Environment SYSTEMS evidence and insight

CCRI

LUC

www.landuse.co.uk

NATURAL ENGLAND

CS Facilitation Fund Phase 3

Final report

Report prepared by:
Johanna Breyer
Katie Medcalf
Tomos Nolan

Environment Systems Ltd.
9 Cefn Llan Science Park
Aberystwyth
Ceredigion
SY23 3AH

Tel: +44 (0)1970 626688
www.envsys.co.uk

and

Jane Mills
Aimee Morse
Pete Gaskell

Countryside and Community Research Institute (CCRI)
University of Gloucestershire
Francis Close Hall
Cheltenham
GL50 4AZ

and

Susanne Underwood
Karolina Kaczor

LUC
Atholl Exchange
6 Canning Street
Edinburgh
EH3 8EG

Executive Summary

Since 2017 Natural England has been analysing the Facilitation Fund in relation to its process and outcomes (phase 1 and 2 of Facilitation Fund evaluation). This report forms phase 3 of this evaluation process. The objective of this phase was to evaluate the benefits Facilitation Fund groups offer, measured against natural capital and social indicators with a particular focus on contributions to nature recovery and ecological restoration.

Agri-environment schemes (AES) have been running in England for many years and have developed from simple schemes to support a particular habitat into more comprehensive actions aimed at supporting biodiversity, ecosystem services and the natural capital these services provide. Defra's Countryside Stewardship (CS) was launched in March 2015. This scheme includes not only actions for individual farmers covering specific land management prescriptions, but also the CS Facilitation Fund (CSFF). This provides funding at a landscape scale for organisations to bring individual farmers, foresters and other land managers together to work cooperatively in order to maximise the impact the scheme has on the environment, through bringing larger areas of land under active management. CSFF has a wide remit and can cover land under existing agri-environment and woodland agreements, common land and land not currently covered by a scheme.

The existing monitoring and evaluation framework provided a method of evaluating the added benefit of CSFF groups. It was intended to apply the framework to new data on the existing 98 groups and the approximate 40 new groups joining in 2020. The Phase 3 evaluation identified a number of significant issues with data collection and availability. Reflecting these challenges, the focus of the Phase 3 work was reviewed and altered to focus on an update of the evaluation framework as required from the original scope of work. A revised evaluation framework has been developed. However, data challenges meant that it was not possible to apply this during this work phase. Future monitoring and evaluation is dependent on addressing data collection and recording issues, establishing a baseline for future monitoring and testing the evaluation framework.

Desk studies and field visits of the 5 project case studies were undertaken to explore how well the CS options selected for each area reflected some of the wider environmental and landscape issues in the area. Land management issues and alignment with option uptake was examined. It was found that where land managers had active options on their land that overall, there is good alignment between group priorities, identified land management issues and option choice.

The natural capital assets of the Facilitation Fund groups in terms of the CS options used within each CSFF group, were evaluated by linking them to the natural capital indicators developed by Lusardi et al. (2018).

The Facilitation Fund groups are without question positively contributing to maintaining, enhancing and creating natural capital, largely in line with their stated priorities and in context with their geographical location and the resulting presence of specific land cover types and habitats. The primary mechanism for this is the presence of CS agreements amongst group members, putting in place management actions that impact positively on natural capital assets. Group activities increase knowledge and awareness of the environment and therefore increase the quality of engagement with

environmental activities and CS engagement, which directly impacts natural capital, e.g., through improved option choice and placement.

Appropriate option placement within agreements that aligns with both strategic aims and identified land management issues will optimise natural capital benefits derived from positive management under the CS scheme. Both the phase 2 evaluation (Jones et al., 2019) of the Facilitation Funds and the field assessment of project case studies during this current third phase found good evidence that, where land managers had active options on their land. Overall, there is good alignment between group priorities, identified land management issues and option choice within Facilitation Fund groups. Phase 2 of the evaluation further showed that this was often enhanced compared to CS agreements outside of Facilitation Fund groups. This indicates that the Facilitation Fund approach has an additional positive effect on natural capital within England, beyond that which would be achieved by individual holdings in isolation.

Facilitation Fund group members without CS agreements are highly likely to also contribute to the various aspects of natural capital but there is no data to measure this. This might impact more on the maintenance of existing assets, rather than contributing to their enhancement without targeted management actions in place. However, overall contribution of the fund groups is currently likely to be considerably underestimated due to this and additional activity as a result of the groups acting together, rather than as individuals. This report provides suggestions on how to develop and optimise the benefits of a natural capital approach within Facilitation Fund groups integrated within future agri-environment schemes.

The project explored farmer behaviour changes, based on telephone questionnaires with 20 group facilitators and face to face interviews with 3 or 4 members of each of 5 selected case study groups. The results were positive, with evidence of the development of strong bonding social capital between group members which resulted in considerable information and knowledge sharing between group members as a result of membership of groups. The participants recorded a reduction in social isolation and there was good evidence of building new relationships with a much broader range of people with different knowledge systems, such as environmental and wildlife organisations and specialists. This has led to increased knowledge and engagement with environmental activities, such as on-farm wildlife surveys and resource management.

There was almost universal support from the facilitators and group members for the continuation of their groups. They were widely valued and seen to have a positive role in delivering future environmental benefits. When asked what changes or support would be required to help the groups continue long-term, the main response was continued funding for a facilitator. The group members identified the facilitator as crucial to the success of the group. Suggestions have been made on how to make the most of the continuation of this type of scheme.

16 facilitators highlighted that their fund had accessed additional funding from sources other than Natural England itself, such as the Environment Agency, water companies, Network Rail, Wildlife Trust, local authorities, national parks and charities. The funding originated from a wide variety of sources across different sectors. The influence exerted by these additional resources on the outputs and outcomes achieved by the groups greatly varied from highly significant to supportive depending on local context and fund group priorities.

Key strategic suggestions for possible next steps made in this report include:

- Most groups have reached a stage of development where trust has been built leading to a sharing of knowledge and information. Building these trusting relationships that deliver results takes time (up to 18 months in some cases), so it is important to ensure funding runs for long enough to enable these trusting relationships to develop, and then allow time and resources for outcomes to be delivered. Funding for group activities should continue until environmental objectives/goals of the group have been achieved and for five years as a minimum, as this is likely to lead to increased cohesiveness and a deepening of collaboration between members.
- Ensure funding is available for a skilled facilitator as they are crucial to the success of the group's development. Within larger groups there may also be value in developing facilitator roles for respected farmers/'leaders'.
- Streamline AES prescriptions and offer flexibility so that each group can develop/deliver appropriate environmental actions that meet the environmental objectives/priorities within the local or regional context.
- Consider evaluation results and group member's and facilitator's comments and experiences in the design of future land management policy.
- Make results of monitoring and evaluation of environmental outcomes available to group members, as well as wider dissemination within Defra and Natural England, to demonstrate environmental achievements and thereby reinforce the members' pro-environmental behaviours.

Table of Contents

1. Introduction

Agri-environment schemes (AES) have been running in England for many years and have developed from simple schemes to support a particular habitat into more comprehensive actions aimed at supporting biodiversity, ecosystem services and the natural capital these services provide. Natural capital is regarded as the stock of natural resources provided by the environment that allow people to thrive. Natural capital therefore underpins our economy and society. It is a fundamental part of the Government's 25 Year Environment Plan (Defra, 2018).

Defra's Countryside Stewardship (CS), administered via delegated authority by RPA, was launched in March 2015. This scheme includes not only actions for individual farmers covering specific land management prescriptions, but also the CS Facilitation Fund (CSFF). This provides funding at the landscape scale for organisations to bring individual farmers, foresters and other land managers together to work cooperatively in order to maximise the impact the scheme has on the environment, through bringing larger areas of land under active management. CSFF has a wide remit and can cover land under existing agri-environment and woodland agreements, common land and land not currently covered by a scheme.

CSFF builds on the principles of partnership working with groups of facilitators working with groups of new or existing land managers (farmers, foresters and/or others) to deliver environmental benefits. They are groups of farmers/land managers, with a paid facilitator who coordinates the group training and advice – working together as a local partnership funded by the CSFF. To qualify for CSFF funding, a group has to undertake activities that are new to them as a result of cooperating. These might include aligning management activities across different holdings to deliver at a landscape rather than single-farm scale. This would extend to checking and re-positioning where necessary any existing land management activity that is poorly sited, using any new knowledge or expertise that is provided to operate in a different way or undertaking new or additional activities. The focus on additional environmental benefit beyond simple scheme agreement is an important and innovative addition for AES schemes going forward.

Background

Over the last two years Natural England have been evaluating the CSFF in relation to its process and outcomes (Phase 1 and 2 of CSFF evaluation). Phase 1 of the CSFF evaluation considered the process underpinning the introduction of the Countryside Stewardship (CS) scheme in the first two years of operation. CS includes a number of changes in approach compared to previous agri-environment schemes and as a result it would be expected that introducing a multi-objective scheme would be a challenging process. Phase 1 therefore provided a scoping study of the introductory phase of CS considering:

- What factors have influenced applicants/non-applicants across CS;
- Whether further information is required by potential applicants; and
- Whether potential changes to the process of applying can improve applications.

A robust sample of participants were interviewed and the results analysed. Results from the project showed:

- The strategic aim of establishing a multi-objective scheme had been secured.
- The process of application was found to be robust but challenging because of the level of complexity across the scheme.
- Applicants were utilising either their own agents or advisers in order to enter the scheme
- Once secured the agreement holders felt that the agreements and the options they contain were manageable

Phase 2 of the project gave an initial evaluation of the success of the Facilitation Fund, with respect to both quantitative and social capital outcomes. The first part of the project highlighted the need for data collection to allow rigorous monitoring and evaluation of group engagement and objectives, particularly emphasising the need for spatial data. A framework to assess group activity for monitoring was then developed. This framework is reviewed and further refined during this Phase 3 evaluation.

1.1 Objectives

The CSFF Phase 3 project aimed to evaluate the added benefit of CSFF groups with a particular focus on contributions to nature recovery and ecological restoration. To be able to do this, the project set out to better understand current contributions through:

- applying a previously developed monitoring framework,
- applying natural and social capital indicators to assess the added benefit of FF groups,
- investigating the additional resources captured by FF groups,
- providing a spatial update to the Webmap tool to capture the project's findings.

1.2 Summary of approach

This project built on the prior work undertaken during Phase 1 (ADAS, 2018) and Phase 2 (Jones et al., 2019). The project was undertaken as five separate tasks:

Task 1: Apply and update the monitoring framework across all groups

Data captured for 98 farm facilitation groups as part of previous phases of the work was organised to enable further evaluation. Using the monitoring and evaluation framework developed in Phase 2 data gaps were identified and further information sourced from the farm facilitation groups and other relevant data sources identified in the monitoring framework. An updated dataset on the requirements of the monitoring framework was then compiled. This was based on the original 98 groups and was updated to include group members that joined throughout 2019.

Task 2: Apply natural capital indicators

Lusardi *et al*. (2018) identified a range of habitat-specific indicators for measuring change in natural capital in England Natural Capital Indicators (NCIs) project. These indicators were linked to the CS options to show how the schemes have delivered the main ecological goals, both at a national level and for five case study areas.

Task 3: Explore and illustrate on-farm behaviour changes

CCRI together with Natural England developed a set of social indicators for agri-environment schemes. These include three indicators of particular relevance when evaluating the impact of CSFF groups:

- bonding social capital (relationships between like-minded people e.g. other farmers);
- bridging social capital (relationships between people outside of agricultural community, e.g. general public, including levels of social trust); and
- linking social capital (relationships with people characterised by power differences, such as landlords, government agencies).

These indicators and others that were developed as the project progressed were analysed through interviews with the group facilitators to ascertain their views on any changes in social capital, behaviour change and upskilling of group members as a result of CSFF group membership. This was supplemented by interviews with agreement holders within the five case study areas identified in Task 2. The outputs of this task included an evaluation of the appropriateness of the selected CS options within FF member agreements that were informed by CSFF advice and training. Evidence gaps in the selection of options by the CSFF Group were also identified.

Task 4: Assess additional resources and contributions achieved by CSFF groups

Through the 20 telephone interviews and 5 face-to-face interviews with facilitators completed in Task 3, additional resources and contributions achieved by the CSFF groups were identified. An assessment was made on how the added benefits from the groups have contributed to nature recovery. This helped to demonstrate the strength of the relationship between funding / investments and functioning ecological networks. A further set of interviews considered the longer-term plans of the groups and what changes might be required to help them to achieve their goals.

Task 5: Update the WebMap tool

During Phase 2 of the CSFF evaluation a WebMap tool was developed using ArcGIS online. Task 5 updated this tool with an additional layer to show the activity developed in this project regarding natural capital indicators and the FF groups' contribution to this.

2. CS Facilitation Fund data collation and preparation

2.1 Facilitation Fund membership

The expansion of the number of Facilitation Funds founded, as well as recruitment of new members to existing groups, is dynamic with all groups appearing to expand from initial membership. Groups are encouraged to grow through time-limited funding incentives – each new member adds £500pa to the facilitator/group budget. This leads to a constantly increasing membership population to the CSFF scheme of which only a proportion is under live CS agreements.

Following transfer of CS in 2018 to the Rural Payments Agency (RPA), Natural England is responsible for technical advice on CS to RPA and monitoring and evaluation, while the scheme is administered by the RPA.

The project aimed to evaluate up-to-date membership data; however, only data up to April 2019 was available from the RPA. While this means that current membership and live CS agreements within group members are likely higher than reflected below, this report reflects an accurate picture of group membership up to April 2019.

Table 47 and Table 48 in *Appendix 1 CS membership within Facilitation Funds* provides full details on fund membership and CS agreements in place as applies to the 98 Facilitation Funds examined for the purposes of this report, current to April 2019. Table 1 summarises these figures for all funds and **Error! Reference source not found.** illustrates the percentage of individual fund areas under CS agreement across the whole of England. The proportion of land covered by Facilitation Funds and of members with live CS agreement varies considerably across funds but stands on average at just under 50%. This, importantly, on one side might reflect a certain reluctance to enter the scheme due to perceptions and rigidity of CS but it also shows that there is considerable scope and opportunity to fill this gap and to expand the coverage of CS amongst existing fund members as well as recognising that other resources might be used to deliver the priority activity within individual fund groups.

