



# Farming with nature

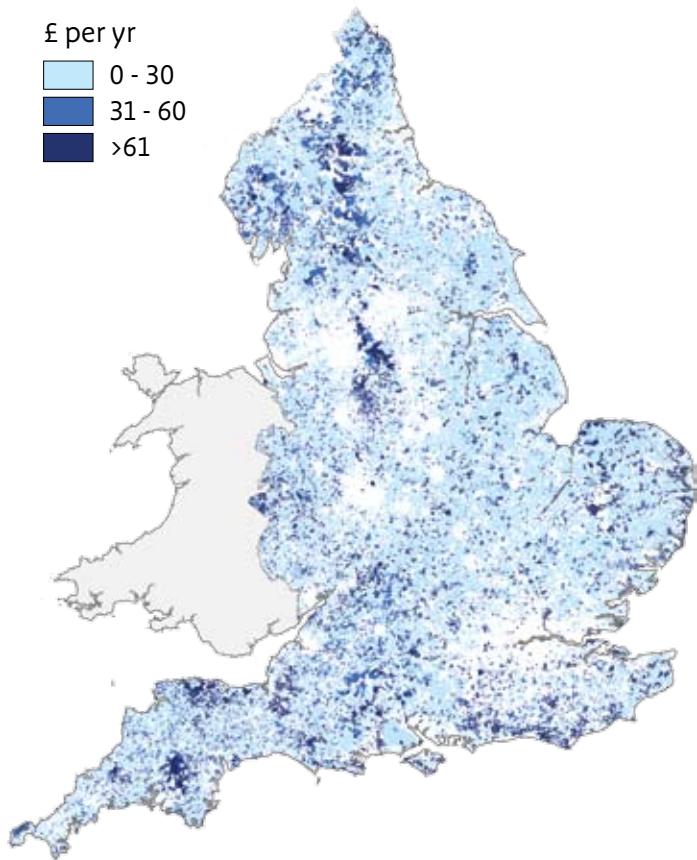
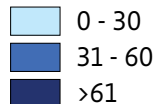
Agri-environment schemes in action

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## Agri-environment investment per hectare

£ per yr



## Introduction

Farmers and land managers are the main custodians of England's environment. Over two decades, Agri-Environment Schemes (AES) have helped make their land not just a source of food, but a haven for the country's wildlife. Farmers have joined with conservationists to maintain production while safeguarding the countryside, and the benefits it provides, for future generations. In doing so, they have helped to make agriculture more sustainable.

Natural England's report 'Agri-Environment Schemes in England' describes the schemes and the outcomes they have delivered. This document summarises the lessons learned, and sets out the challenges and opportunities for the future. England has pioneered 'green farming' for 20 years – with the right support its farmers can enhance our environment as well as feeding us for many years to come.

## Agri-environment schemes

- AES are voluntary agreements that pay farmers and other land managers to manage their land in an environmentally friendly way.
- The first AES in the UK, Environmentally Sensitive Areas, was launched in 1987.
- The schemes are run by Natural England, on behalf of Defra.
- AES are supported through the Rural Development Programme for England 2007–2013 (RDPE), with EU funding from the European Agricultural Fund for Rural Development, part of the Common Agricultural Policy (CAP), transfers (known as modulation) from the Single Farm Payment (SFP), and match funding from the UK Treasury.
- The main schemes are two strands of Environmental Stewardship (ES): Entry-Level Stewardship (ELS) and Higher-Level Stewardship (HLS), and the older schemes Countryside Stewardship Scheme (CSS) and Environmentally Sensitive Areas (ESA).
- About £400 million each year is paid to England's land managers through AES
- AES design has constantly evolved in the light of experience gained, however, the natural environment is complex, and sometimes responds in slow or unpredicted ways. The current scheme, Environmental Stewardship, builds on the experience, evaluation and monitoring of earlier schemes and a wealth of evidence from research.

## What have agri-environment schemes achieved?

### **AES have been successful in engaging farmers and land managers:**

- There are over 58,000 voluntary AES agreements, covering over 6 million hectares – about 66% of agricultural land in England (the current coverage of AES can be seen on the map on page 2).

### **AES deliver multiple benefits for the environment:**

- They have been effective at protecting and maintaining our most important habitats:
  - AES have largely been successful in halting the loss and deterioration of the highest priority habitats on farm land, and are now restoring or enhancing many of these.
  - Habitat creation has had variable results but improved techniques have resulted in notable successes, for example some

species rich grasslands created using green hay harvested from existing sites as a seed source.

- They have been successful at increasing populations of certain species:
  - Targeted initiatives have increased populations of certain nationally scarce farmland birds. For example, ciril buntings by 130% (1992–2003) and stone curlews by 87% (1997–2005).
  - Bumble bee abundance increased 15–35 times on AES sown wildflower mixes in arable areas, compared to control areas.
- They make a major contribution to maintaining and enhancing the landscape character of different areas:
  - AES coverage of nationally important landscapes is significant. For example, nearly 80% of the Yorkshire Dales National Park is under AES agreement. The way in which AES maintain and enhance many of the key characteristics

of this landscape is illustrated in the case study (page 7).

