online at: http://rpa.defra.gov.uk/rpa/index.nsf/0/D397AEC5B84BDFED802579C6003533E8.

[94] State of Nature report, note 68 at 31.

lead farmers to losing focus between the different options and objectives to achieve. Unlike ELS, the level of payments received depends on the number of options that farmers are able to deliver.

'Indicators of success' were developed to help farmers achieving their management options. They intent to show what Natural England is looking to obtain, so that both farmers and Natural England advisers can assess whether the management is successful, and to see whether adjustments are needed.

HLS comes with three options: maintenance, restoration and creation. For maintenance options, the management requirements will be similar to the ones already in place requiring the good environmental conditions identified in the Farm Environment Plan (FEP).[95] Requiring farmers to maintain environmental protection, as well as enhancing it, is vital. In relation to restoration options, the FEP will have identified features which are not in good conditions and that therefore require more positive management. Specific activities undertaken on the land will need to stop to restore the feature. Creation options will be limited to the circumstances where a need for habitat creation has been identified, but only on the most suitable sites, as identified by the FEP. Options 2 and 3 are particularly significant to establish and expand a coherent ecological network. All three options show the importance of proactive management. This scheme reflects and reinforces the move towards establishing farmers as one of the central actors in biodiversity and habitats protection and expansion

HLS and its predecessor schemes have shown notable success in recovering populations of farmland birds and other species, as well as priority habitats including hay meadows and calcareous grassland.[96]

HLS is considered to be the single most important tool for managing many components of England's ecological network. Without it, moving the management of SSSIs towards favourable condition would have been impossible.[97] Moreover, as agreements can be quite hard to create and require

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[95] A FEP is a structured survey of all the environmental features on a farm. It involves identifying and making an assessment of the condition of any features of historical, wildlife and resource protection as well as creating new environmental features and habitats, improving public access, flood management and protecting natural resources. The FEP is a pre-requisite for HLS and will help to determine what level of environmental management can be achieved through this scheme.
[96] Lawton report, note 44 at 81.
[97] Ibid.

considerable and ongoing advice to achieve the best quality agreements, this could lead farmers to be disinterested in joining the scheme. As HLS is a competitive scheme, it demonstrates the lack of available funds. This scheme must be adequately resourced if it is to continue to be a suitable tool for managing core network sites.[98]

4.4. Future of AES

Under the Biodiversity 2020 Strategy, agriculture has been identified as one of the priority actions, with forestry and water management. The aim is to improve the delivery of environmental outcomes from agricultural land management practices, whilst increasing food production by reviewing how advice and incentives are used, and how AES are developed and expanded.[99]

AES schemes should be expanded and benefit from increased funding as they can crucially support green farming. ELS needs to be improved, in particular to ensure key options are chosen in suitable combinations over a sufficient area, rewarding farmers who act cooperatively.[100] However, the much-hoped recoveries of farmland wildlife and habitats – probably because not enough farmers have taken up the most effective agri-environment options (HLS in particular) – have not quite been reached, and available funding is limited.[101] Even though HLS is key to conserve and expand priority species and habitats, it cannot be expected to be the single answer. For example, there is no mechanism that establishes buffer zones, stepping stone habitats or corridors to establish the coherent and resilient network England is truly lacking. This is why the 2010 Lawton report advocates the creation of another scheme to be considered as an 'ELS-Plus' to ensure environmental effectiveness without detailed one-to-one input from an advisor.[102] This could be a simpler scheme that pays more than ELS which would include regionally or locally tailored options, for example to buffer a particular site or sites. Another

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[98] Ibid.
[99] DEFRA, 'Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services' at 25.
[100] Lawton report, note 44 at 89.
[101] State of Nature report, note 68 at 20.
[102] Lawton report, note 44 at 82.

recommendation of the Lawton report is for the Government to establish a consistent, integrated and long-term expectation of land managers to deliver parts of the ecological network by providing more readily available, high quality advice; and by developing the DEFRA Whole Farm Approach.[103]

Taking forward these recommendations and actions, a New Environmental Land Management Scheme (NELMS) is currently under development, which could combine the best elements of Environmental Stewardship, Catchment Sensitive Farming and the England Woodland Grants Scheme.[104] It would establish coordinated advice and incentives which would create a more integrated, streamlined and efficient approach that is clearer for farmers and land managers and yields better environmental results – as advocated.[105] It is to be hoped that with the new CAP starting in 2014, these recommendations and developments will be put into practice and strengthened.