Table 1: CSFF Membership across all funds (see Appendix 1 for details of individual funds and respective CS membership)

CSFF	Total area (km^2)	Proportion of area under CS agreement (%)	Total count of members	Proportion of members with CS agreement (%)
All funds	*6701.14*	*48.24*	3064	*43.41*

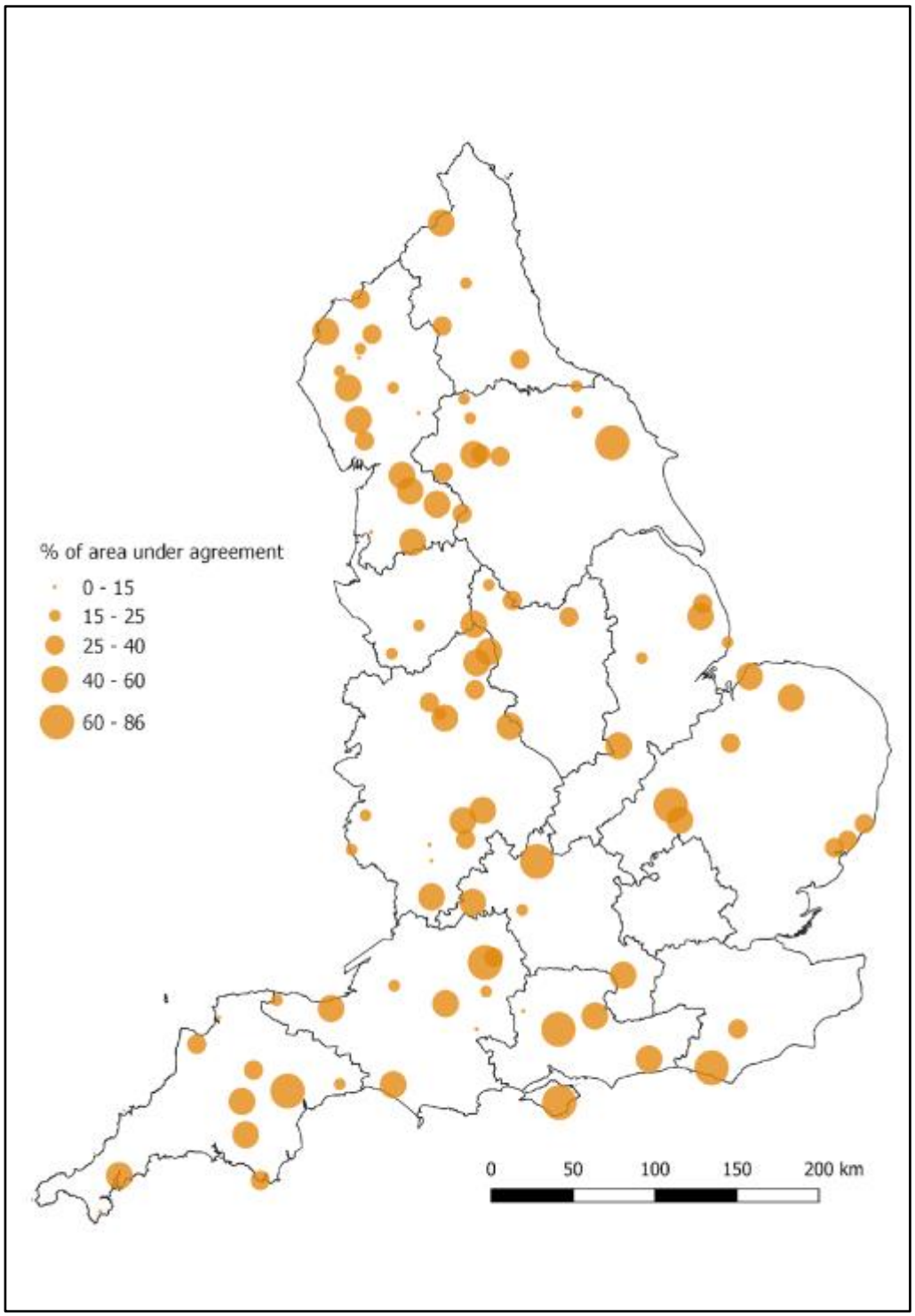


Figure 1: Percentage of individual fund areas under CS agreement

Groups created and new members to existing groups that joined post April 2019 have not been included due to the relevant data not being available to the project team.

2.2 Data collation

Data has been extracted from the sources listed in Table 2 below to gather qualitative, quantitative and spatial information on 98 current Facilitation Fund groups.

Table 2: Data sources

Document/file	Information content	Limitations	Assumptions
Master SBI Sheet	Group members, facilitators and CS agreements up to April 2019	Membership information is limited to that supplied by the Rural Payments Agency by April 2019	SBI and agreement numbers were correctly entered, without duplicates and multiple entries
LIDM dataset	All field parcels in England		Dataset is current, parcel boundaries and references align with other project data
CS parcel data (polygons)	Parcel data with live CS agreements in place	Not routinely cross-referenced against Facilitation Fund members	Dataset is current, parcel boundaries and references align with other project data
CS option data (points)	Point data of live CS options at the parcel level	Not routinely cross-referenced against Facilitation Fund members	Dataset is current, parcel references align with other project data
Phase 2 CS and ES parcel data	CS and ES parcel data within Facilitation Funds collated by Jones et al. (2019)		Source data was complete and cross-referenced correctly
Phase 2 Group data	Data on group type	Group type category self-identified	Self-identification of group type accurate

2.3 Spatial data processing

The collation and processing of spatial data for the project was aligned with the methodology followed by Jones et al. (2019) during the Phase 2 evaluation to ensure comparability across datasets.

A multi-step approach was adopted to cross-reference group member's individual SBIs against live CS agreement data to derive a current spatial dataset of CS agreements across all groups. SBI membership data was further linked to the LIDM parcel database to establish parcels outside of CS agreement but within Facilitation Fund groups.

A spatial constraint was applied to remove outlier parcels outside the group core areas.

The finalised dataset was compared to the Phase 2 CS parcel data and updates recorded where new CS agreements had been put in place or ES agreements had transitioned to CS.

2.4 Updates to the WebMap tool

The CSFF Phase 2 evaluation (Jones et al., 2019) created a WebMap tool that allows the viewing of parcel-level information of Facilitation Fund group members. The WebMap layers were updated during this project with the latest available membership information (up to April 2019) and layers displaying the natural capital contribution of group members across England were added.

3. Project case studies

The project selected five established Facilitation Funds as case studies for in-depth evaluation across the individual tasks. Group details and locations are detailed in Table 3 and Figure 2 respectively. Facilitation Funds 090001/6/7 share a joint facilitator and are considered as a single group for the purpose of this report.

Table 3: CSFF Phase 3 case study groups

Group number	Group name	Year founded	No. of members	Area (km2)	Proportion of area under CS agreement (%)
030002	South Pennine Facilitation Fund	2016	65	107.42	14.45
040001	River Ribble	2015	35	46.21	60.29
070012	Hereford Meadows	2016	46	54.6	81.79
090001/6/7	Sandlings + Felixstowe + Shotley	2015/16	70	195.77	30.22

130002	Winchester Downs	2016	33	85.58	37.22

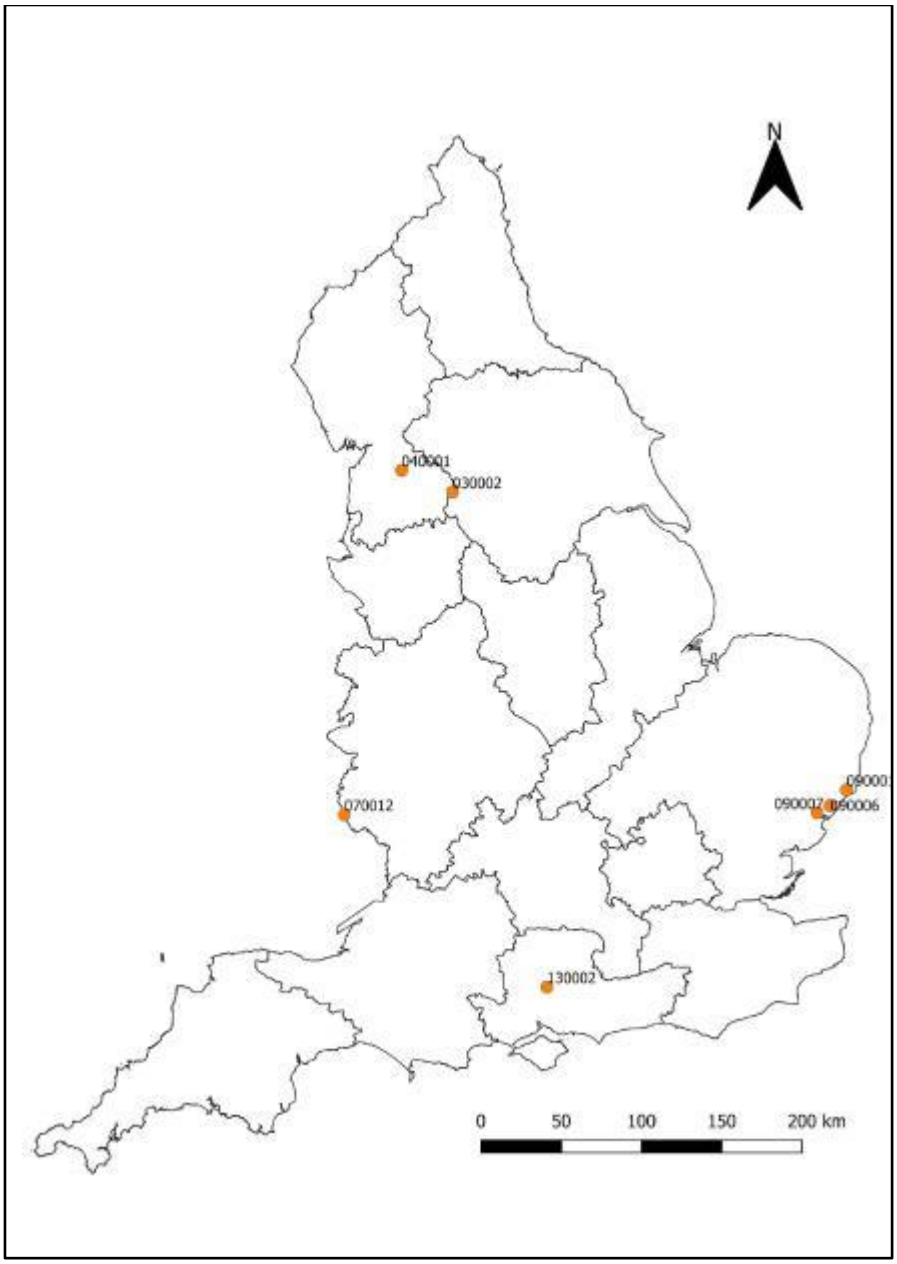


Figure 2: Project case study locations

Figure 3 to Figure 7 display option uptake across the core areas of the CS Facilitation Funds included as project case studies.

The number of CS options in place per group is not necessarily a sign of success, the project aims to analyse option alignment and fit with priorities to ascertain quality and fit. Phase 2 of the Facilitation Fund monitoring and evaluation established similar option value in FF and non-FF areas but option fit with priorities was found to be greater in FF areas.

The information presented for the case studies must also be caveated that it is based on the available data, however as outlined within other sections of this report there are known issues with the data, which may not be comprehensive. Furthermore, information on the case studies is summarised based on the National Character Area profiles. Not all data is consistently provided across all NCA, and where a case study area extends across several NCA, information from the different NCA is summarised.

3.1 30002 South Pennine Facilitation Fund

Overview of case study

CSFF group area 30002 South Pennine Facilitation Fund is predominantly located in West Yorkshire, with the north-western section of the distribution in Lancashire. The group forms part of the Pennine ridge of hills, lying between the Peak District National Park and the Yorkshire Dales National Park, and is located within NCA profile 36: Southern Pennines.

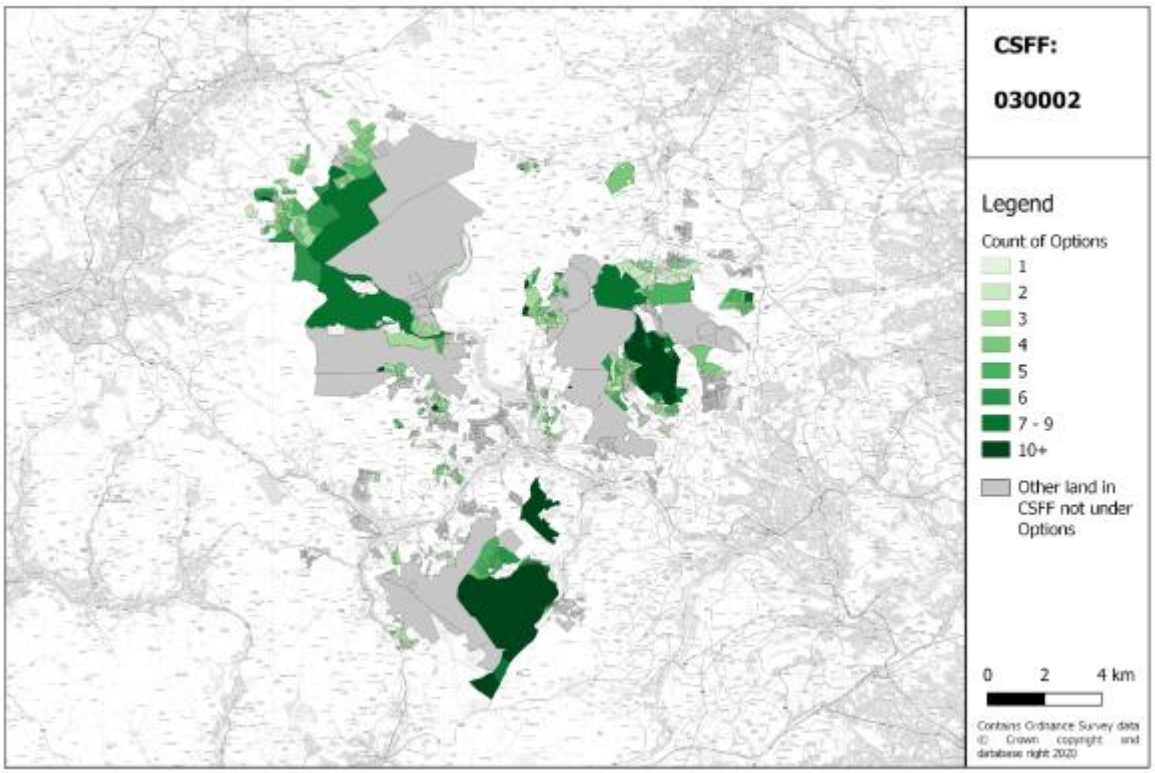


Figure 3: Option uptake within CSFF 030002

There are currently 55 group members in total. 18% of the group members have taken up for the CS options. The group priorities focus on:

- Biodiversity;
- Woodland;
- Water;
- Historic Environment; and,
- Landscape.

Overview of farm type, size, and land use

- The land is predominantly permanent grass or long-term leys, for dairy or sheep and cattle rearing, with virtually no arable cropping and a small amount of stock feed.
- Many of the farms hold rights to graze livestock on the moorlands, which they actively exercise.
- Farm size remains small and livestock numbers remain high, although they have dropped significantly since 2000.
- The number of farm holdings has declined over the past 10 years, in particular those holdings under 20 ha. However, farms below 20 ha still represent 57 per cent of all holdings but only 13 per cent of the farmed area (these figures do not include the access that many farms have to common grazing on the moors).

Overview of land management issues

Table 4. An overview of land management issues for the CSFF group area 30002 South Pennine Facilitation Fund.

