

# Outcomes-Based Land Management Schemes A Case Study: Research Briefing

November 2018



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# **Outcomes-Based Land Management Schemes A Case Study:**

## Research Briefing

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### **Paper Overview:**

The Research Service has established a Brexit Academic Framework agreement. Under the Framework, experts provide research and advice services to the National Assembly for Wales Commission in relation to Brexit, to supplement the work of the Research Service.

Professor Mike Christie from the Aberystwyth University has provided the following case study analysis. It considers existing examples of outcomes-based approaches to land management and payments as well as the associated risks and opportunities.

Any views are those of Professor Mike Christie and not those of the Research Service.



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## Contents

<b>Introduction .....</b>	<b>1</b>
<b>The proposed outcomes-based approach .....</b>	<b>2</b>
Evidence-based payments .....	3
Additionality .....	3
Advisory services.....	3
<b>Stakeholders’ responses to the Green Paper.....</b>	<b>4</b>
<b>Case study analysis- lessons learned from elsewhere by</b>	
<b>Professor Mike Christie .....</b>	<b>5</b>
Case study scope, methodology and key findings .....	5
CLA review of payments for agri-environmental schemes by results .....	6
Burren Programme .....	9
Results-based Agri-environmental Payment Scheme pilot study: Habitats for Breeding Waders.....	12
Dartmoor Farming Futures .....	15

## Introduction

On 10 July the Welsh Government published its Green Paper, **Brexit and our land** (‘the Green Paper’). The proposals are for a new Land Management Programme for Wales, including farming and forestry, which is expected to replace the Common Agricultural Policy (CAP) in Wales post-Brexit.

This includes a new **Public Goods scheme** which would provide direct support for public goods delivery, in particular for the environment. This is proposed to provide a new income stream for land managers and make a ‘significant contribution’ to addressing environmental issues. A novel component of the Public Goods scheme is **to ‘reward’ land managers for the delivery of outcomes / results for which there is no functioning market**. The terms ‘outcomes-based’ and ‘results-based’ are interchangeable in this paper.

This represents a significant change from the current agri-environment scheme in Wales, **Glastir**, which focuses on inputs (i.e. supporting management actions) and compensating income foregone, rather than outcomes. This shift may have implications for both land managers’ payments and environmental enhancement / protection.

The Welsh Government’s Green Paper provides little detail on how this outcomes-based approach would operate and presumably will be an area of significant development over the coming months and years. The Research Service has commissioned work through the Brexit Academic Framework to examine existing outcomes-based schemes to explore the risks and opportunities of this proposed approach.

## The proposed outcomes-based approach

A novel component of the Public Goods scheme proposed in the Welsh Government's Green Paper is to 'reward' land managers for the delivery of outcomes / results for which there is no functioning market. This approach has been explored in all of the UK's various consultations on future agricultural policies following Brexit.

The Welsh Government states in its Green Paper that a limitation of Glastir's current inputs-based funding structure is that it is possible to have an agri-environment scheme where land managers fully meet the requirements of the scheme but without delivering the outcomes. The Welsh Government therefore proposes to develop an outcomes-based scheme where:

The outcomes will directly relate to domestic or international commitments and land managers will be paid an appropriate value for those outcomes rather than being compensated for input costs. In many cases, traditional land management practices will remain important for the delivery of these outcomes. As such, there is no reason why a farmer or forester cannot produce both public goods and food and timber.

The Green Paper includes the following in the scope of its Public Goods scheme (though it emphasises that this list is not exhaustive):

- Decarbonisation and climate change adaptation;
- Resilient habitats and ecosystems;
- Reducing flood risk;
- Air quality;
- Water quality;
- Soil conservation; and
- Heritage and recreation.

The Welsh Government proposes that the scheme will often use '**proxy outcomes**' to calculate payments to land managers. For example, if an outcome is 'improved mitigation of climate change risk', the output proxy could be number of tonnes of carbon dioxide sequestered in new woodland on a farm as estimated based on land area and type of woodland.

It proposes that there will be **multi-year agreements** between the land manager and the Welsh Government. It states that they will reflect the time needed to deliver 'meaningful public goods' and give land managers certainty regarding future income.

### Evidence-based payments

The Welsh Government proposes an evidence-based scheme where there is **proven connection** between land management actions and the delivery of specific outcomes. It suggests that there may be a need for **independent third party assessment**.

It states that valuation of outcomes will be important and **new tools** will be required to determine **appropriate social values** for the outcomes sought, as well as **robust methodologies for measuring outcome delivery**. The Welsh Government says that it must also define an appropriate baseline against which delivery can be measured and monitored.