Overall, cooperation and active management now seem to be the central facets of biodiversity conservation and protection, especially with the major challenges which need to be addressed: sustainable and green agriculture, food security and climate change.

4.5. Biodiversity Safeguards in Northern Ireland

The SMR obligation to comply with the obligations imposed under the Wild Birds and Habitats Directives aims at conserving biodiversity. As noted above, this is applied more widely in Northern Ireland to also include farmers' obligations to protect Areas of Special Scientific Interest under the Environment (Northern Ireland) Order 2002. The GAEC requirement that farmers should retain semi-natural habitats located on their lands has a similar objective.

Additional support for biodiversity is provided in Northern Ireland by an agri-environment programme that forms a central part of Northern Ireland's rural development programme 2007-2013. This is the Countryside Management

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[103] Ibid, 84.
[104] Natural England, 'Development of a New Environmental Land Management Scheme (NELMS)', available online at: http://www.naturalengland.org.uk/ourwork/farming/funding/nelms.aspx.
[105] DEFRA, 'The Natural Choice', note 83 at 25.

Scheme. The Countryside Management Scheme is a voluntary whole farm scheme. The scheme is open to all farmers, but has been targeted towards the farms offering greatest potential environmental value as applications exceeded the financial resources available.

Applicants to join the Countryside Management Scheme were required to allow the Department of Agriculture and Rural Development to conduct a farm audit, which identifies farmland habitats, and to have a compulsory nutrient and waste management assessment and advisory visit from Departmental staff. Farmers who proceed to enter the scheme are required to follow a range of general environmental requirements over and above cross-compliance, to manage all field boundaries in accordance with the scheme requirements and to produce and implement a farm nutrient and waste plan. These farmers will also be required to follow specific management requirements to preserve and support the particular farmland habitats and features present on the farm. These habitats are as follows- grasslands, wetlands, woodland and scrub; bird breeding, feeding or nesting sites; moorland and raised bog; and historic monuments. Farmers must also meet a minimum environmental benefit standard which is set for them by the Department, on the basis of the farm audit. Participating farmers also have the option of agreeing to undertake additional habitat management work in return for further payments. These include a range of options aimed at safeguarding biodiversity – such as managing farmland bird and insect habitats; delayed grass cutting; management of semi natural or semi-improved grasslands and heather regeneration. Farmers may also agree to undertake a range of enhancement works that will enhance farmland biodiversity. Again this is for additional payment. The possible works include tree planting and management and the installation of red squirrel feeders. More in-depth information on the Countryside Management Scheme can be found in the scheme booklet.[106]

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[106] Department of Agriculture and Rural Development (Northern Ireland), 'Northern Ireland Countryside Management Scheme (NICMS)', available online at: http://www.dardni.gov.uk/index/grants-and-funding/area-based-land-schemes/nicms.htm.

5. Final Considerations

In July 2013, the UK government has announced its 'Strategy for Agricultural Technologies'.[107] This Strategy is the first time that an 'agri-tech' (agricultural technologies) sector has been openly acknowledged by the government. It brings together the UK government, science base and food and farming industry to identify and develop the opportunities and strengths for the UK to become a world leader in agricultural science and technology. Such a move not only confirms the renaissance of modern agricultural biotechnology within UK agriculture but also places it at its centre. This trend started in May 2010 when the Coalition Government took power. Since this time, repeated calls have been made towards embracing genetically modified organisms and animal cloning.[108] This position can be contrasted with the EU institutions' perspectives on modern agricultural biotechnology as well as the preferences of British consumers.

[107] DEFRA, 'A UK Strategy for Agricultural Technologies' (2013). Available online at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/224610/13-1060_A_UK_strategy_for_agricultural_technologies.pdf.
[108] L. Petetin, 'The Revival of Modern Agricultural Biotechnology by the UK Government: What Role for Animal Cloning?' (2012) 7 *European Food and Feed Law Review* 296-311 at 296.