Land management issue	Overview in the study area	Future challenges
Biodiversity	The Southern Pennines have one of the highest proportions of nature conservation designations in England. Extensive stretches of moorlands are designated both Special Protection Area (SPA) and Special Area of Conservation (SAC), encompassing over 17 per cent of total area. There are 15 Sites of Special Scientific Interest (SSSI) covering 21,000 ha, include cloughs, quarries, woodlands and pastures, as well as the moorland habitats. Moorland habitats include blanket bog, wet and dry heath, flushes and acidic grassland, supporting a range of species including merlin, curlew, peregrine, golden plover, hen harrier, short eared owl and lapwing, and the vulnerable twite colonies.	In many locations, a recent increase in the frequency of moorland burning is associated with a reduction in overall biodiversity. Where this effect has combined with wildfire events, moorland habitats can become overly dominated by single species of flora, such as purple moor grass. Poor drainage management has also had an adverse impact on the biodiversity of blanket bog and wet heath communities. Historic grazing regimes, coupled with air pollution and artificial drainage, have all had a significant effect on the blanket bog, mire and wet-heath communities of the South Pennines. Inappropriate stocking regimes, with insufficient stock management (and stock husbandry) may have a significant detrimental effect on many key environmental services including biodiversity.
Water: Water features in the landscape including rivers, streams, ponds, ditches etc, water quality, flooding	The area is a valuable water catchment area and contains a large number of reservoirs for the supply of water to adjacent conurbations. The South Pennines' historic development is closely linked to the physical resources available. The combination of fast flowing streams	Periods of heavy rain may result in soil erosion and pollution of watercourses downstream, and possible slope failure and land slippage. Periods of heavy rain may also result in flash flooding, pollution of watercourses and erosion of river banks that may affect urban areas

issues, coastal flood risk (if applicable)	and soft water quality made the area very suitable for textile production. Mill ponds are also a common feature. There is a risk of fluvial flooding along the narrow river valleys in this NCA where settlements have typically developed. Groundwater quality across this NCA is classed as 'poor'. The total area of Nitrate Vulnerable Zone is 48,772 ha (41 per cent).	and transport infrastructure downstream. Prolonged periods of drought which are likely to have a very adverse effect on peatland habitats, making them more prone to soil erosion and damage from wildfire events and reducing their wildlife value. Degradation of peat is causing water colouration issues, which water supply companies have to treat before the water enters the supply.
Historic environment: type and distribution of designated and undesignated historic environment features	This is evident in the rich time depth of historic evidence, from prehistoric features on the moorlands, to early agriculture and the industry based within farmsteads and villages on the moorland fringes, later large-scale industrialisation with canals, roads, mills and railways all contained within the narrow valleys. The many historic features, robustly built in local stone, remain, to reveal the many periods of man's activity. This NCA has the following historic designations: 14 Registered Parks and Gardens covering 377 ha.; 261 Scheduled Monuments; 3,823 Listed Buildings.	The Heritage at risk register indicates that there are currently 217 designated monuments at risk in the NCA. About 60 per cent of historic farm buildings remained unconverted and about 92 per cent were intact structurally in 2003. There is a large number of barn conversions suggesting transformation of historic character of building stock. Over the last few decades historic patterns of drystone walls on the moorland fringes, on upland pastures, around farmsteads and settlements, and along tracks have tended to be neglected.
Climate regulation, woodland: forestry, woodland and orchards in the landscape	The NCA contains over 7,514 ha of woodland (6 per cent of the NCA), of which 5,398 ha is broadleaved woodland. Woodland is sparse and generally limited to the steep sides of valleys, where woodlands of beech and sycamore occur along with small areas of conifers. Over 15 per cent of the woodland resource, 1,144 ha, is ancient woodland, including 380 ha of plantations on ancient woodland sites. Internationally important upland oak woodlands, primarily associated with wooded cloughs, extend up to the moorland, but some are in poor condition. There are a few 20th-century conifer plantations on higher land, in some instances associated with the reservoirs. The isolated farmsteads on the moorland fringes are often sheltered by copses of trees.	Bare and eroded areas of peat need to be re-vegetated where appropriate, in order to balance interests in land use decision making to protect and expand areas of active blanket bog should be put in place. In addition, any activities that might impact on peaty soils should be carefully considered to ensure objectives are carefully integrated and outcomes maximised for example, creating tracks, planting trees, and soil compaction. The small percentage of existing woodland cover also offers limited climate regulation. It is important to ensure that the existing woodlands are in good management so that their role in sequestering and storing carbon is enhanced. In terms of timber provision and mitigating high-levels of run-off (especially after heavy rainfall), most of the woodland is on steep valley sides or in cloughs. With much of the

		land used for livestock rearing and sporting interests, there are limited places for woodland creation.
Landscape: hedges, walls, field boundaries, individual trees	Field boundaries are predominantly drystone walls constructed with local sandstones from the Millstone Grit and the Coal Measure Series or in some localities, limestone. Walled tracks lead from the valley bottoms to the fell tops, giving access to the open moorland for summer grazing. Parliamentary enclosures have resulted in strong regular patterns of walled fields. There are very few walls on the moorlands, where ownership boundaries are often marked by lines of boundary stones.	Over the last few decades drystone walls have tended to be neglected. In places, drystone walls are collapsing through lack of maintenance and some intensification of grassland management has occurred.

Review of the CSFF case study

The group priorities are summarised below.

Table 5. A summary of group priorities.

Group priorities	CS Options
Biodiversity	Brassica fodder crop; flower-rich margins and plots; major preparatory work for priority habitats; management of rough grazing for birds; management of moorland; management of moorland vegetation supplement; moorland re-wetting supplement; management of successful areas and scrub; creation of successional areas and scrub; management of grassland for target features; haymaking supplement; permanent grassland with very low inputs in SDAs; management of species-rich grassland; restoration towards species rich grassland; native breeds at risk supplement.
Water	Earth banks and soil bunds; creation of scrapes and gutters; pond management; timber sluice; seasonal livestock removal on grassland in SDAs next to streams, rivers, and lakes.
Historic environment	Removal of eyesores; maintenance of weatherproof traditional farm buildings; management of historic archaeological features on grassland; maintenance of weatherproof traditional farm buildings in remote areas; educational access.
Woodland	Scrub control and felling diseased trees; tree removal; tree surgery; planting fruit trees; supply and plants trees; supplement for use of individual tree shelters;

	tree guard (tube and mesh); woodland creation – maintenance payments; woodland improvement.
Landscape	Creation of traditional orchards; stone wall restoration; top-wiring stone wall; stone wall supplement – stone quarry; stone wall supplement – difficult sites; fencing, wooden field gate; sheep netting; rabbit fencing supplement; fencing supplement – difficult sites.

The CSFF training uptake is as follows:

- Biodiversity priorities have been reflected in the themes of training sessions and events organised by the facilitator. Two of the workshops have focused on soil health importance and soil health issues. Accordingly, there have been 15 CS options chosen by group members that reflect biodiversity priorities.
- In terms of water priorities and flood management, one of the workshops has focused on natural flood management. There were 5 CS options taken by group members that tackle these issues.
- None of the organized training sessions have focused on historic environment so far, however, there were 4 CS options taken up for by the group members.
- Woodland management has been the topic of three workshops organised for the group. As a result, 4 different CS options were taken by the group members.
- No training related to other priorities, and no CS options from these other priorities were taken up for either.

Generally, uptake of CS options and training activities align well with the key issues identified within the South Pennines NCA, listed above, other than those related to landscape boundary features.

There is a strong focus on options relating to biodiversity, concentrating on appropriate land management and restoration, and training related to soil health importance and soil health issues. Drainage management, in relation to biodiversity of blanket bog and wet heath communities, was a key issue highlighted within the South Pennines NCA summary, and therefore more training could be undertaken regarding this.

Flood management, in relation to climate change, but also due to the steep watercourses and heavy rainfall, is a key issue within this CSFF group area, and the workshops focused on natural flood management are proportional to this. Training has helped land managers understand how climate change may affect their land and land management practices and enabled them to prepare, mitigate and adapt to these changes.

The CS options reflect the historic environment key issues identified within the South Pennines NCA, relating to aspects such as the maintenance and management of traditional farm buildings and historic archaeological features.

The landscape-focused CS options predominantly concentrate on boundary features, which aligns well with the South Pennines NCA issues, although there was no training related to such landscape issues.

3.2 40001 River Loud Facilitation Fund

Overview of case study

CSFF group area 40001 River Loud Facilitation Fund is located in central, rural Lancashire and forms part of the Forest of Bowland Area of Outstanding Natural Beauty. The groups are distributed throughout the lowland River Loud between the settlements of Longridge and Chipping, and along the upland edge of the Bowland Fells. NCA profile 33: Bowland Fringe and Pendle Hill wraps around the lower levels of Bowland Fells, and encompasses the majority of the groups outside of this upland area – which broadly begins to the northern edge of Chipping. The remaining group members, in the northern section of the case study, are located within NCA profile 34: Bowland Fells.

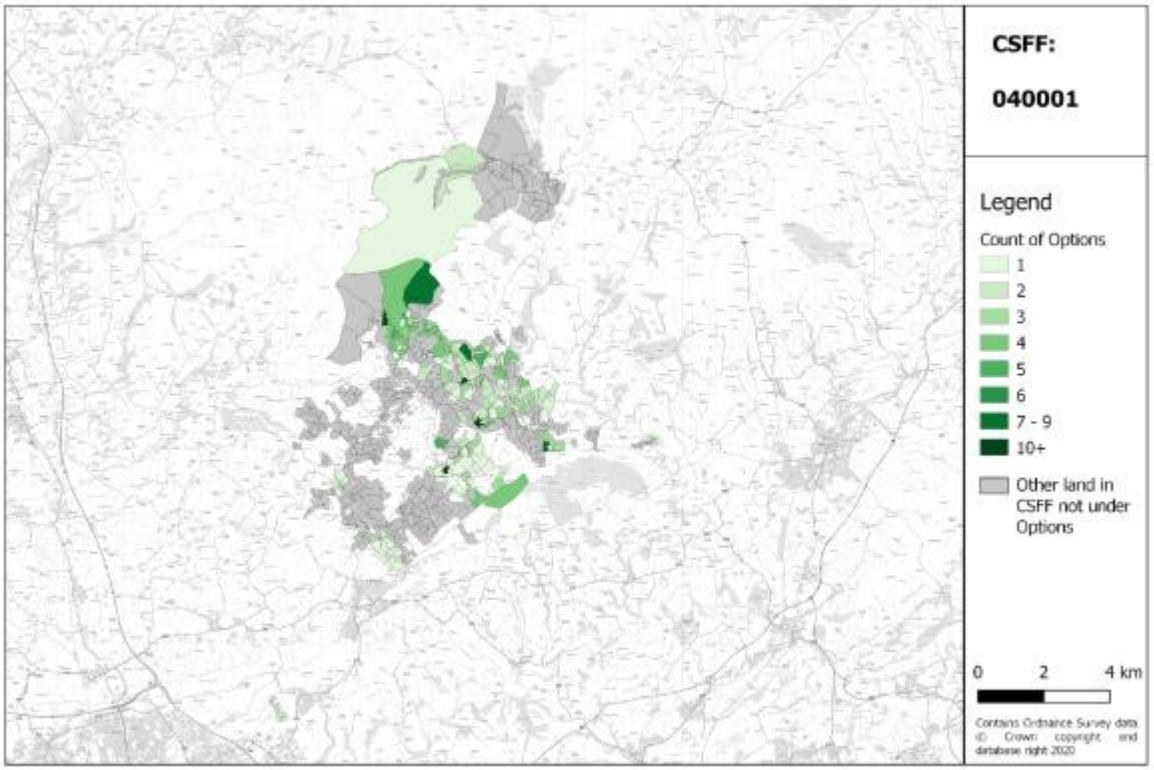


Figure 4: Option uptake within CSFF 040001

Overview of farm type, size, and land use

Land use is mainly permanent and intensively managed, improved pasture for livestock and dairy farming, with rough grazing at higher levels.

Farmsteads tend to consist of a core of vernacular stone buildings, many dating from the 17th century, with either stone-flagged or slate roofs, and some conspicuous modern outbuildings. On higher ground, traditional stone field barns are commonplace.

There is a fairly even distribution in farm size with, in 2009, 184 (17 per cent) <5 ha, 207 (19 per cent) 5 to 20 ha, 234 (22 per cent) 20 to 50 ha, 246 (23 per cent) 50 to 100 ha and 216 (20 per cent) >100 ha. On the higher ground in the Bowland Fells, Farms over 100 ha in size are the most numerous, accounting for 62 out of 141 commercial holdings in 2009 (44 per cent).

Sheep are the most numerous livestock type in this landscape.

Overview of land management issues

Table 6. An overview of land management issues for the CSFF group area 40001 River Loud Facilitation Fund.

Land management issue	Overview in the study area	Future challenges
Biodiversity	• Priority habitats cover 6,000 ha (8 per cent) of NCA Bowland Fringe and Pendle Hill and include 1,700 ha of upland heathland and smaller areas of a variety of woodland, grassland and riverine priority habitats. • This NCA contains two Special Areas of Conservation (SAC) and one Special Protection Area (SPA), and 2,300 ha (3 per cent of the NCA) are nationally designated as a Site of Special Scientific Interest (SSSI). • There are also 347 local wildlife sites.	• Small fragmented patches of habitat and poor-quality habitat are vulnerable to loss of biodiversity due to changes in rainfall and temperature. • Heavy fertilizer use and diffuse pollution may lead to loss of biodiversity both on and off agricultural land as well as affecting water quality. • There is scope for woodland creation on some slopes, but this needs to be in balance with objectives to avoid adverse impacts on sites with other habitat (e.g. peat), biodiversity or historic values. • Agricultural specialization, intensification and farm amalgamation may result in a loss of semi-natural habitat. • Improving the biological condition of the biodiversity resource is likely to involve land management activities that will improve other services.
Water: Water features in the landscape including rivers, streams, ponds, ditches etc, water quality, flooding issues, coastal flood risk (if applicable)	• Waterbodies, include oxbow lakes, reservoirs, disused gravel pits and field ponds. • Some 13 rivers flow through the NCA totalling 173 km. The NCA surrounds the Bowland Fells and contains the middle part of rivers that drain the upland area with its steep topography and narrow floodplains. • Combined with waterlogged moorland soils and high rainfall, this produces watercourses that respond rapidly to rainfall, increasing fluvial flood risk. • The total area of Nitrate Vulnerable Zone is 43,541 ha, 59 per cent of the NCA.	• The slowly permeable, seasonally wet, acid loamy and clayey soils may suffer compaction and/or capping, as they are easily damaged when wet. In turn, this may lead to increasingly poor water infiltration and diffuse pollution as a result of surface water run-off. • Periods of heavy rain may lead to an increased risk and frequency of flooding in lowland areas and river valleys and may also result in increased soil erosion and pollution of water courses downstream. There is also a potential increased risk of landslides during times of increased rainfall. • Prolonged periods of drought are likely to have an adverse effect on peatland habitats, making them more prone to soil erosion and wildfire events. • Heavy fertilizer use and diffuse pollution may lead to loss of

		biodiversity both on and off agricultural land as well as affecting water quality.
Historic environment: type and distribution of designated and undesignated historic environment features	• The enclosed landscape – with its legacy of farmsteads, medieval to post-medieval irregular fields, and regular enclosures from moorland of the 19th century – is testament to settlement and land use from the medieval period onwards. • There are many archaeological sites particularly on the moorland fringes and in valleys where agriculture has been less intensive as well as corridors such as the River Loud which was an important route since the Roman period. • NCA Bowland Fringe and Pendle Hill contain the following numbers of designated heritage assets: 3 Registered Parks and Gardens covering 95 ha.; 39 Scheduled Monuments.; 1274 Listed Buildings. • In 2003 about 71 per cent of historic farm buildings remained unconverted. About 95 per cent were intact structurally.	• Pressure for new development and building conversion in an open exposed landscape can be visually intrusive. Sympathetic design of new buildings in keeping with landscape character with appropriate siting and screening should be sought. • Agricultural specialization, intensification and farm amalgamation may result in a loss of semi-natural habitat and cultural features. • Pressure on key destinations needs to be sensitively managed to avoid erosion and potential damage to archaeological sites, loss of habitats, tranquillity and diminished visitor experience, whilst balancing the positive benefits of increasing opportunities for visitors to reconnect with nature.
Woodland: forestry, woodland and orchards in the landscape	• The NCA contains 5,060 ha of woodland (7 per cent of the total area), of which 1,165 ha is ancient woodland. • Woodland forms a significant landscape element within the area. • Semi-natural woodland, much of which is ancient, occurs in the main valley bottoms, side valleys and ridges, and is dominated by oak, ash and alder.	• Riverside woods have declined due to excessive grazing and lack of management, with smaller, semi-natural woodlands being particularly vulnerable to grazing by stock and deer. • Heavy grazing and drainage of upland areas has led to increased erosion of riverbanks and riverside trees. • Many prominent, mature flood plain, parkland and hedgerow trees are over mature or in decline.
Landscape: hedges, walls, field boundaries, individual trees	• Fields are small to medium-sized, and are enclosed by hedgerows with large mature hedgerow trees. Improved pastureland defined by well-maintained hedgerows is characteristic of the agricultural land in the fringes. • The areas important and distinctive stock of field boundaries, although still largely intact, is in decline. • Immediately adjacent to the Bowland Fells, small to medium-sized hay meadows and permanent pasture fields are defined by stone walls.	• Surveys by the Forest of Bowland AONB (2007) indicate that more than 50 per cent of field boundaries are in need of restoration; these are mainly within the Bowland Fringe and are predominantly hedgerows although extensive wall restoration is needed too, especially on higher ground. • There is little evidence of regeneration in hedgerows or of replacement planting. • Artefacts such as gateposts, sheepfolds, stone troughs and parish boundary markers are also at risk.