### Additionality

The Welsh Government proposes that public goods funding will only be available for the delivery of **additionality**:

- The delivery of outcomes above the level required for regulatory compliance; and
- The delivery of outcomes, based upon continuing appropriate management activity.

### Advisory services

The Green Paper highlights that **an advisory service** will explain what outcomes the Welsh Government is seeking, how the outcomes are valued and will offer guidance on different land management options that will deliver, for example, its response to the Paris Climate Change Agreement.

## Stakeholders' responses to the Green Paper

NFU Cymru's Rural Affairs Board has **voiced concerns** around how the proposed Public Goods scheme will operate in practice. Rural Affairs Board Chair, Hedd Pugh said:

One specific area of concern relates to how farmers in Wales, who have a long track record of delivering environmental action and who are already making a significant contribution to public goods delivery, will be rewarded in practice.

Farmers were very concerned that we could end up with the perverse situation where two trees located on a particular farm - one planted prior to the scheme, another planted as part of the new public goods scheme - which are both performing equally, in terms of environmental outcomes such as carbon sequestration, habitat provision and flood alleviation would be valued differently within the future scheme. The tree planted under the new public goods scheme would attract the public goods payment whilst the other established prior to the scheme may not. Put simply - is the pre-existing tree a 'public goods tree' or not?

Board members were clear that it is vital that the public goods delivered by farmers currently are valued and fairly rewarded within the future public goods approach.

In correspondence with the Research Service, RSPB has said:

The RSPB supports outcomes (or results) based payments in some cases, however actions based payments remain important, particularly to achieve high-level uptake. The potential benefits of results based over actions based payment can include: reduced bureaucracy; increased flexibility; more empowered land managers and better environmental outcomes. However, in some cases we do have concerns that results based payments can permit management measures that are not supported by a robust evidence base, which at best may not be a good use of public money and at worst could lead to environmentally damaging practices. Ensuring adequate safeguards against this in any future outcomes-based payments will therefore be essential.

## Case study analysis- lessons learned from elsewhere by Professor Mike Christie

### Case study scope, methodology and key findings

This case study analysis explores the following key questions about existing outcomes-based schemes:

- Which outcomes are measured?
- How are outcomes measured? (for example, proxies and indicators);
- Who measures the outcomes? What training is needed?
- How are outcomes valued? (for example, to ensure value for money); and
- What are the risks and opportunities of these approaches?

To address these questions, the analysis first summarises the **key findings of a Country, Land and Business Association (CLA) review** (PDF 160MB) of outcomes-based schemes. This is followed by analysis of three case studies:


- **Burren Programme** (Republic of Ireland) to conserve species-rich grassland;
- **North Yorkshire pilot scheme** (PDF 193KB) (England) to provide habitats for breeding waders; and
- **Dartmoor Farming Futures scheme** (England) to conserve moorland on common land.

The key findings are:

- Most schemes are 'hybrid' schemes, where part of a payment is linked to delivering environmental results, and part for complying with a prescribed management regime;
- Outcomes-based schemes tend to provide farmers with more flexibility in terms of how they manage their land than what is allowed in traditional prescription-based schemes;
- Outcomes-based biodiversity indicators tend to be easier to measure than climate change or water quality indicators. Outcome indicators need to be easily understood by farmers and stakeholders;

- Outcomes may be measured / monitored by farmers or an implementing agency. Involving farmers in monitoring better engages them and thus increases their commitment to the scheme. Training is usually required;
- Payment levels tend to be linked to income foregone, capital activities and attendance to training events: much of this is attributed to European rules for payments. Some schemes use tiered payments relating to the level of outcome achieved. None of the reviewed schemes base the level of payments on the public value of outcomes delivered;
- A key risk is a potential lack of farmer engagement with the scheme. To overcome this, farmers need to be made aware of the scheme and its objectives. There also needs to be training on management practices to achieve outcomes and on the monitoring system used; and
- A significant opportunity (particularly with Brexit) is to base payments on the value of public goods delivered, thus ensuring value for money. However, payments would still need to comply with World Trade Organisation (WTO) rules.

CLA review of payments for agri-environmental schemes by results

 The CLA recently published a review of outcomes-based agri-environmental schemes. This **‘Explainer’** (PDF: 160KB) note draws on insights from the European Commission **‘Guidance Handbook: Designing and implementing results-based agri-environmental schemes 2014 – 2020’** (PDF 2.09MB), along with their own analysis of a number of outcomes-based case study schemes.