- They protect our historic environment:
  - Over 6,000 archaeological features on farmland are protected under AES, including 59% of scheduled monuments, 62% of undesignated monuments, 43% of registered parks and gardens and 54% of registered battlefields.
- They effectively connect people to the natural environment and farming:
  - In 2007 AES supported over 6,800 educational visits to farms by more than 170,000 people. 99% of respondents said they enjoyed the visit and over 92% of schools reported that their children's knowledge had improved as a result.
- We expect them to contribute to protecting soils and improving water quality:
  - This is a relatively new objective of AES, and the evidence is not yet conclusive. AES options designed to protect soils

and water are successfully being adopted in catchments where they are a priority.

- They make a major contribution to climate change mitigation:
  - AES currently deliver green house gas (GHG) savings of 3.46 million tonnes of CO<sub>2</sub> equivalent per year (estimated to be worth approximately £180 million). This is an 11% reduction from the agriculture, forestry and land management sector in England (even though the schemes were not originally designed to maximise this benefit).

### **AES also contribute significant social and economic benefits:**

- The economic value that people place on the environmental improvements associated with AES is significant. Studies of early AES showed that on average £1 million of expenditure generated benefits valued at £25 million by society.

- AES support jobs and generate spending in the local economy. Research indicates that existing annual AES spend generates further annual spending in the economy of between £180 million and £850 million and sustains between 1,800 and 15,000 jobs.



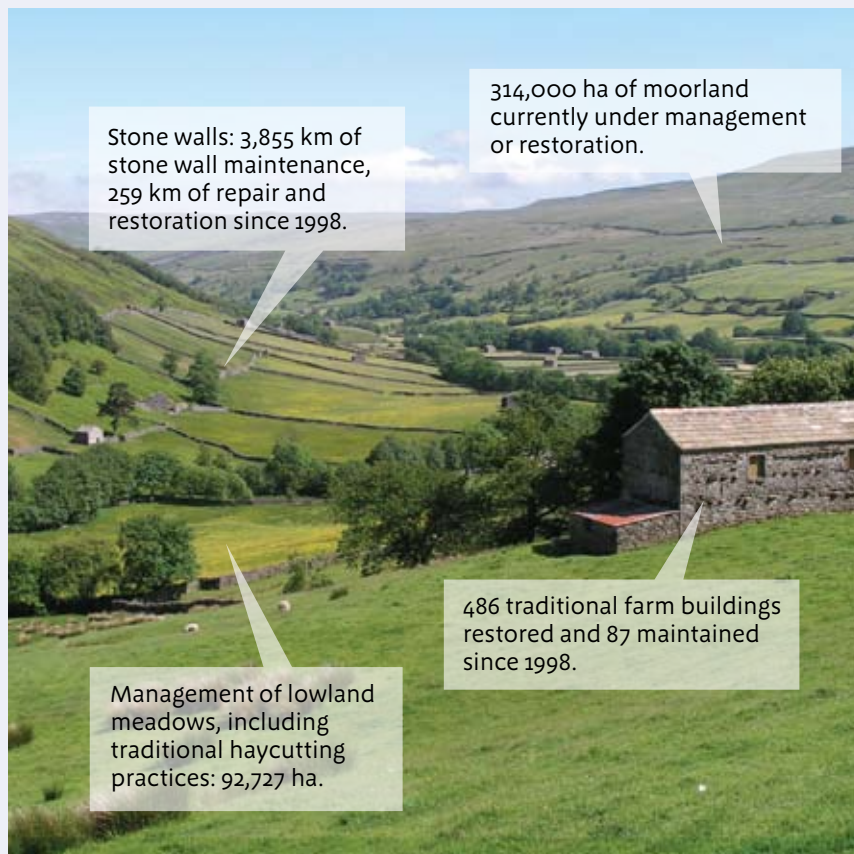
Newly planted hedgerow, Weybourne, Norfolk

### **AES can be delivered efficiently:**

- The costs to Natural England of delivering AES in 2008–09 were just over £13 million – 3.6% of the funds paid. A further £25 million for IT systems was funded by Defra.
- Newer ES schemes and an online application process are cheaper to operate and require less paperwork from farmers.
- Natural England’s restructuring of service teams has enabled £12 million of productivity gain to date, reduction in ELS application times from 30 days to 3 days, and 98% of payments made by the due date.
- A new geographical approach to HLS targeting has been implemented and is effectively targeting resource on those areas that have the potential to yield the maximum multiple environmental benefits, for a given investment.

## Case study: AES and landscape character – Yorkshire Dales National Character Area.

The Yorkshire Dales are a striking example of a landscape of strong character, dependent on the continuity of traditional farming practices. In recognition of this the Yorkshire Dales was designated as an Environmentally Sensitive Area (ESA). A 'whole farm' approach ensured that much of the enclosed farmland in the Dales came under ESA agreement, including the maintenance and restoration of key features such as stone walls, field barns, hay meadows and open moorland which define this landscape. More recently, Environmental Stewardship has continued landscape conservation in this area.