		▯ Threat to trees from changing pests and diseases and extreme weather events.

Review of the CSFF case study

There are currently 30 group members in total. 50% of the group members have taken up for the CS options. The group priorities are summarised below.

Table 7. A summary of group priorities.

Group priorities	CS Options
Biodiversity	Major preparatory works for priority habitats (creation and restoration) and priority species; management of grassland for target features; haymaking supplement; rush infestation control supplement; lenient grazing supplement; permanent grassland with very low inputs (outside SDAs); permanent grassland with very low inputs in SDAs; management of species-rich grassland; restoration towards species-rich grassland; hard bases for livestock drinkers; enclosed rough gazing; management of rough grazing for birds; management of moorland; small wildlife box; management of successional areas and scrub.
Water	Installation of piped culverts in ditches; earth banks and soil bunds; riparian management strip; creation of scrapes and gutters; pond management (first 100 sq m)
Historic environment	Education access; removal of eyesore; maintenance of weatherproof traditional farm buildings; take historic and archaeological features out of cultivation; management of historic and archaeological features on grassland; maintenance of weatherproof traditional farm buildings in remote areas;
Woodland	Creation of traditional orchards; planting fruit trees; supply and plant tree; supplement for use of individual tree-shelters; tree guard (wood post and rail); tree guard (wood post and wire); woodland creation - maintenance payments; woodland improvement;
Landscape	Protection of in-field trees on intensive grasslands; management of hedgerows; planting new hedges; stonewall restoration; top-wiring – stone wall; stone wall supplement – difficult sites; hedgerow laying; hedgerow coppicing; hedgerow gapping up; wooden field gate; sheep netting; fencing supplement – difficult sites; resurfacing of gateways; livestock and machinery hardcore tracks

The issues identified within NCA Bowland Fringe and Pendle Hill broadly align with the group area priorities and options listed above.

There is a strong focus towards biodiversity CS options. Improving the biological condition of the biodiversity resource in this NCA involves land management activities that will improve other services. As stated within the NCA ecosystem service analysis, this will be achieved principally through increase in coverage of semi-natural habitat, restoration of natural hydrological systems and sustainable grazing regimes, and this is reflected in all group priority CS options.

There is also a strong focus on CS options related to landscape boundary treatments, and their management and maintenance, which is a key issue highlighted within the NCA description - where 50 per cent of field boundaries are in need of restoration.

There is less of a concentration on CS options which relate to water management and flooding, which is an NCA priority. The geographic distribution of the group areas along the valley sides and into the upland areas suggest that flooding is not considered a

priority, however improving the management and control of flood waters in this NCA will benefit the settlements further downstream.

CS options relating to woodland and historic environment are proportionate to the issues listed for the NCA.

3.3 70012 Herefordshire Meadows CSFF area

Overview of case study

The Herefordshire Meadows CSFF area is comprised of land within the county of Herefordshire. This includes land within five different NCAs; NCA098 Clun and North West Herefordshire Hills, NCA099 Black Mountains and Golden Valley, NCA100 Herefordshire Lowlands, NCA101 Herefordshire Plateau and NCA104 South Herefordshire and Over Severn. The CSFF area is evenly spread across the five NCAs and therefore information from each of the NCA profiles has been collated.

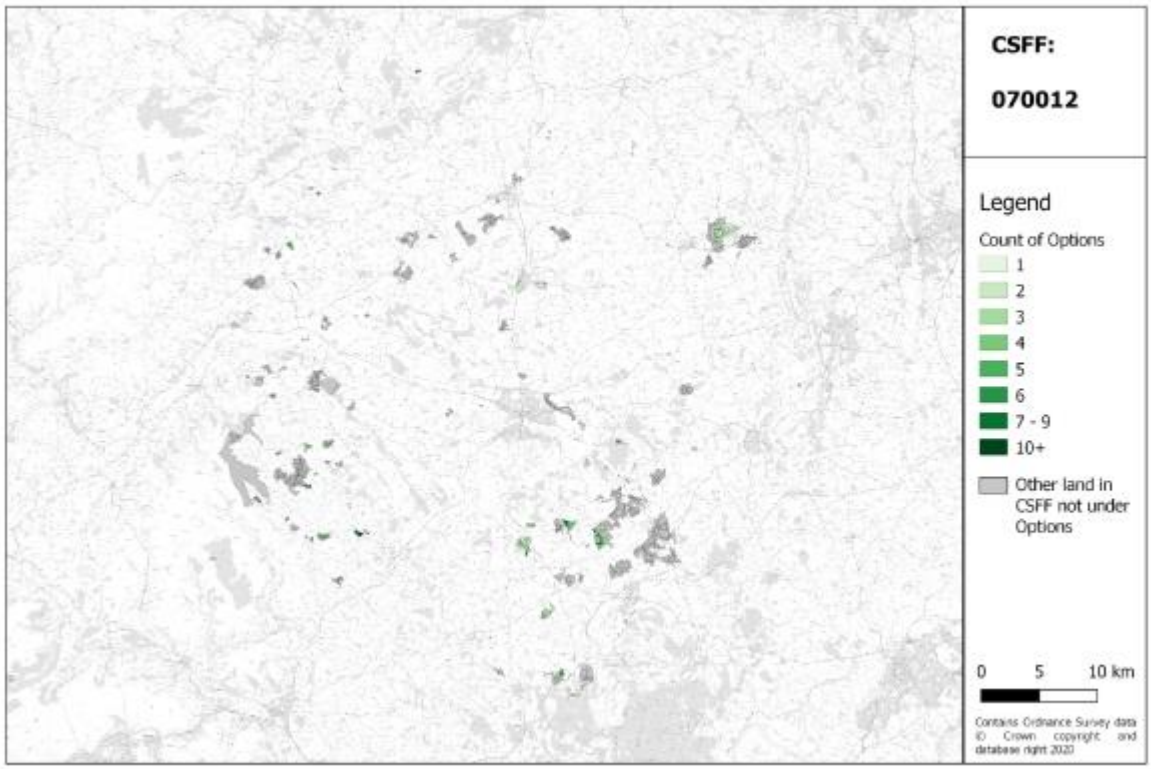


Figure 5: Option uptake within CSFF 070012

Overview of farm type, size and land use

There is a mixture of arable and pasture grazing within this area. Cereals are the most common arable use, although there is also a presence of oilseeds and cash roots. Sheep are the predominant livestock species although their numbers have been in decline. There are also cattle and pigs.

Key issues are as follows:

- The increase in pasture improvement and the conversion of pasture to arable production has led to the loss of meadows leading to a change in the landscape character.
- A reduction in sheep grazing may indicate a reduction in grazing intensity which may be beneficial where overgrazing has been an issue; however, it may result in undergrazing and scrubbing up in some areas.

Overview of land management issues

Table 8 . An overview of land management issues for 70012 Herefordshire Meadows CSFF area.

Land management issue	Overview in the study area	Future challenges
Biodiversity	The landscape is biodiverse with some of the key habitats here including; broadleaved mixed and yew woodland, upland heathland, flood plain grazing marsh, upland calcareous grassland, purple moor grass and rush pasture, lowland dry acid grassland, lowland meadows, lowland heathland, blanket bog, reedbeds, fens and lowland calcareous grassland. Key issues; • A significant proportion of upland heath, semi-natural grassland and meadow habitats have been reclaimed for agriculture. • Meadows, including wet meadows and hay meadows on the lower ground and along river corridors, have been improved for agriculture in recent decades and the resource has become fragmented. • The larger part of the SSSI resource in the area is bog, most of which is in unfavourable condition. • The tree disease Phytophthora has become widespread in the area and could have a significant impact on alder trees. • Flood plain grazing marsh is an increasingly rare habitat, and there are several important sites within the CSFF area.	• Warmer, wetter winters and hotter, drier summers may affect species composition and range, requiring greater connectivity between habitats to allow for migration. • The need for food security may result in continued expansion of arable production. This may impact on ecological habitats, networks and species. • Peatlands may dry out during prolonged droughts increasing the risks of soil erosion and wildfires, resulting in loss of habitat and stored carbon. Changing soil conditions are likely to lead to changing habitats and species migration as species move and adapt accordingly. • Ongoing need for appropriate moorland management regimes, to secure good condition of the vegetation and water quality, including the enhancement and conservation of peatland habitats, particularly where designated as SSSI.
Water: Water features in the landscape including rivers, streams, ponds, ditches etc, water quality, flooding issues,	The CSFF area is inland with the most prevalent water features being rivers. Major watercourses include the Rivers Teme, Clun, Lugg, Arrow, Onny, Afon Mynwy/Monnow, Dore, Frome, Leadon and Lodon, Wye/Afon Gyw. Key issues are as follows: • The River Clun SAC is classified as 'Unfavourable Declining'. The main reason for this is the unnaturally high levels of sediment, nutrients and water pollution within the catchment. • The River Teme SSSI is classified as 'Unfavourable No Change'. This is due largely to physical modifications to the channel, in addition to siltation and diffuse pollution	• Increased intensity of rainfall will cause more frequent flood events, and soil and peat erosion, resulting in increased sediment loads and nutrient run-off from agricultural land into ditches and rivers. • In addition, increased flows could cause rivers to change course. • Water storage by increasing flood plain habitat and woodland cover within

coastal flood risk (if applicable)	that affects the optimal functioning, as habitats for characteristic wildlife communities. • Commercialisation of farming in the Golden Valley led to the removal of hedgerows and loss of hedgerow trees and subsequent soil erosion and run-off has affected river margins and river water quality. • Flood plain erosion is judged to be a significant issue by some stakeholders and seems to have been partly caused by draining and intensively farming the flood plain for root crops. • Biological river quality has declined due to the impact of some agricultural practice. • Issues around diffuse and point pollution from intensive agriculture and silted habitats as adversely affecting water quality.	catchments may be increasingly important for lessening the impact of flooding downstream particularly at pinch points such as in and around Hereford. • There could be potential risks of drought and availability of water for irrigating crops. An increased demand for abstraction is likely due to arable expansion and may become a greater problem with hotter and drier summers.
Historic environment: type and distribution of designated and undesignated historic environment features	Historic features within this area cover a range of periods including; Mesolithic, Neolithic, Bronze Age and Iron Age settlement, prehistoric and Romano-British occupation, Medieval manorial centres among many other features. Key issues are as follows: • There is some unsympathetic conversion of redundant farm buildings. • Some scheduled monuments are in decline due to natural erosion or scrub/tree growth. • Many listed buildings have obvious signs of structural disrepair. • A loss of historic parkland in some areas within the last century. • Some below ground archaeological remains are at risk from agricultural ploughing damage.	Whilst no NCA profiles mentioned future risks to heritage features it is likely that current issues may be exacerbated.
Woodland: forestry, woodland and orchards in the landscape	Woodlands within the landscape include many deciduous woodlands of which a significant proportion are ancient. Landform features such as valleys and steep slopes are often wooded. On the higher land conifer plantations are common. Bush orchards are common although traditional orchards are more marginalized found mainly on the edge of hamlets and farmsteads. Key issues are as follows: • Some deciduous woodlands have been adversely affected by grazing, thus reducing their capacity for natural regeneration and their nature conservation interest. • Many woodlands have been historically managed as coppice; however, there has been a decline in management of some woodlands • Localised traditional and some bush orchards are in decline with their condition deteriorating due to lack of management. Newly created bush orchards are very different in character.	• A changing climate is likely to increase the vulnerability of the woodlands particularly the ancient semi-natural woodland and veteran trees becoming increasingly vulnerable to damage, pest and disease. • Increasing fuel costs have resulted in more biomass installations, a growing demand for woodfuel and less woodlands being managed. • Tree diseases such as Phytophthora could have a significant impact on alder trees, while ash die-back disease could potentially have a significant impact on some of the mixed woodland.
Landscape: hedges, walls, field boundaries,	Boundaries features are mainly hedged, often low cut and in variable to poor condition. Hedgerow trees are limited but more frequent within the valleys. Some fields have been sub-divided for stock control.	• The need for food security may result in continued expansion of arable production. This may impact on ecological habitats, networks and species, as well

individual trees	Key issues are as follows: ▯ Intensification of agriculture led to the removal of hedgerows, reduction in their height and loss of hedgerow trees up to the introduction of the Hedgerow Regulations. ▯ The condition and number of hedgerow trees have been in decline as they have not been replaced. ▯ Previous amalgamation of smaller fields into larger units, with removal of boundaries, has disrupted the historic field patterns.	as landscape character. Agri-environment schemes can offer opportunities to work with land managers to incorporate management of farmland habitats, develop and create networks of new habitats and enhance the rural character of this landscape.

Review of the CSFF group area

The group priorities for the area are as follows:

Table 9. A summary of group priorities.

Group priorities	CS Options
Biodiversity	Nectar flower mix; cultivated areas for arable plants; brassica fodder crop; autumn sown bumble bird mix; basic over winter stubble; beetle banks; nesting plots for lapwings; flower-rich margins and plots; winter bird food; management of traditional orchards; creation of traditional orchards; major preparatory works for priority habitats and priority species; haymaking supplement; lenient grazing supplement; ryegrass seed-set as winter food for birds; legume and herb rich swards; organic land management – rotational land; 4m to 6m buffer strip on cultivated land; in-field grass strips; 12m to 24m watercourse buffer strips on cultivated land; winter cover crops; tree surgery, planting fruit trees, supply and plant tree; supplement for individual tree shelters; tree guard; tree guard (wood post and rail); tree guard (wood post and wire); small wildlife box; management of successional areas and scrub; creation of successional areas and scrub.
Water	Rainwater goods; pond management (WN5); pond management (WN6); buffering in-field ponds ditches on arable land; pond management (WY4); pond management (WT5).
Historic environment	Maintenance of weatherproof traditional farm building; management of historic and archaeological features on grassland;
Woodland	Woodland management plan; woodland creation – maintenance payments; woodland improvement; woodland edges on arable land.
Landscape	Protection of in-field trees on arable land; protection of in-field trees on intensive grassland; management of hedgerows; hedgerow supplement – top binding and staking; planting new hedges; hedgerow laying; hedgerow coppicing; hedgerow gapping; management of grassland for target features; permanent grassland with very low inputs (outside SDAs); permanent grassland with very low inputs SDAs; management of species rich grassland; restoration towards species-rich grassland; seasonal livestock removal on grassland in SDAs next to streams, rivers and lakes; 4m to 6m buffer strip on intensive grassland; arable reversion to grassland with low fertiliser input; management of intensive grassland adjacent to a watercourse; planting standard hedgerow tree; coppicing bankside trees;
Other	Access capital items; Educational access; Fencing; Deer enclosure plot; Wooden field gate; Sheep netting; Permanent electric fencing; Rabbit fencing supplement; Deer fencing; deer high seat; take small areas out of management; removal of eyesore; livestock troughs; implementation plan; Yard - underground drainage pipework; Yard inspection pit; Concrete yard renewal; Relocation of sheep dips and pens; Roofing (sprayer washdown area, manure storage area, slurry stores, silage stores); Livestock and machinery hardcore tracks; Installation of piped culverts in ditches; Tree removal; Chemical bracken control; Difficult sites supplement; Cattle grazing supplement; Native breeds at risk supplement; upland livestock exclusion supplement; Livestock exclusions supplement - scrub and successional areas; Creation of scrapes and gutters; ditch, dyke and rhine restoration.