The CLA report identifies seven key steps involved in the designing and implementing of effective outcomes-based schemes (see Figure 1 below). Importantly, the report stresses that farmers need to be involved at each stage, to ensure that they are fully engaged with the scheme and hence are committed to delivering environmental outcomes.

**Figure 1. Seven key steps involved in the designing and implementing of effective outcomes-based schemes.**

(Source: CLA)



The CLA also undertook a SWOT (strengths, weaknesses, opportunities, threats) analysis of the merits of outcome-based schemes.

**Table 1. SWOT analysis of outcomes-based schemes.**

(Source: CLA, [Explainer-payments for agri-environment schemes by results](#) (PDF 160KB).

Strengths	Weaknesses
<p>Greater flexibility in managing their land for farmers and land managers. Farmers can use their knowledge and experience to deliver environmental results in a way that is consistent with the rest of their farm business. Potential to reduce administrative / control and verification requirements. Farmers are incentivised to deliver better environmental outcomes. Proponents say that results-based schemes lead to greater farmer awareness and engagement with biodiversity management; especially where schemes are supported by training and advice.</p>	<p>Initially any such system would require a substantial amount of administrative time and effort. Applicants have to accept an additional level of risk when signing an agreement as the total payment is not assured. Current evidence is insufficient to create indicators for more than a handful of options. Schemes are likely to be limited to biodiversity outcomes, as indicators related to water quality and climate change are less robust (especially true for water quality).</p>
Opportunities	Threats
<p>Potential to create a more flexible system that is developed by those working on the ground. Likely that environmental outcomes will improve. Control and verification is focused on high risk options and activities only, reducing the total burden. Some schemes have created competitions and celebrate the best performing farmer in a given area. This has created friendly competition between farmers. By supporting activities that deliver and incentivise good environmental outcomes, it is easier to make the case that the sector is delivering value for money.</p>	<p>Outcomes-based payment schemes could be developed without farmer input and not be practicable. It is likely that outcomes-based payment and management-based payment will co-exist – this could complicate the demonstration and delivery of any policy. For some systems and some environmental outcomes, the evidence base of what works is lacking. The current level of ecological knowledge is poor in many farmers, advisers and regulators. There are concerns that quality and availability of inputs such as seeds and herbicides is lacking and would limit the ability to farmers to achieve high outcomes.</p>

## Burren Programme



The **Burren Farming for Conservation Programme** is an existing outcomes-based agri-environmental programme, which aims to conserve and support the heritage, environment and communities

of the Burren, Ireland. Originally developed under the EU Life programme (2005-2010), the project is now funded under the EU CAP Pillar 1. The Programme adopts a 'hybrid' approach which consists of 3 measures.

- Measure 1: Production of species-rich limestone grassland- payments are based on the results (outcomes) achieved in terms of grassland condition;
- Measure 2: Management activities- payments are based on costs incurred for work undertaken (e.g. clearing scrub, repairing walls, providing water); and
- Measure 3: Area-based payment for designated areas.

An evaluation of the programme demonstrates a gradual, but significant improvement in the condition of the grassland habitats with good retention rates of participating farmers. Factors that have contributed to its success include: strong partnership across stakeholders; practical and transparent indicators that can easily be used by a range of users (including farmers); combining outcomes-based payments (Measure 1) with payments for actions (Measure 2); farmers taking a lead role in designing the farm plan; and intensive training of advisors. EU CAP rules are a key barrier to the scheme in terms of what is considered eligible land and payment mechanisms.

The Burren Programme was put forward in **written evidence** to the Committee during its inquiry into the Future of Agricultural and Rural Development Policies in Wales by PONT (Pori Natur a Threftadaeth) and the Snowdonia Society. It was provided as an example of a successful locally-targeted, farmer-led, results-based, agri-environment scheme to achieve the best environmental benefits. It was also mentioned by RSPB during the Committee's visit to a farm in Snowdonia in November 2016 as part of the inquiry. A Committee delegation met representatives of the Burren Programme during a visit to Dublin in January 2017.