Stone walls: 3,855 km of stone wall maintenance, 259 km of repair and restoration since 1998.

314,000 ha of moorland currently under management or restoration.

486 traditional farm buildings restored and 87 maintained since 1998.

Management of lowland meadows, including traditional haycutting practices: 92,727 ha.

Swaledale, illustrating the contribution of AES to landscape character in the Yorkshire Dales National Character Area.

## Where next for agri-environment schemes?

Through 20 years of experience we have refined the design and delivery of AES to improve their effectiveness. The schemes today continue to develop, especially in areas, such as habitat creation, where success has been more mixed. However, there are major new challenges and AES will need to evolve further to address these:

### **1. Supporting sustainable agriculture, where natural resources are limited.**

Farmers are the main stewards of England's land environment, and AES help them to combine production with benefits to the environment and sustainability, but there remains more to do. Resources – from energy and fertiliser to soils and water – will be increasingly under pressure. To continue to do this AES will need to:

- develop to design sustainability into agricultural practices, ensuring natural resources are used efficiently, minimising waste and working 'with the grain' of natural processes.

### **2. Finding new ways to deliver environmental benefits alongside food production.**

In the future we will need more food and more of other ecosystem services delivered from the same area of land. To achieve this we need research to:

- understand the key role that AES play in supporting food production, eg. through pollination;
- identify patterns of scheme options that deliver the desired ecosystem services with positive or minimal impact on food production; and
- develop agricultural practices that increase productivity at the same time as delivering environmental benefits.

### 3. Delivering multiple benefits at a landscape scale.

AES have succeeded in delivering a range of ecosystem services through individual agreements. But, there is scope to develop schemes further to deliver all the services that could be achieved simultaneously from land and co-ordinate this delivery at the landscape scale. Operation at a landscape scale is needed to address widely spread issues, such as declines in farmland bird numbers, and achieve the full value from ecosystem services requiring a large area to be effective, like flood defence and clean water. This will require:

- further development of approaches to targeting and deploying schemes at the landscape scale; and
- working through partnerships, such as the Campaign for the Farmed Environment.

### 4. Helping to protect the natural environment from climate change.

Climate change is a major threat for the natural environment, and we need to increase its resilience. If we don't, many habitats and species that we treasure today will be lost, along with ecosystem services that we take for granted, such as good soil, clean water and pollination. But, we can also use AES to work with nature to counter global warming, if we develop the schemes. To achieve this we must:

- develop scheme options that reduce and sequester greenhouse gases;
- develop scheme options that help the environment to adapt, in particular improving connectivity between habitats; and
- deliver these options on a broad scale to achieve sufficient impact.

## 5. Offering strong and flexible incentives in difficult economic times.

AES work by offering financial incentives for benefits provided to the public by farmers and land managers. To maintain these benefits, they need continued funding after 2013 – but the opportunity does not stop there. To deliver the maximum return from public investment in ecosystem services, we need to work on a large scale, and we need a farming industry that is sustainable economically as well as environmentally. To achieve this, we need:

- to convey the clear economic case for ecosystem services to policy makers;
- a shift in resources from CAP income support payments to those which deliver environmental services;

- fair criteria for allocating funding between Member States, so production and environmental impacts are not exported – at least within the EU;
- changes to EU programme rules, so schemes can reflect the value of the public benefits created, not just their cost; and
- to engage the public, so they support this use of their taxes, and the multiple benefits that a well-managed natural environment provides.



Somerset Levels

## Case study: HLS arable management, the Norfolk Estate, Arundel, West Sussex.

This AES covers four farms managed by the Norfolk Estate. The farms have a diverse mix of grassland and arable areas and include two SSSIs, wet grassland beside the River Arun and historic features that are all managed under the ES scheme.

The agreement makes the most of a combination of ELS and HLS management options to manage the land for the greatest benefit of farmland birds. Management features include buffer strips, over-wintered stubbles and unharvested conservation headlands. Next to headlands, strips of wild bird seed mix and beetle banks provide food sources and cover for birds, insects and small mammals, whilst the main

crop area remains conventionally managed. Options for grassland management and protection of historic features form part of a diverse, multi-objective agreement.

Wildlife levels on the Estate have been recorded in detail each year since 2003. The results are dramatic. Since 2003 grey partridge numbers have increased by over 250% per year, corn buntings over 100% per year and skylarks 71% per year. Mammals have also benefited, notably brown hare which has shown year-on-year increases. Arable wildflowers and associated insects have also responded well in the un-sprayed conservation headlands.



Conservation headland with wild  
bird seed mix

## Image credits

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ISBN 978-1-84754-183-3

Catalogue Code: NE223

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Printed on Defra Silk comprising 75% recycled fibre.