Uptake of the different types of CS options and different training activities undertaken were varied. It should be noted that some CS options benefit several different themes. The CSFF training uptake is as follows;

- Biodiversity has been the most popular topic of training delivered to the group, there were14 different training sessions focused on that topic. As a result, 31 different CS options were chosen by the group members.
- In terms of water management, there were two training sessions delivered to the group. 6 different CS options were chosen by the group members.
- There were no training sessions focusing on historic environment, however, 2 CS option were taken up.
- There were no training sessions/events focusing on woodlands, however 4 different options were taken up.
- No training sessions considering landscape issues; however, 20 different CS options were taken up.
- No training sessions or events focusing on other priorities, no CS options chosen.

Generally, uptake of CS options and training activities align well with the key characteristics of the area and issues requiring addressing.

Options relating to biodiversity are particularly well received and cover a diverse range of species and habitats. However, more could be done to target habitats such as upland heathland, bogs and the management of diseased alder trees.

The CSFF group area has a significant number of issues relating to water management, this is reflected in a good uptake of CS options relating to the theme. CS options cover management themes such as reducing nutrient pollution and slowing run-off rates from land. More options relating to flood mitigation could be undertaken considering it is a key issue and also identified as future risk.

Uptake of CS options relating to the historic environment was limited. More could be done to target the identified issues relating to conservation of wood pasture and parkland, archaeological remains, scheduled monuments and listed buildings.

There were no training sessions delivered relating to woodlands, despite this there was a good uptake of CS options to cover the current issues. Uptake of options relating to managing the damaging effects of grazing on woodlands may be beneficial. There is good uptake relating to orchard management one of the key features in decline. More should also be done to manage the tree diseases such as Phytophthora and options which relate to the felling diseased trees should be considered to mitigate this.

No training sessions related to landscape issues and boundaries, however there was a good alignment between issues and CS options uptake.

3.4 Sandlings, Felixstowe and Shotley 90001/90006/90007

Overview of case study

Sandlings 90001, Felixstowe 90006 and Shotley 90007 Facilitation Fund groups are located in East Suffolk stretching across a large land area abutted by Brantham to the south, Ipswich to the west and Aldeburgh to the north. The groups are considered together given their close proximity and shared group facilitator. They lie within the Suffolk Coast and Heaths National Character Area (Natural England, 2015).

The area is characterised by light sandy soils and a range of key habitats including coastal and flood plain grazing marsh, reedbed and fen, coastal vegetated shingle and dune, saline lagoons, inter-tidal mudflat and salt marsh, lowland acid grassland, lowland heathland, coniferous woodland, ancient broadleaved woodland and wood pasture and parkland.

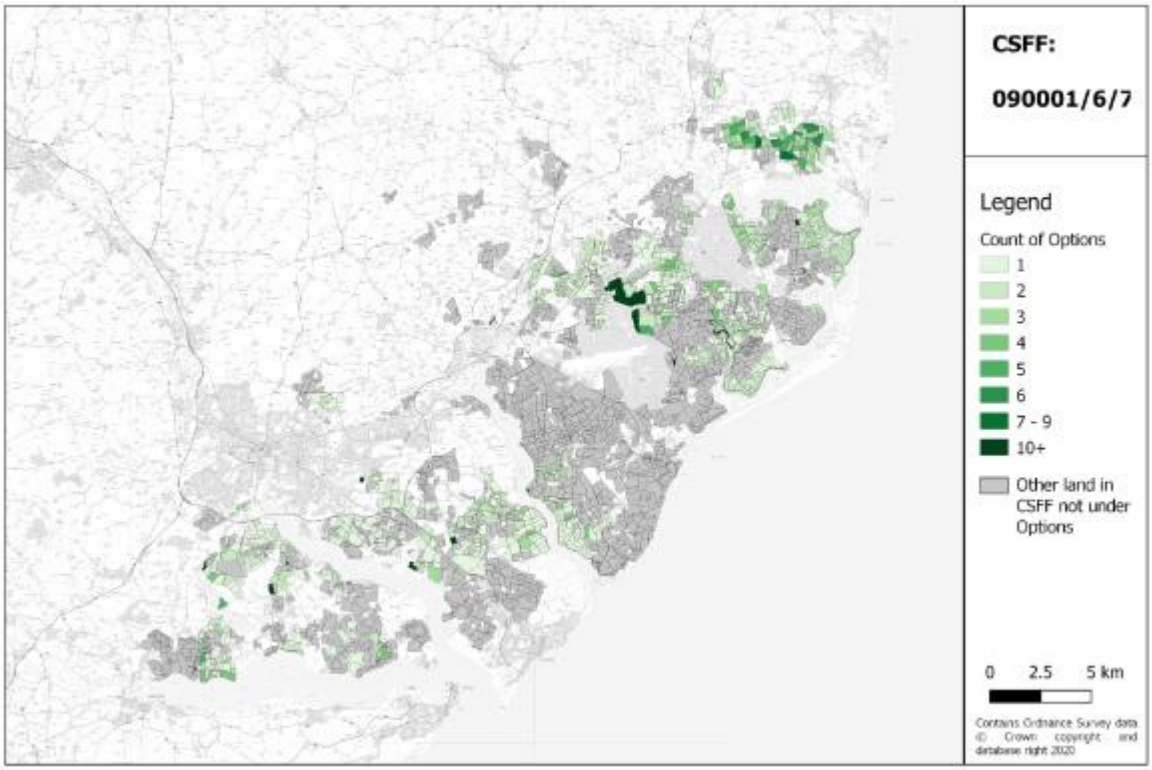


Figure 6: Option uptake within CSFF 090001/6/7

Overview of farm type, size, and land use

Farming utilises 57% of the total land area with a mix of arable and livestock farming. Cereal crops are most common with high-quality vegetable production and cash roots also a distinctive feature. Livestock rearing is predominantly of pigs, with some sheep and cattle. Beef cattle graze the coastal levels although drainage has led to the conversion of many of the grazing marshes to arable production. It is also an important area for turf production. Remaining coast and lowland heaths are fragmented owing to farming conversion, forest use and housing development. The dominant land use is the growing of cereals (35%), grassland (including uncropped land) (26%) followed by cash root crops (potatoes and sugar beet) (14%). Land used for growing cereals has

decreased whilst oilseed and vegetable cropping has increased and grassland has remained stable.

Overview of land management issues

The key issues and future challenges for land management in the group area based upon the NCA profile are summarised below.

Table 10. An overview of land management issues for the CSFF group area Sandlings, Felixstowe and Shotley 90001/90006/90007.

Land management issue	Overview in the study area	Future challenges
Biodiversity	A large area is priority habitat. Key habitats include coastal and flood plain grazing marsh, reedbed and fen, coastal vegetated shingle and dune, saline lagoons, inter-tidal mudflat and salt marsh, lowland acid grassland, lowland heathland, coniferous woodland, ancient broadleaved woodland and wood pasture and parkland. Key species within coastal habitats include waders, wildfowl, bittern, marsh harrier, whorled watermilfoil. Inland habitats have mosaics of heather, acid grassland, gorse, bracken and birch. Key species include lapwing, woodlark, nightjar, Dartford warbler, adder and silver-studded blue butterfly.	Major infrastructure developments e.g. Sizewell nuclear power station and offshore wind farms. Coastal defence work may result in losses to existing wetlands and introduce non-native habitats. Climate change: a threat to the survival of some species, coastal flood risk and sustainable use of resources. Recreational pressures affect sensitive habitats including vegetated shingle, lowland heathland and species including little tern, woodlark, nightjar. Invasive species: invading scrub and bracken particularly on lowland heathland.
Water: Water features in the landscape including rivers, streams, ponds, ditches etc, water quality, flooding issues, coastal flood risk (if applicable)	A dynamic coast, shaped by long, sweeping bays, cut by the series of more sheltered estuaries. The shoreline is defined by shingle beaches and structures, sea defence features. Rivers flow west to east forming alluvial valleys. The cliffs mark a generally receding coastline that displays active coastal processes of erosion and accretion, the southward tidal current carrying eroded material to downdrift beaches. These dynamic coastal processes provide a coast protection function.	Climate change: many issues related to water (e.g. droughts and flooding). Release of carbon from erosion of coastal levels, intertidal flats and salt marshes contributing to climate change. Coastal change and regulating coastal erosion: rapid erosion from sea level rise and storm events. It will be neither possible nor desirable to artificially maintain the whole coastline in exactly its current position. Water flow and flooding especially on low-lying coastal and estuarine land. Water quality: groundwater chemical status is poor. Water quality is important for biodiversity, agriculture and public drinking water.
Historic environment: type and distribution of designated and undesignated historic environment features	13% of the NCA is designated as Heritage Coast. 10 Registered Parks and Gardens covering 623 ha, 111 Scheduled Monuments and 2,280 Listed Buildings. A rich archaeology with a long history of settlement. Includes Saxon burial mounds, medieval rabbit warrens, numerous country house estates with historic parklands. The coast is dotted with a diverse range of military heritage including Napoleonic	Increase and enhance public awareness and enjoyment of the distinctive assemblage of historic landscapes. Sustainably manage the agricultural, semi-natural, geological and rich archaeological and historic environment, as well as seeking opportunities for more integrated access to support recreation and education, while protecting the area's wildlife habitats and tranquillity.

	Martello towers, Second World War pillboxes and the Orford Ness Cold War testing area with its distinctive 'pagodas'. Large commercial ports, Sizewell nuclear power station, the Cobra Mist transmitting station and the Orwell Bridge all contribute landmark diversity.	Continued coastal erosion means that there are continuing threats of potential loss of historic landmark features (for example Orford Ness lighthouse, Covehithe Church, Dunwich Friary and some Martello towers).
Woodland: forestry, woodland and orchards in the landscape	Woodland covers 13% of the NCA land area. There are farm woodlands, plantations and field boundary trees which provide a treed character with substantial coniferous forests (Rendlesham, Tunstall and Dunwich) in the core of the NCA. Ancient broadleaved woodland and parkland wood pasture cloak the southern river valley and estuary slopes. The coastal levels are largely devoid of trees.	Competing needs of commercial timber/fuel production, wildlife and public access. Felling and woodland management: inconsiderate management threatens woodlark and nightjar and rare and declining plants and invertebrates. Invasive non-native species. Ash dieback and acute oak decline. Climate change and tree diseases. Wildfires. Recreation: need to optimise woodland value for recreation but ensure increased pressures are diverted away from areas where biodiversity is adversely affected.
Landscape: hedges, walls, field boundaries, individual trees	Field boundaries in the Sandlings are defined by distinctive pine lines, shelterbelts and remnant elm hedges. Further south, along the Shotley Peninsula, holly hedges predominate while to the north and west hedgerows are diminished in their extent.	Commercial agricultural improvements particularly for arable production, combined with a number of other factors results in the loss of structural landscape features (hedgerows, ditches, banks, copses and lines of trees).

Review of the CSFF Case Study

The groups originally had a combined total of 46 members which has risen to 66 at present. The percentage of members applying for CS options within each group varies between 18-30%; relatively low compared to other Facilitation Fund groups across the country. The group priorities cover similar themes to the NCA priorities of biodiversity, water, historic environment and landscape. Details of each priority are summarised below.

Table 11. A summary of group CS options.

Group Priority	CS options
Biodiversity	Nectar flower mix; Unharvested cereal headland; Cultivated areas for arable plants; Supplementary winter feeding for farmland birds; Harvested low input cereal; Basic overwinter stubble; Beetle banks; Skylark plots; Nesting plots for lapwing; Enhanced overwinter stubble; Whole crop cereal; Flower-rich margins and plots; Winter bird food; Protection of in-field trees on arable land; Protection of in-field trees on intensive grasslands; Major preparatory work for priority habitats and priority species; Organic conversion - rotational land; Organic land management - improved permanent grassland; Organic land management - rotational land; Native breeds at risk supplement; 4m to 6m buffer strip on cultivated land; In-field grass strips; Enhanced management of maize crops; Winter cover crops; small wildlife box.

Water	Management of coastal saltmarsh; Ditch, dyke and rhine restoration; Pond management (WN5); Pond management (WN6); Wetland cutting supplement; Wetland grazing supplement; Buffering in-field ponds ditches on arable land; Pond management; Management of reedbed; Management of fen;
Historic Environment	Maintenance of weatherproof traditional farm buildings; Take historic and archaeological features out of cultivation; Management of historic and archaeological features on grassland;
Woodland	Management of lowland heathland; Restoration of forestry and woodland to lowland heathland; woodland management plan; scrub control and feeling diseased trees; Tree surgery; Supply and plant tree; Supplement of use of individual tree-shelters; woodland edges on arable land; timber sluice.
Landscape	Management of hedgerows; Planting new hedges; Hedgerow laying; Management of wet grassland for wintering waders and wildfowl; Creation of wet grassland for wintering waders and wildfowl; Management of grassland for target features; Creating of grassland for target features; Permanent grassland with very low inputs; Management of species-rich grassland; Restoration towards species-rich grassland; Creation of species rich grassland; management of wet grassland for breeding waders; arable reversion to grassland with low fertiliser input; planting standard hedgerow tree; Coppicing bankside trees;

There has been a total of 16 training events covering several of the group priorities:

- 10 different training events focused on biodiversity issues. 25 different CS options were taken up.
- 1 training event focused on water management. 11 different CS options were taken up.
- No training events focused on historic environment; however, 3 CS options were taken up.
- 2 training events focused on woodland. 10 different CS options were taken up.
- No training events focused on other issues. No CS options were taken up.
- 2 training events on landscape issues. 15 different CS options were taken up.

(Note the number of different CS options taken up is not reflective of the extent to which each option is taken up across the Facilitation Fund group areas. 1 option may be taken up in 100 field parcels or only 1 field parcel).

The theme and number of training events broadly correlates with the types of options taken up in agreements within groups; training events are an important precursor to educating land managers on priorities thus improving the relevance of options taken up on the ground. There was a lack of training events on shared NCA and group priorities of historic environment and other issues.

This is an opportunity for the future to target further training events to expand members' knowledge of location-specific issues and priorities for management.

Large areas of woodland including ancient woodland and biodiverse, species-rich woodland lie adjacent to farmed land. Targeted group training for relevant land managers with land in this category is important to increase uptake of relevant agri-environment scheme options to better protect woodland across the area. The woodland training event focused on the history of tree management.

No training events focused on the historic environment which is both a group priority and NCA priority. Only three options were taken up across the group and given the area's rich archaeology and heritage there may be a deficiency that needs addressing. Training would have to be spatially targeted at areas where historic environment features are found, although increasing awareness would be beneficial for land management regardless.

Climate change is identified as a future threat for all group priorities, however there have been no training events yet. It is essential to educate group members in this area on the likely issues that may result from climate change and how their land management practices could be affected. Education will help land managers to prepare, mitigate and adapt to these changes using relevant agri-environment options to ensure negative impacts are minimised.