**Table 2. Assessment of the risks and opportunities of the Burren Programme.**

	Which outcomes are measured?	How are outcomes measured?
<b>Description</b>	The condition of grassland habitats: assessed in terms of grazing levels, feeding systems, scrub and weed encroachment, site integrity and condition of water sources.	Grassland condition is assessed annually using a standardised, user-friendly habitat health checklist: 0 (very poor) - 10 (exemplary). Some management practices (e.g. the feeding of large silage bales) are considered incompatible with the ecological objectives and therefore received a score of '0'.
<b>Risks</b>	Some outcomes are difficult to assess, e.g. condition of water sources (overcome by assessing the adequacy of measures to prevent water pollution such fencing off water flows from cattle etc).	Some indicators linked to actions rather than outcomes.
<b>Opportunities</b>	Most outcomes measured are easily understood by stakeholders. Measure 2 activities (payments for management activities e.g. clearing scrub, repairing walls, providing water and improving access) were seen as essential to the scheme and were designed to support Measure 1 (outcomes-based) objectives.	Practical and transparent indicators that are easy to understand help to engage farmers and increase their commitment to the scheme.

	Who measures the outcomes?	How are outcomes valued?
<b>Description</b>	Outcomes are assessed by trained advisors. These are cross-checked by the Burren Life Programme team. Farmers take a lead role in designing the farm plan and are encouraged to monitor the outcomes.	The field's condition score (0-10) is multiplied by the field area (ha) and by the maximum payment per hectare (€120 for the first 40ha, €60/ha for 40-80ha, and €30/ha for 80-120ha). A 10% bonus rate is payable for each point improvement for fields with scores between 3 and 9.
<b>Risks</b>	Advisors require intensive training and annual 'refresher' courses.	The outcomes-based payments (Measure 1) are considered only to be a success when combined with payments for actions (Measures 2 and 3). Payments may vary between years, resulting in uncertainty for farmers.
<b>Opportunities</b>	Farmers trained to apply scoring system and thus attain a better understanding of the environmental outcomes. Creates strong partnership across stakeholders	A transparent and 'meritocratic' payment system. Fields are ordered for payment according to score (lowest to highest) and payment rates are then applied in 40ha bands, with highest rate for the first 40ha. This incentivises farmers to improve the condition of their fields.



## Results-based Agri-environmental Payment Scheme pilot study: Habitats for Breeding Waders



The **North Yorkshire Results-based Agri-environmental Payment Scheme (RBAPS)** (PDF 193KB) is a 3-year pilot scheme (2016-2019) jointly run by Natural England and the Yorkshire Dales National Park Authority. The scheme includes two options: *Habitat for Breeding Waders* and

*Species Rich Hay Meadows*. The present analysis focuses on the *Breeding Waders* option (to provide an alternative outcome to the Burren Programme) which aims to provide suitable feeding, nesting and chick rearing habitat for lapwing, curlew, snipe and redshank.

	Which outcomes are measured?	How are outcomes measured?
<b>Description</b>	Outcomes are measured by the extent to which the grassland habitat reaches 'optimal' condition for waders: - Rush cover (30% is optimal); - Sward structure (varied swardheight preferred); - Extent and quality of wet features (such as flushes, open drains, scrapes); and - Extent of damage to the sward (due to poaching, or the use of heavy machinery).	Measurements were made at field level. Large fields were split and an average score taken. Each of the 4 outcomes were measured on a 0-10 scale to give a maximum of 40 points. Points are then split into 5 tiers (<9, 10-19, 20-29, 30-39 and 40 points), which were linked to differential payment levels.
<b>Risks</b>	The number of birds on the land was not used as an indicator as: - Bird numbers were not under the farmer's control; and - Bird movements on / off site made it difficult to verify numbers (which could lead to disputes). Farmers were, however, asked to note the number of birds in their fields.	The recent dry spring weather made it difficult to assess the wetness features. Both the farmers and advisors found it difficult to measure percentage rush cover.

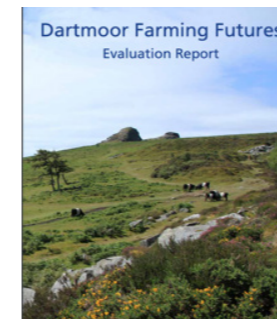
During the first year, most agreements resulted in the maintenance or improvement to habitat condition. Training of farmers was seen as essential to the success of the scheme. Outcomes measured included habitat condition and the presence of wet features. Assessing bird numbers was considered too problematic and therefore not used. Assessing the percentage cover of rush was also found to be difficult. Payment levels were based on income foregone, capital costs and training. In the future, when outside of the stipulations of CAP, the scheme is considering payments for benefits delivered.

