

What is the effectiveness of the stone wall and stone-faced bank options in Environmental Stewardship and Countryside Stewardship?

Agri-environment monitoring theme: Buildings Historic Environment

What are the issues?

Stone walls and stone-faced banks are historic features integral to upland farming and contribute significantly to shaping England's rural identity and landscape character. Their conservation supports heritage, ecological, and practical land management objectives. These features represent centuries of skilled craftsmanship, symbolising the rich cultural heritage of rural communities while offering a range of habitats for wildlife. For over 30 years, Agri-Environment Scheme (AES) policy has emphasised the value of safeguarding and managing the historic environment, especially field boundaries such as stone walls and banks, as a means of delivering public benefits and ecosystem services. However, despite their recognised value, there is limited reliable information about their current extent and condition, or the effectiveness of maintenance and restoration options offered through the Environmental Stewardship (ES) and Countryside Stewardship (CS) schemes. In addition, the ecosystem services provided by stone walls and stone-faced banks remain poorly understood and under-researched, limiting the evidence base needed to support effective policy and land management decisions.

What are the aims of the project?

To assess the effectiveness of the ES and CS maintenance and restoration option for stone walls and stone-faced banks. To achieve this aim there were 6 objectives for the project:

- 1) Undertake a literature review to provide broad context.
- 2) Map and analyse the national uptake of wall and bank options under ES and CS.
- 3) Select four contrasting case study locations for detailed investigation and map the field boundaries.
- 4) Undertake surveys to assess the condition and management of walls and banks in the case study areas.
- 5) Explore the role of walls and banks in providing ecosystem services in the case study areas.
- 6) Provide a clear set of 'Areas for Improvement' to Defra to be used for the proposes of scheme development for successor schemes and future grant offers.

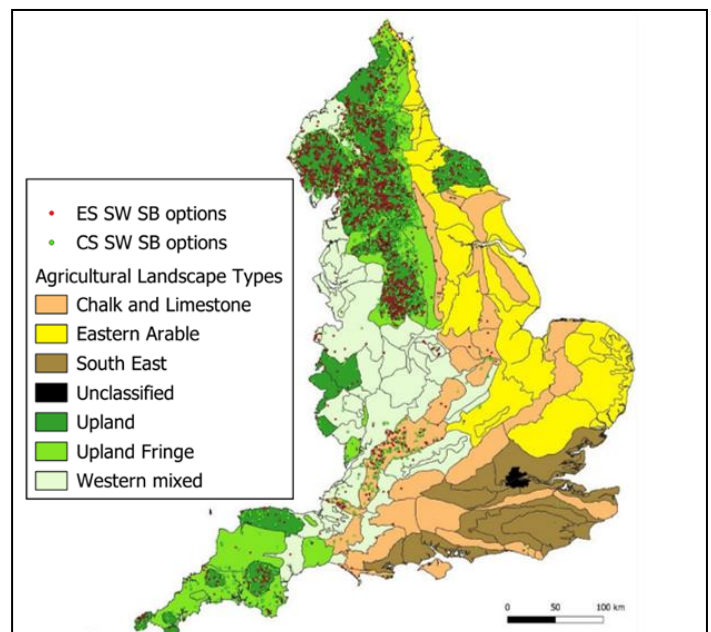


Figure 1: Uptake of ES and CS restoration and maintenance options

Which policy areas will the research inform?

This approach directly supports the Beauty, Heritage and Engagement goal of the Government's 25 Year Environment Plan and the Environmental Improvement Plan 2023, by aiming to secure and enhance the long-term environmental benefits of stone wall and stone-faced bank maintenance and restoration.



What is the effectiveness of the stone wall and stone-faced bank options in Environmental Stewardship and Countryside Stewardship?

What are the results from the project and how will they be used?

From the introduction of stone wall and stone-faced bank maintenance and restoration options in 2005 to 2024, ES and CS agreement holders have selected just over 32,000 options nationally covering over 83,000 km, with the highest uptake located in the Upland, Upland Fringe, and Western Mixed Agricultural Landscape Types. Over 90% of maintenance, and restoration options relate to walls, particularly in the north of England and Gloucestershire, whereas bank options are more prevalent in the South West. The ES maintenance options were extremely popular among the farming and land manager community, although the scheme closed to new entrants in 2015 and only 13% of the options are now covered by live agreements.

Four contrasting case study locations — Swaledale in the Yorkshire Dales, Todmorden in the South Pennines, Coldeaton in the Peak District, and Dunstone in Dartmoor — were selected to assess the condition of walls and banks, and to survey ES and CS agreement holders and walling contractors on scheme impacts and ecosystem services.



Figure 2: Swaledale wall and barn landscape in the Yorkshire Dales National Park. © Natural England

Boundaries under AES options are significantly more likely to be in excellent or good condition, especially in Dunstone (95%), Coldeaton (89%) and Swaledale (88%). Most boundaries are potentially eligible for AES interventions. 73% are suitable for Sustainable Farming Incentive maintenance actions and 17% potentially

qualifying for CS restoration options, indicating strong scope for targeted funding support.

A Social Return on Investment (SROI) model was developed to explore the value of ecosystem services generated by dry-stone walls and stone-faced banks in the four 50km² case study areas.

Outcomes, investment levels and benefit flows were assessed through agreement holder and walling contractor interviews. The present value of benefits generated over the 2010 – 2025 period average £5.4 million across the four areas while average investment is £1.93 million, generating a Benefit-to-Investment Ratio (BIR) of £2.90:1. Benefit flows are influenced by a wide range of factors including: current utilisation of walls and banks, extent of wall improvement, and the number of residents and visitors to the area. Total investment levels also vary significantly from £1.4 million in Coldeaton up to £2.5 million in Swaledale.

Proportion of outcome value attributed to ecosystem service impact pathways (Average across four case study areas)				Average across 4 case study areas (2010-25)	
Supporting	Regulating	Provisioning	Cultural	Present value of benefits	BIR
10.7%	2.6%	47.3%	39.6%	£5.4 million	£2.90:£1

The proportion value of benefit flows generated by ecosystem service are similar across the case study areas. In general, the highest proportion of benefits are generated through Provisioning services (47.3%). The lowest proportion comes from Regulating services, (related to flood prevention and protection from erosion), which were not identified as significant functions by agreement holders.

Where can I find further information about this and related research?

The project report can be found by searching 'LM04157' on the [Defra Science pages](#). Alternatively, or for more information please contact Defra Agri-environment Evidence Programme publications mailbox: aEEP.publications@defra.gov.uk

This project was led by the Countryside and Community Research Institute in collaboration with Land Use Consultants and Environment Systems Ltd.

Defra Science – did you know?

At any one time Defra manages over 1000 research projects covering a wide range of topics. For more information on current research see <http://randd.defra.gov.uk>.