3.5 130002 Winchester Downs Facilitation Fund Group

Overview of case study

The Winchester Downs Facilitation Fund group (130002) is in Hampshire and lies at the far western end of the South Downs National Park. The group is spread across four National Character Areas (NCAs) including NCA125 South Downs, NCA130 Hampshire Downs, NCA120 Wealden Greensand, NCA128 South Hampshire Lowlands. The majority of the group falls within NCA125 (the central and southern land area) and NCA130 (the northern land area).

The landscape varies from open arable to river valley on freely-draining loamy soils. It includes the source of the River Itchen and its upper reaches, with the Hampshire Downs Chalk aquifer a key feature to the area. The main land cover is arable and grassland. Characteristic habitats include herb-rich downland and limestone pastures, limestone pavements in the uplands, beech hangers and other lime-rich woodlands. At the source of the river tributaries, soils are more acidic or base-rich which owe themselves to characteristic habitats including base-rich and neutral pastures, deciduous woodland and bracken and gorse in the uplands. The whole area is within a Nitrate Vulnerable Zone (NVZ). There are no Special Protection Areas (SPAs) but the River Itchen itself is a Special Area of Conservation (SAC) and a Site of Special Scientific Interest (SSSI). The SSSI is designated as a classic chalk stream and river, fen meadow, flood pasture and swamp habitats with many species including damselfly, white-clawed crayfish, otter, water vole, bullhead, tufted duck, lapwing and redshank. It is important to reduce diffuse water and air pollution that may impact biodiversity of species and habitats along the River Itchen.

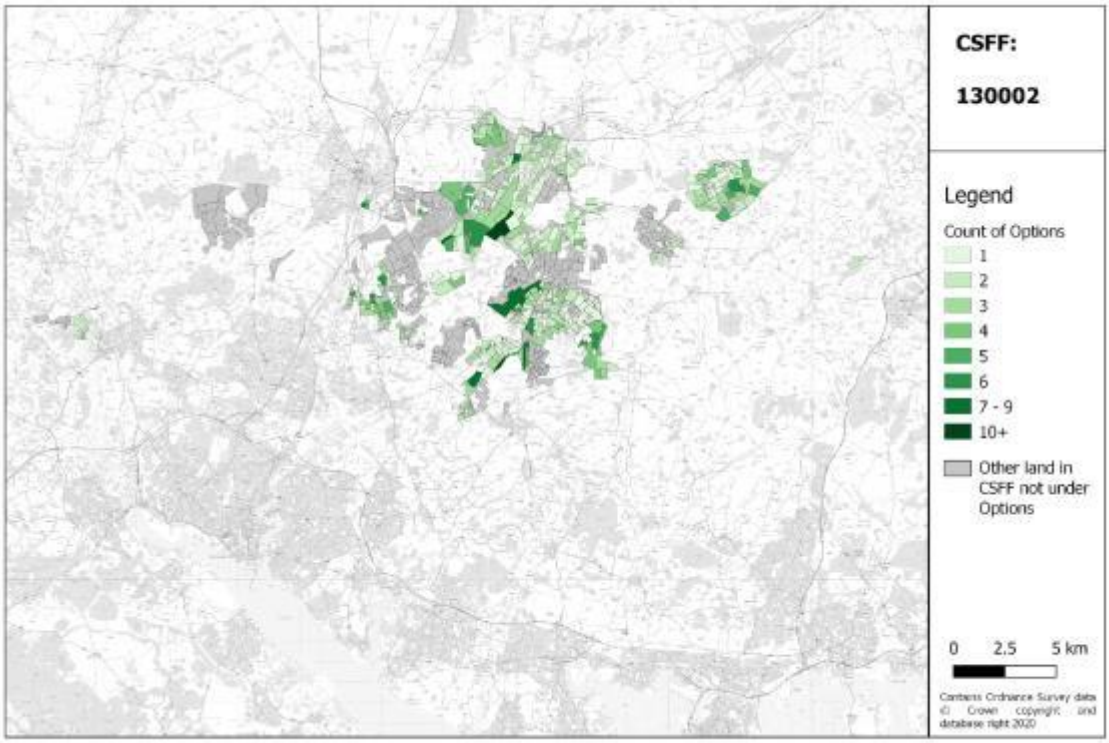


Figure 7: Option uptake within CSFF 130002

Overview of farm type, size and land use

Over 80% of the South Downs NCA is farmed (Natural England, 2013). The area is a major producer of cereals as well as grazing livestock, especially sheep. Arable crops include cereals (wheat and barley) and oilseed rape. Farms of more than 100 ha or more dominate with 203 holdings (40 per cent), followed by farms sized between 5 ha and 20 ha (24 per cent). The largest farm size accounts for 40 percent of holdings and makes up around 90 per cent of the farmed area. There is a mixed farming character including cereal farms (30%), grazing livestock (22%), mixed (10%), dairy (3%), specialist poultry (2%). The area of land used for cereals has decreased, while grass and uncropped land has increased alongside oil seeds and vegetables.

Overview of land management issues

The key issues and future challenges for land management in the group area based upon the NCA profiles are summarised below.

Table 12.An overview of land management issues for the CSFF group area 130002 Winchester Downs Facilitation Fund Group.

Land management issue	Overview in the study area	Future challenges
Biodiversity	Key habitats include lowland calcareous grassland, coastal and floodplain grazing marsh (CFPGM), lowland dry acid grassland, wood pasture and parkland with veteran trees, maritime cliff and slope, saline lagoons, ancient and native woodland, arable field margins.	Climate change – hotter drier summers, thermal stress, drought, extreme weather, changing precipitation patterns, flooding, waterlogging, competition from invasive non-native species all affect biodiversity. Balancing food production requirements on arable land with the need to provide essential

	Key species include turtle dove, lapwing, corn bunting, redshank, grey partridge, tree sparrow, yellowhammer stone curlew, duke of burgundy, grizzled skipper, dingy skipper, small blue, otter, water vole, bullhead, southern damselfly, flowering rush, water violet, greater water-parsnip, great crested newt, bats, brown hare.	resources (especially year-round food, shelter and nesting places) for wild pollinators, birds and farm wildlife.
Water: Water features in the landscape including rivers, streams, ponds, ditches etc, water quality, flooding issues, coastal flood risk (if applicable)	River Itchen source spring is in the catchment at New Cheriton. Importance of the area as a chalk aquifer for drinking water means a large area is a Source Protection Zone, and there are 2 designated drinking water Safeguard Zones for groundwater.	Water quality issues including nitrate in groundwater drinking water sources, phosphate and sediment in rivers, surface water drinking water sources affected by pesticides, phosphate and nitrate. Pollutants include: nutrients from fertilisers, manures and organic materials; sediment from soil erosion and run-off; pesticides, from their use and disposal. Climate change: changes in weather that may affect water supply and water quality, for example increased run off may increase diffuse pollution and both surface and fluvial flooding.
Historic environment: type and distribution of designated and undesignated historic environment features	Designated heritage assets in the South Downs NCA include: 18 Registered Parks and Gardens covering 2,902 ha, 1 Registered Battlefield covering 97 ha, 46 Scheduled Ancient Monuments (SAMs) and 3,863 Listed Buildings. SAMs e.g. St Catherine's Hill Fort, above/below ground archaeology e.g. historic water meadows, historic parkland e.g. Avington Park (RPG Grade II*), traditional farm buildings. Bronze-age round barrows and prominently sited iron-age hill forts, such as Cissbury Ring and Old Winchester Hill. Rich sheep farming history reflected in the landscape today.	Arable farming practices (cultivation, tillage, drilling). Poor management: scrub, bracken and tree overgrowth. Disused farm buildings mean heritage interest is not retained.
Woodland: forestry, woodland and orchards in the landscape	Though less extensive, woodland is still a feature of the area and combines with ancient hedgerows to create the appearance of a well-wooded downland landscape supporting many species. Where the woodland combines with species-rich grassland, it can support populations of the rare fly orchid and the Duke of Burgundy butterfly. Variety of woodland birds present including lesser spotted woodpecker, tree pipit, redstart, pied flycatcher, spotted flycatcher, wood warbler, marsh tit, lesser redpoll, hawfinch.	Increased incidence of disease, disruption in synchronicity between species interactions, changes in range of current native species, new and increasing pest species (e.g. deer and squirrels), increased forest fires and loss of mature trees to wind blow. Climate change: Broadleaved and ancient woodland may see changes in composition of vegetation types and ground flora. Drought-sensitive species particularly vulnerable. Non-native tree species planting may decrease condition and species composition of woodland. However, this can be mitigated as carefully selected non-native species may enhance condition where they are better suited to the changing conditions

Landscape: hedges, walls, field boundaries, individual trees	A unique irregular pattern of fields in the area with a variety of hedgerows, bankside trees, permanent grassland, field margins and buffers, and winter stubbles. Sense of place is provided by the highly distinctive elevated chalk ridge, scarp and dip slopes and numerous dry valleys as well as ancient woodlands and parklands.	Pressure to grow renewable energy crops could have visual impact in open areas of the uplands. Flint boundary walls are a traditional feature and could be subject to decline if not appropriately maintained. Increase in large farm buildings and other infrastructure as a result of modern farming techniques. Hedgerows vulnerable to loss of woody species due to drought, flood or wind throw. Also, species composition change, increase in pests and diseases, and loss of diversity of hedgerow flora could lead to loss of resources for wildlife and a reduction in ecological connectivity. Intensification of agriculture could lead to the removal of hedgerows or a decline in their management.

Review of the CSFF Case Study

The group originally had 19 members which has risen to 38 members at present. 16 members taken up CS, equal to 42% of the group.

The group priorities cover similar themes to the NCA priorities of biodiversity, woodland, water, historic environment and landscape. They also recognise the importance of multiple benefits; synergies between CS priorities, for example protection of soils to enhance water quality also benefits priority species and habitats, while restoration of hedgerows improves landscape and also connects woodland. Details of each priority are summarised below. Great attention is placed on 'chalk and water' given the Hampshire Downs Chalk aquifer is a key feature in the area.

Table 13. A summary of group CS options.

Group Priority	CS options
Biodiversity	Nectar flower mix; Unharvested cereal headland; Cultivated areas for arable plants; Supplementary winter feeding for farmland birds; Brassica fodder crop; Autumn sown bumblebird mix; Basic overwinter stubble; Beetle banks; Skylark plots; Nesting plots for lapwing; Flower rich margins and plots; winter bird food; major preparatory works for priority habitats; management of wet grassland for wintering waders and wildfowl; haymaking supplement; Scrub control and felling diseased trees; Scrub control - difficult sites; tree removal; Native breeds at risk supplement; 4m to 6m buffer strip on cultivated land; 4m to 6m buffer strip on intensive grassland; In-field grass strips; Arable reversion to grassland with low fertiliser input; Tree surgery; Planting standard parkland tree; Supply and plant tree; Supplement of use of individual tree-shelters; Tree guard (wood post and wire); Parkland tree guard; Small wildlife box;
Water Quality	Rainwater goods; Ditch, dyke and rhine restoration; Pond management (WN5); Pond management (WN6); Wetland grazing supplement; Management of fen;

Historic Environment	Maintenance of weatherproof traditional farm buildings; Take historic and archaeological features out of cultivation; Reduced-depth, non-inversion cultivation on historic and archaeological features; Management of historic and archaeological features on grassland;
Woodland	Protection of in-field trees on arable land; woodland management plan; Woodland improvement; Woodland edges on arable land; Management of wood pasture and parkland; Restoration of wood pasture and parkland; Management of successional areas of scrub; Creation of successional areas and scrub.
Landscape	Management of hedgerows; Hedgerow supplement - top binding and staking; Planting new hedges; Hedgerow laying; Hedgerow coppicing; Hedgerow gapping-up; Hedgerow supplement - substantial prework; Management of grassland for target features; Creating of grassland for target features; Permanent grassland with very low inputs; Management of species rich grassland; Restoration towards species rich grassland; Creation of species rich grassland; Planting standard hedgerow tree; Coppicing bankside trees.

There have been 4 group training sessions covering farmland bird ID, grey partridge and farm habitats, soil organic matter, grassland reversion and restoration. These are categorised by landscape management theme to determine if there has been a trend of increased CS option uptake for a particular theme due to the training:

- 3 events focused on biodiversity issues, with 30 different CS options taken up by group members.
- 1 event on landscape issues (grassland reversion and restoration), with 15 different CS options taken up.
- No training on water management (6 CS options were chosen), historic environment (4 options chosen), woodland management (8 options chosen) or other priorities (no options chosen). Training provided reflects the group priorities and facilitator.

The numbers of events broadly correlate to the number of options taken up and could point to the importance of specific training increasing the number of options taken up by land managers. There is opportunity in future to further target training sessions (and the number of events) to expand land manager knowledge.

4. Phase 3 site visits

4.1 Role of the case studies

The case study locations reflect the case studies selected for interview by CCRI. The case studies are intended to provide an example of how well the CS options selected for each case study area reflect some of the wider environmental and landscape issues within the area.

- 30002 South Pennine Facilitation Fund
- 40001 River Loud
- 70012 Hereford Meadows
- 90001/90006/90007 Sandlands, Felixstowe and Shotley
- 130002 Winchester Downs

4.2 Methodology

The case study work involved three project tasks:

- Desk based review
- Field visit (discussed in Section 4)
- Reporting

The desk-based task included the following:

- Review of group information
  - Number of CSFF group members
  - Topics of training and events held by the CSFF group
  - CS options taken up since group formation
  - Evaluation of alignment of CS options with training and events
  - Group targets within the CSFF (these will have been informed by the NCA priorities).
- Review the landscape context of the CSFF group, identify key land management issues and pressures informed by the national character area profiles (GOV.UK, 2014) and the landscape character assessments for the area which may be accessed from the web archives (The National Archives, n.d.) or the relevant local authority websites.
- Briefly review the relationship between the group priorities, CS options selected, training and events held and the key landscape management issues and pressures.
- Ascertain if there are any land management issues which are identified through the desk review which are not reflected in group priorities, and their indicated geographic distribution.
- Using the mapped information on the CS options, identify an area within the CSFF group which includes a variety of options to be reviewed in more detail through the fieldwork.

The project selected five established Facilitation Funds as case studies for in-depth evaluation across the individual tasks. Group details and locations are detailed in Section 3. Facilitation Funds 090001/6/7 share a joint facilitator and are considered as a single group for the purpose of this report.

4.3 Role of site visits

The field visits were helpful to supplement the information provided in the form of datasets and assess the accuracy of the dataset against what is happening on the ground. Visiting sites helped to better understand the landscape context and issues facing an area, and how these related to the options taken up.

4.4 30002 South Pennine Facilitation Fund

Overview of site visit location

The CSFF focus area, which forms the basis of the site visit, comprises 18 land parcels. They are located in an area of upland gritstone moorland, 1km south-east of Oxenhope village. This is an uninhabited landscape. The primary land use now is water catchment and rough grazing, with Leeming Reservoir located along the north-west boundary of the CSFF focus area, and Thornton Moor Reservoir to the south-east.

The CSFF focus area s form part of the Liverpool, Manchester and West Yorkshire Greenbelt and are also designated as Priority Species for CS Targeting, including Curlew and Lapwing.

The CSFF focus area is a large scale, open, and exposed landscape, with the absence of trees and woodland, except in adjacent steep wooded cloughs, including Nan Scar and Foster Dike. The heath dominated vegetation of the moorland accentuates the bleak, windswept, wild nature of the landscape whilst the wide-open skyline emphasises the scale of its setting.

There are numerous, narrow streams throughout the CSFF focus area, including several man-made watercourses linking with the adjacent reservoirs, and weirs. The soilscape is 'slowly permeable wet very acid upland soil with a peaty surface' and this is evident across areas of wet moorland and bog.