**Table 3. Assessment of the risks and opportunities of the North Yorkshire pilot scheme**

	Who measures the outcomes?	How are outcomes valued?
<b>Description</b>	Farmers received advice and training on how to practically manage the habitat and how to measure the outcomes. In pilot, all fields were verified by a project advisor. Accuracy of farmer assessments was around 70%; which was considered good.	Payment levels ranged from Tier 1 = £35/ ha to Tier 5 = £174 / ha. Payment levels were based on income foregone, costs of capital works to create wet features and for attending training events. Payments levels were split evenly across score levels with the same incremental increase between Tiers.
<b>Risks</b>	Some farmers did not feel confident to score their fields after the first year and therefore needed continued support.	Splitting payments evenly across Tiers did not provide sufficient incentives to encourage farmers to join the scheme if they were to receive low scores / payments. This issue may be overcome if higher incremental payments are made in the lower Tiers.

	Which outcomes are measured?	How are outcomes measured?	Who measures the outcomes?	How are outcomes valued?
<b>Opportunities</b>	There has been evidence of environmental conservation and some enhancement. Of the 22 wader sites, 3 sites significantly improved their score, 2 reduced score, with the remaining sites retaining their baseline score.	Extending the assessment period (to include March and April) provided a more reliable assessment.	The majority of farmers were happy to score their own fields after the first year with good accuracy. Although all fields were verified during the pilot, there are opportunities to verify only a sample of fields in subsequent years.	In pilot, payments were based on income foregone (as required under EU rules). However, there may be opportunities to base payments on the value of benefits delivered using e.g. 'natural capital' approaches. Although it was unclear how this might best be operationalised.

## Dartmoor Farming Futures



**Dartmoor Farming Futures** is an outcomes-based agri-environment pilot scheme targeted at managing moorland habitats on common land. The scheme targeted two areas: the Forest of Dartmoor common and the Haytor and Bagtor common. Management plans for the entire common are developed by the Commoners (in collaboration with authorities) by first identifying a set of desired environmental outcomes

based on ecosystem services (e.g. food production, biodiversity, landscape, water quality and quantity, carbon stored in the soil, and air quality). Commoners then use their expertise, experience and understanding of common land to identify management actions (e.g. stocking rates, timing restrictions for grazing, and types of livestock) to deliver these outcomes. The delivery of the environmental outcomes is evaluated annually. Payments are based on a flat rate area payment calculated on the income foregone associated with management actions: thus, the payment is not linked to the result being achieved. The reasons for this are:

- Moorland takes time to change, which raises issues about how payments could be linked to results in the short term; and
- The moorlands of Dartmoor cover a large area, and therefore it is difficult to determine the direction and extent of change without extensive monitoring repeated over time.

An **Evaluation report** on the scheme was produced in 2017.

**Table 4. Assessment of the risks and opportunities of the Dartmoor Farming Futures pilot scheme.**

	Which outcomes are measured?	How are outcomes measured?
<b>Description</b>	Environmental outcomes are based on the delivery of ecosystem services, e.g. biodiversity, landscape, water quality and quantity, carbon stored in the soil, and air quality. Outcomes were set for the entire common.	Monitoring of SSSI (Sites of Special Scientific Interest) condition is undertaken through species counts in quadrats. Crib sheets were used to aid the identification of key species.
<b>Risks</b>	It takes time for management actions to change moorland habitats and hence ecosystem service delivery. Thus, it is difficult to base payments on results alone.	
<b>Opportunities</b>	Schemes can be tailored to the local area. By designing the scheme and objectives, farmers have more flexibility than would be allowed under traditional schemes for e.g. turning out livestock.	Commoners take more responsibility for setting outcomes ensuring greater ownership and understanding of management activities and outcomes. Increased recognition and use of farmers' knowledge.

	Who measures the outcomes?	How are outcomes valued?
<b>Description</b>	In the Forest common, Natural England provided a baseline assessment of the condition of the SSSI. Commoners were then provided with training to monitor habitat condition. In Haytor/Bagtor, monitoring was undertaken by third party groups, who produced management reports.	Payments were based on the income foregone associated with management activities. The level of payments was based on existing payments made under the Higher Level Stewardship (HLS) Scheme (English agri-environment scheme).
<b>Risks</b>	Third party monitoring was less likely to change commoners' behaviour and attitude. Self-monitoring may not be rigorous enough. May be difficult to achieve the level of collaboration that was found between the commoners.	Since this scheme operated under a HLS scheme, it was not possible to reallocate payments to reflect outcomes. The scheme was considered resource intensive and costly to run.
<b>Opportunities</b>	Training and monitoring processes have increased the farmers' understanding of biodiversity and environmental features found on their common.	Delivering to taxpayers (the scheme funders) with public benefits. Extended grazing periods (compared to the original HLS) will reduce costs.