An extensive network of public rights of way links the CSFF focus area to the surrounding landscape, routed along field boundaries and cloughs, and include several named, long distance footpaths. These include the Millennium Way; the Bronte Way; and the Calder Aire Link.

A patchwork of small to medium sized enclosures, bound by old dry-stone wall field boundaries can be seen on the lower slopes of the upland moors. A mix of irregular, degraded stone wall enclosure and post and wire fences are evident on the more upland areas. There are no buildings, or other vertical structures within this CSFF focus area.

CS options in focus area

The type of options within the CSFF focus area predominantly comprise landscape, woodland and biodiversity.

Table 14: CS options taken up in the study area, their frequency and the land management priority they impact.

CS option code	CS option description	Frequency in study area field parcels	Priority category (secondary priority)	Group training events held that may be relevant to the option
FG12	Wooden field gate	3	Landscape	
FG2	Sheep netting	9	Landscape	
TE4	Woodland Tree Planting - Biodiversity	9	Woodland (Biodiversity)	Woodland management
TE5	Woodland Tree Planting – Tree Shelter Supplement	9	Woodland (Biodiversity)	Woodland management
UP1	Enclosed rough grazing	10	Biodiversity	

Land management issues observed during the site visit

The land management issues observed during the field visit:

- **Biodiversity**: deflect pressures away from sensitive habitats by utilizing a well-managed public footpath network and discrete way-marking. Evidence of some footpath and track erosion, causing damage to peaty soil. Widespread informal tracks across the landscape which do not align to the published PRoW network, causing additional pressure on sensitive habitats. This is evident across the CSFF focus area, in localised spots. Erosion has not caused visual detriment overall although damage to the peaty soil is evident.
- **Water**: reduce soil erosion and improve water quality through improvements to footpaths and tracks. Evidence of some footpath and track erosion, causing damage to peaty soil. This is evident across the CSFF focus area, in localised spots.
- **Landscape and Historic Environment**: manage drystone walls, gates, and field posts. In numerous places, drystone walls are collapsing through lack of maintenance, and gates are missing. This is evident across the CSFF focus area. Though some are intact, many are collapsing and in states of disrepair.
- **Woodland**: woodland planting. There is an absence of trees and woodland across the area.

Assessment of option alignment to the land management issues based on site visit observations

The CSFF focus area is not wholly representative of the wider group area in terms of CS option uptake and land management issues. Data availability restricted the available locations for the site visit.

There is close alignment between the drystone wall issues from the NCA and the land management issues identified on site, although there was no uptake on this CS option by the landowners. This may be intentional due to intensification of grassland management. It also may reflect the increasing number of part-time farmers, reflecting a reduction of manpower investing in the management and maintenance of landscape features - such as field boundaries.

The management of existing woodland, and the planting of new woodland, are key issues highlighted within the NCA. This aligns with the land management issues recorded during the site visit, where trees and woodland were very limited. The introduction of additional tree planting at appropriate locations would mitigate high-levels of run-off, and extend the woodland from the clough areas which surround the CSFF focus area.

There is widespread evidence of footpath and track erosion within the CSFF focus area and this links to the issues from the NCA and the CS options relating to water and biodiversity, concentrating on appropriate land management and restoration, and training related to soil health importance and soil health issues. There is, however, no uptake of such options within the CSFF focus area. This is surprising as the extensive public right of way network throughout the CSFF focus area is representative of the wider network density throughout the NCA. The CSFF focus area features 3 named, long distance footpaths and these are likely to be frequently used. Again, this may relate to the number of part-time farmers, and also a lack of widespread understanding and importance of such issues.

Conclusions

There is partial alignment between the issues from the NCA and group priorities, and the options and landscape management issues identified during the site visit. This is broadly because the CSFF focus area is a simple, uninhabited upland landscape with no buildings and few trees and woodland, with the most notable features being the stone field boundaries and man-made stone watercourses.

4.5 40001 River Loud Facilitation Fund

Overview of site visit location

The CSFF focus area, which forms the basis of the site visit, comprises 16 land parcels. They are located within an area of undulating lowland farmland in rural Lancashire, less than 1km north-east to south-east from Chipping, a picturesque limestone village.

The CSFF focus area forms part of the Forest of Bowland AONB and are also designated as Priority Species for CS Targeting, including curlew and lapwing. The CSFF focus area are also located within CS Water Quality Priority Areas, with a 'Medium Priority,' and Climate Change Vulnerability Buffers.

The CSFF focus area is located within a lowland landscape which features small to medium sized fields with many mixed farm woodlands, copses and hedgerow trees, creating an impression of a well wooded landscape within local views. Mature hedgerow trees and field trees form an important characteristic feature. The underlying bedrock is limestone which is overlain by good soils, evident through the lush green pastures and good tree growth.

There are numerous, narrow watercourses along the field boundaries. The soilscape is 'slowly permeable seasonally wet acid loamy and clayey soil' and this is evident across areas of wet pasture.

A mixture of post and wire fences and hedgerows (a combination of both well-maintained and intact, and fragmented) enclose the fields. There is some evidence of hedgerow restoration, with recently planted, double-staggered hedgerow transplants along post and wire field boundaries.

Farm buildings within the group areas are historic and of the local vernacular.

CS options in focus area

The type of CS options within the CSFF focus area predominantly comprise landscape and biodiversity.

Table 15: CS options taken up in the study area, their frequency and the land management priority they impact

CS option code	CS option description	Frequency in study area field parcels	Priority category (secondary priority)	Group training events held that may be relevant to the option
BN6	Hedgerow coppicing	3	Landscape (Biodiversity)	Hedgerow prioritizing
FG2	Sheep netting	6	Landscape	
BE3	Management of hedgerows	4	Landscape (Biodiversity)	Hedgerow prioritizing
HS1	Maintenance of weatherproof traditional farm buildings	2	Historic environment	
BN5	Hedgerow laying	2	Landscape (Biodiversity)	Hedgerow prioritizing
GS2	Permanent grassland with very low inputs (outside SDAs)	7	Biodiversity	Pollinators and biodiversity
BN11	Planting new hedges	1	Landscape (Biodiversity)	Hedgerow prioritizing
GS16	Rush infestation control supplement	2	Biodiversity (Biodiversity)	
BN7	Hedgerow gapping	2	Landscape (Biodiversity)	Hedgerow prioritizing
GS17	Lenient grazing supplement	2	Biodiversity	

Land management issues observed during the site visit

- **Historic environment**: maintain traditional farm buildings. There is one traditional farm house and one traditional stone barn located within the CSFF focus area, both to the east of Chipping. The traditional farm house appears to be well maintained. The traditional stone barn is intact and used for storage and appears to require maintenance work to its roof.
- **Water**: improve water quality by providing hard bases for livestock drinking. All livestock drinking troughs throughout the CSFF focus area were located directly onto the ground, without a hard base. There is no evidence of any drinking troughs having hard bases.
- **Water**: reduce soil erosion and improve water quality through improvements to footpaths and tracks. This is evident in the CSFF focus area to the south-east of Chipping. Evidence of some footpath and track erosion, causing damage to soil. Erosion has not caused visual detriment overall although damage to the peaty soil is evident.
  Landscape: The management of trees is another key issue highlighted within the NCA. Mature hedgerow trees and single, isolated field trees are located throughout the CSFF focus area. Many prominent, hedgerow trees and field trees are over mature or in decline. There are no CSFF focus area CS options related to this issue, although the site visit revealed that mature trees throughout the CSFF focus area appear to be overly mature and would benefit from a tree inspection and some pruning works.
- **Landscape**: Hedgerows throughout the CSFF focus area are in decline. Most hedgerows within the CSFF focus area required some level of restoration. There is already some evidence of hedgerow planting in the CSFF focus area to the east of Chipping although this is not widespread.

Assessment of option alignment to the land management issues based on site visit observations

A key issue highlighted within the NCA is the area's distinctive field boundaries. It is reported that more than 50 per cent need restoration. The concentration of hedgerow-based CS options, including hedgerow laying, hedgerow coppicing, hedgerow gapping, management of hedgerows, and planting new hedgerows, reflect the gravitas of this NCA issue. During the site visit, hedgerow management was recorded as a significant land management issue within the CSFF focus area, with numerous fragmented hedgerows. There is already some evidence of hedgerow restoration, with recently planted, double-staggered hedgerow supplementing existing post and wire boundaries. However, further widespread interventions are required to prevent further decline of this important landscape feature.

Improving the biological condition of the biodiversity resource in this NCA involves land management activities that will also improve other services. As stated within the NCA ecosystem service analysis, this will be achieved principally through an increase in coverage of semi-natural habitat, restoration of natural hydrological systems and sustainable grazing regimes. These in turn have the potential to help increase regulating services such as water quality and soil erosion, while also contributing to a sense of place. Maintaining connectivity between habitats, as described above through the restoration of hedgerows, will support this land management issue. Additional CS

options within the CSFF focus area that seek to improve the biological condition include lenient grazing supplement; rush infestation control supplement; and permanent grassland with very low inputs. These CS options all benefit biodiversity by improving the biological condition and increase coverage of semi-natural habitat, increase bird and invertebrate food, or provide nesting areas for breeding wading birds. Additional land management issues which may be explored in future analyses are those that provide sources of nectar and pollen for insect pollinators and provide winter food and nesting habitats for farmland birds.

The water priority land management issues included within the NCA summary - slowly permeable, seasonally wet, acid loamy and clayey soils and periods of heavy rain may lead to increased soil erosion and pollution of water courses downstream - reflect the issues recorded during the site visit. The site visit followed a period of heavy rain, and many of the lowland areas within the CSFF focus area were wet and compacted, with poor water infiltration. There are several CS options within this group area that support such land management issues, but no water priority CS options within the CSFF focus area. This may be attributed to narrow watercourses only being present throughout the CSFF focus area. The distribution of the group areas along the valley sides and into the upland areas suggest that flooding is not considered a priority, however improving the management and control of flood waters in this NCA will benefit the settlements further downstream.

There are a number of traditional stone farm buildings within the CSFF focus area and there has been an uptake of CS option 'Maintenance of weatherproof traditional farm buildings.' This aligns with the NCA land management issues which seeks to ensure traditional stone farm buildings are conserved and managed.

There is little alignment between the NCA land management issues and the group area CS options which concentrate on woodland creation and woodland improvement, as the group area has the appearance of being well-wooded due to frequent copses, hedgerows, and mature hedgerow trees, although there are no woodlands within the CSFF focus area

Conclusions

There is little alignment between the issues from the NCA and group priorities and the options and landscape management issues identified during the site visit.

4.6 70012 Herefordshire Meadows Facilitation Fund

Overview of site visit location

The CSFF focus area is situated in the west of Herefordshire, less than 4km east of the Welsh border. Longtown is the nearest settlement, lying less than a kilometre to the south-west. The CSFF focus area is made up of the slopes of a small valley associated with the Escley Brook, which follows the western boundary of the site visit area and a small tributary which forms the areas northern boundary. The CSFF focus area is within the Black Mountains and Golden Valley NCA (NCA 99).

The CSFF focus area is situated directly north of Upper Bryn Farm, which owns the CS option Parcel Areas. The CSFF focus area comprises a mainly pastoral landscape with sheep and cattle among other species grazing on the sloping, moderate-scale,

irregular fields. Field boundaries are defined by hedgerows, most of which are mature and contain frequent hedgerow trees. The landscape contains a mix of habitats including riparian vegetation following the brook and its tributary, good quality semi-improved grassland, deciduous woodlands and ancient semi-natural woodlands. Some woodland areas are mixed and appear to have a high concentration of coniferous trees. There are no historic statutory designations within the CSFF focus area.

A mixture of CS schemes have some uptake within this farm, the majority of which have been relating to hedgerows. Options relating to permanent grassland and woodland have also seen high uptake rates.

CS options in focus area

Table 16: CS options taken up in the study area, their frequency and the land management priority they impact

CS option code	CS Option description	Frequency in study area field parcels	Priority category (secondary priority)	Group training sessions held that may be relevant to the option
FG12	Wooden Field Gate	5	Landscape	Grazing system
FY1	Deer high seat / unit	1	Biodiversity	
WD2	Woodland improvement	6	Woodland	
BE3	Management of hedgerows	22	Landscape/ biodiversity	
GS5	Permanent grassland with very low inputs in SDA	4	Landscape	Meadow management, grazing system, plant id training,
SP6	Cattle grazing supplement	7	Landscape	
GS2	Permanent grassland with very low inputs (outside SDAs)	4	Landscape	
GS13	Management of grassland for target features	8	Biodiversity	
FG2	Sheep netting	4	Landscape	Grazing system
APO	Additional Parcel Option	5	Additional Parcel Option	
GS15	Haymaking supplement	9	Landscape	
GS7	Restoration towards species-rich grassland	14	Biodiversity	

BN6	Hedgerow Coppicing	1	Landscape/ biodiversity	

Land management issues observed during the site visit

- **Biodiversity:** throughout the CSFF focus area a variety of features were observed which provide habitats for wildlife. Field boundaries were often followed by a fence with sheep mesh set around 3m away from the hedgerow. This management method prevents livestock grazing from damaging hedgerows and allows an area of rough grass to grow. Rough grass areas are good over-wintering habitat and encourage insects which in turn support other species. Hedgerows appeared to have been recently cut, which would have been within the permitted cutting period to avoid disturbing nesting birds (September to March). Hedgerows are species diverse and birdsong was heard through the area. In this season it is difficult to determine how herb-rich grasslands are.
- **Water:** much of the focus area was wet underfoot, expected considering recent rainfall and flooding in the area. Several of the fields included reeds and other water-loving species, suggesting the land was often boggy. Very minimal areas of the focus area were trampled or poached from livestock in comparison to surrounding land. Evidence of water management was apparent in the east of the focus area, where a series of artificial ponds had been created, allowing water to gather in localized areas. This also created ponds which are good habitats for a variety of species. Fencing also prevented livestock access to watercourses, which limits water pollution. No water troughs were observed within the focus area; however, it is likely these exist in areas of the focus area without access. If these are not present, they should be considered (on hard standings) to minimize water pollution. There was no access to farmyards within the focus area so improvements to yards could not be assessed.
- **Historic Environment:** there are no identified features of historic interest within the CSFF focus area and therefore CS options relating to this theme would not be appropriate for this area. No CS options relating to the historic environment were observed in the site visit to the CSFF focus area and the uptake of these CS options is not recommended.
- **Woodland:** woodland assessed within the field visit was in good condition. Only the easternmost woodland area near Old School Mid Mc lane was assessed closely (due to access restrictions); here a hazel coppice woodland was observed. Issues noted within the woodland included a large amount of bramble undergrowth which would limit floral diversity. There was also some bark damage observed, likely to be caused by squirrels.
- **Landscape:** hedgerow trees are relatively frequent and appear to be in good condition. Dense hedgerow boundaries are well-managed and frequent. Fencing has been put in place to ensure livestock grazing does not damage hedgerows (see biodiversity section). Fencing, gates and access tracks were also in good condition.

Assessment of option alignment to the land management issues based on site visit observations

The field visit identified that a varied selection of management processes were underway to maximize landscape quality, of which many aligned with the CS options with uptake in the focus area. The landscape area exhibited a high level of landowner engagement with management and appeared to be in a better condition to some surrounding areas. The training events provided by the CSFF appear to have greatly benefited the biodiversity, environment and landscape quality of this area.

Conclusions

The uptake of CS options had a strong alignment with those deemed to be of importance in the CSFF area from NCA guidelines.

4.7 90001/90006/90007 Sandlands, Felixstowe and Shotley Facilitation Funds

Overview of Site Visit Location

The case study site lies within the Felixstowe group 90006 and is farmed on the historic Orwell Park Estate (Home Farm Nacton, 2020). The farm borders the villages of Nacton and Levington, located between the towns of Ipswich to the west and Felixstowe to the east. The River Orwell flows to the south of the site with several field parcels along the river boundary. The site is in the Suffolk Coast and Heaths AONB, with River Orwell being a Ramsar site, a SSSI (Orwell Estuary which is currently in favourable condition) and a Special Protection Area (Stour and Orwell Estuaries). There is also a small SSSI and Local Wildlife Site within the study area, Nacton Meadows (Natural England, n.d.); covering an area of 4.5ha this habitat is neutral grassland and is in favourable condition but with a high condition threat risk. It is designated for the fen-meadow which is of a type very scarce in Suffolk and supports a relatively species-rich version of the vegetation community type. The whole of the study area is within a Nitrate Vulnerable Zone (NVZ).

The site contains a mix of woodland, heath, grass and arable land atop freely draining slightly acid sandy soils. The arable fields characteristic to the area are farmed intensively year-round for organic vegetable production as well as conventional vegetables and cereals. This intensive style of farming is made possible by the capability to irrigate 98% of the estate's farmland which enables them to grow high-value crops. The woodland areas, namely Decoy Wood, Lady Wood and Nacton Heath plantation are designated as priority habitat of high spatial priority and contain a mix of deciduous and ancient woodland. There are also several priority species in the area including Lapwing, Curlew, Brown Hairstreak, Corn Bunting, Redshank, Snipe, and in the woodland areas, Willow tit, Black Grouse and Red Squirrel. There is one scheduled monument (Bowl barrows in Knight's Wood, part of Seven Hills barrow cemetery) and several Grade II listed buildings, although most are on land outside of the farm holding.

CS options in focus area

CS options taken up in the study area are summarised below, which illustrates that the options within the CSFF focus area are predominantly biodiversity.

Table 17: CS options taken up in the study area, their frequency and the land management priority they impact..

CS option code	CS option description	Frequency in study area field parcels	Priority category (secondary priority)
AB1	Nectar flower mix	7	Biodiversity
AB8	Flower rich margins and plots	4	Biodiversity
AB9	Winter bird food	9	Biodiversity
AB11	Uncropped, cultivated margins for rare plants on arable land	4	Biodiversity (Landscape, water, soils)
OT3	Organic Land Management - rotational land	3	Biodiversity (Water)
SW1	4-6m buffer strip on cultivated land	4	Biodiversity (Landscape, water, soils)

Land management issues observed during the site visit

- **Biodiversity**: similar to the wider group area, the case study site has mainly taken up options for biodiversity on arable field parcels. Option uptake largely aligns with the group priorities which are focused on biodiversity and reflects specific topics of training events including wild bird seed, nectar mixes, flower meadows/rich grassland and wildlife corridors. Despite this, there is opportunity to take up a wider range of biodiversity options across a larger area of the holding. Some more ambitious options could be considered given the priority species in the area including AB5 (nesting plots for lapwing) and AB12 (supplementary winter feeding for farmland birds).
- **Water:** considering that the area belongs to the driest regions in the country, there are potential water issues and future drought risks. However, at the time of the field visit water issues were not identified as a significant management issue in the area, except for the land parcels that border the north of Orwell estuary. Buffer strips (option SW1) in these fields are rightly taken up to reduce the likelihood of water pollution from sediment and nutrients. The River Orwell SSSI is currently in favourable condition with low condition threat risk. The arable fields on this area of the holding present an opportunity for lowering nutrient inputs altogether, for example moving the land into organic management similar to the northern fields on the holding (option OT3). This would minimise risk of water pollution from long-term inorganic nutrient build up as a result of excessive application on intensively farmed land. However, this should be minimised through following NVZ regulations and modern precision farming techniques.
- **Historic environment:** one traditional farm building was noted on the edge of an arable field; the building appeared to be well-buffered and maintained to a satisfactory condition.

- **Woodland**: Similarly, there were no options taken up for woodland. There was one mature in-field tree identified across the holding. The tree had a large grass buffer around it to protect roots from agricultural operations on the arable field it was sited in and the undisturbed standing and fallen deadwood would provide habitat for invertebrates. This management maintains the tree as an important feature in the local landscape despite not being managed through the relevant CS option (BE1).

Assessment of option alignment to the land management issues based on site visit observations

The majority of field parcels across the holding did not contain buffer strips / field margins, with some parcels containing localised areas of water ponding on the surface, Widespread uptake of buffer strips and overwinter crop or winter stubble options (for example AB12, AB11, AB2, AB9) in these land parcels may reduce any negative impact on water quality and sediment transport whilst synchronously providing habitat and food for key species.

There was a deficiency in hedgerows across the holding; reflecting the wider area where hedgerows and banks have been eroded over time to make way for commercial agricultural improvements. It is identified as a group priority to reinstate/restore these distinctive historic landscape features in order to preserve heritage, strengthen the historic landscape pattern, increase visual diversity, improve water quality, increase biodiversity and habitat connectivity, and reduce flood risk. Options for hedgerow planting and hedgerow management (for example BE3, BN5, BN11) could be taken up.

There were no options taken up for historic environment on the holding, but there were no identifiable land management issues for this priority on the site visit that would suggest additional CS options are required. Similarly, there were no options taken up for woodland.

Conclusions

To summarise, the land holding largely has options taken up which align with the group priorities and identified land management issues from the desk-review and site visit. The highly intensive arable production on the land here could be detrimental to the environment, key habitats and species without an agri-environment scheme in place. However, there is a varied and widespread uptake of CS options across the holding targeted at improving biodiversity, managing water issues and reducing inorganic inputs (albeit limited to the organic part of the holding). It signifies the importance of educating farmers on the land management issues present and striking a balance between productivity and environmental improvements.

4.8 130002 Winchester Downs Facilitation Fund

Overview of Site Visit Location

The field study site location is a fairly large agreement which contains the source spring of the River Itchen in Cherton, Alresford. The land is managed under one holding within a 10-year agreement (start January 2018, J Corbett, Shorley Farm Trust). The area is

largely arable land with a few parcels of grassland. There are large areas of woodland on the holding including Shorley Wood, Powells Grove copse, Durden copse and Rabbit copse; all are ancient woodland and high spatial priority habitat deciduous woodlands. The area is within a water issues focus area for sediment, phosphate, surface water nitrate, as well as being a CS water quality priority area. A small parcel of land to the east of the holding contains the spring for the River Itchen and is mapped as coastal and floodplain and grazing marsh priority habitat. This area of the holding and the fields surrounding it are identified as a flood risk management priority.

The spring is the source of the River Itchen. The condition of the SSSI at the source is unfavourable – no change condition largely due to agricultural land management through undergrazing, inappropriate scrub control and pollution from agricultural run-off (Natural England, 2018). It is important to manage the agricultural catchment area correctly to reduce these issues and improve the SSSI condition to favourable.

CS options in focus area

Table 18: CS options taken up in the study area, their frequency and the land management priority they impact.

CS option code	CS option description	Frequency in study area field parcels	Priority category (secondary priority)
AB12	Supplementary winter feeding for farmland birds	1	Biodiversity
AB9	Winter bird food	4	Biodiversity
SW1	4-6m buffer strip on cultivated land	13	Biodiversity (Landscape, Water)
FG2	Sheep netting	2	Landscape, water
GS7	Restoration towards species-rich grassland	1	Landscape
GS13	Management of grassland for target features	1	Landscape
AB16	Autumn sown bumblebird mix	3	Biodiversity
AB5	Nesting plots for lapwing	1	Biodiversity
AB1	Nectar flower mix	3	Biodiversity
BN11	Planting new hedges	1	Landscape
AB2	Basic overwinter stubble	2	Biodiversity
SW3	In-field grass strips	1	Biodiversity (water)
SP8	Native breeds at risk supplement	1	Biodiversity

Land management issues observed during the site visit

- **Biodiversity**: basic over winter stubble around the edge of a maize field provides food for farmland birds and brown hare. There was also a lapwing nesting plot, which through a discussion with a local during the site visit there have been 15 breeding pairs sited but unfortunately to date no established nesting pairs.
- **Water:** arable field borders by the main A272 road and small areas of surface flooding was identified with water ponding on the surface, to be expected after the long period of heavy rainfall prior to the site visit. Despite the water issues, there were no immediate signs of problematic soil erosion associated with heavy rainfall on arable fields with no extensive channelling or gullies. There were a few small areas on the holding that could benefit from hedgerow restoration, particularly to the east on arable field parcels that slope towards the source spring of the River Itchen. Restoring hedgerows is essential to enclose fields and impede cross-land water flows, encourage water infiltration and improve water quality. The visibility of water quality issues is difficult to tease out during a site visit and determine if enough has been done on the holding to target them. The agreement has run for 2 years at present and it will be important to monitor water quality in the River Itchen and any nearby streams to determine if the CS agreement is maintaining or improving water quality. The condition of the SSSI unit here is, however, not solely a reflection of good- or ill-management on the holding visited because the land management in surrounding land holdings (particularly to the east of the study area) would impact water quality. These land holdings have not been assessed as part of this case study because they are not part of the Facilitation Fund group, but may well have a stewardship agreement in place with options for water quality (for example HLS within ES). Since the whole catchment is within a NVZ, land management practices with regards to fertilizer applications on arable land is restricted and subsequent chemical losses to the River Itchen should be reduced. The use of GS13 on the CFPGM field parcel that contains the spring ensures the field is managed for the target feature, has little or no chemical inputs and scrub/dominating plants are managed. There was a farmyard manure store in an adjacent field to the spring that could provide a source of pollution, particularly during the wetter winter months. It was noted that this store could have been placed further away from the source to limit the likelihood of nutrient pollution; however, overland runoff to the source had been inhibited through the creation of a bund between the farmyard manure and source.
- **Historical environment**: the holding did not contain any historical environment features. **Woodland**: Woodland features could not be accessed without trespassing private land, but the woodland appeared to be dense and well-managed, with large buffer strips separating them from bordering arable fields. It was also noted that there were game feeders around the holding; there may be an added incentive for managing ancient, priority habitat woodland for the game birds here.
- **Landscape**: for landscape priorities, there were few in-field trees identified on the holding. Where they were identified, they were well-managed and had large established uncropped habitat around them so as to minimise any detrimental impacts from arable farming. However, there was no CS option taken up for official management of these trees within the agreement (option BE1: Protection

of in-field trees on arable land) which could be implemented to ensure management continues for these important features in the local landscape.

Assessment of option alignment to the land management issues based on site visit observations

The site visit did not identify any areas of mismanagement or significant gaps in options implemented for the land management issues identified. The agreement here clearly aligns with the group priority for water quality management and biodiversity.

In alignment with the group priorities and training sessions on biodiversity, there are several options taken up across the holding to benefit various species identified as priorities in the NCA. For water quality management, all arable fields have options taken up to encourage infiltration and reduce run-off and soil erosion with associated sediment pollution. Buffer strip options SW1 and SW3 were ground-truthed during the site visit and all appeared well managed. Hedgerows across the holding were well established. The main gap identified on the site visit has already been addressed through the uptake of BN11 where a hedge is already being established.

Conclusion

To summarise, there is good alignment of the land management issues identified in the NCA and the group priorities that are reflected by representative CS options on the holding. The holding is intensively farmed for arable production, but there is evidence of varied option take up to manage water quality, soil erosion and provide habitat and food for birds, flowering plants and other species such as hare. The Facilitation Fund group and associated training sessions seem to have provided great benefit to the environment and wildlife on this holding that may not otherwise be there without an agri-environment scheme.

4.9 Conclusions from field visits

The field visits identified that overall, there is good alignment between group priorities, identified land management issues and option alignment. Only one of the case studies, the South Pennine case study illustrated some land management issues which were not identified as being addressed by the option uptake for the area. This was identified as likely to reflect the simple upland character of the CSFF focus area, which may not have been as broadly represented within the group priorities and training activities.

5. Explore and illustrate on-farm behaviour changes

Introduction

The overall aim of Task 3 was to explore the additional benefits of the Countryside Stewardship Facilitation Fund (CSFF) by applying social capital indicators and identifying any behavioural changes that have taken place.

The indicators applied aimed to measure both the quality of engagement that the group members have with their CSFF and the social outcomes that have arisen from being a member of a group, which might be positive or negative for the land manager.

The key questions for the evaluation were:

- Has participation in the CSFF led to any positive social outcomes?
- Has participation in CSFF led to development of new skills and knowledge?
- Has participation in the CSFF led to any changes in behaviour?

The conceptual framework

A conceptual framework was used to structure the data collection for the evaluation (see Figure 8). The framework is based on previous studies (Ingram *et al.*, 2009; Mills *et al.*, 2013) which looked at factors that influence farmer environmental decision-making. In order to understand the environmental behaviours and action of farmers, consideration needs to be given to both internal factors and the external context in which farmers operate. This has led researchers to examine the relationship between the willingness to adopt (attitude, beliefs, values and norms of the farmer towards the environment) and capacity to adopt (economic status of the farm and compatibility with the farming system, external drivers etc.), a central theme in a distinct body of research (see Dwyer *et al.*, 2007). In addition, farmer's level of engagement with others is increasingly considered an important influence on environmental decision-making (Mills *et al.*, 2013).

The key factors to be examined in the evaluation of the CSFF group are listed in Table 19.

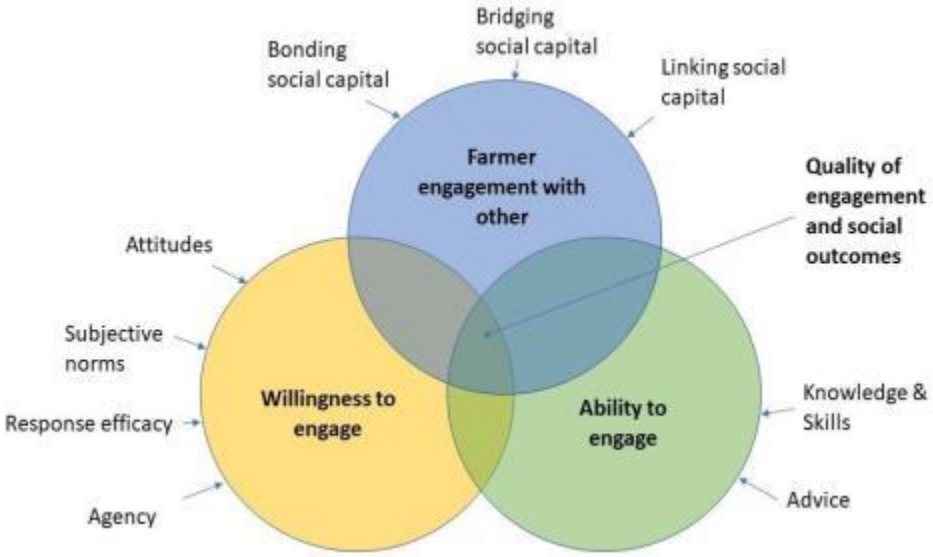


Figure 8: Conceptual framework

Table 19: Key factors used in evaluation

Willingness to engage	**Definition**
Attitude (interest in)	Degree to which a person has a favourable or unfavourable evaluation of the behaviour of interest
Response efficacy	Belief that a certain action will actually be effective
Subjective norms	Belief about whether most people approve or disapprove of the behaviour
Agency	Capacity of farmers to act independently and to make their own free choices
Capacity to engage	**Definition**
Skills and knowledge	Environmental skills and knowledge required to undertake the pro-environmental behaviour
Advice	Receipt of guidance on pro-environmental behaviour
Engagement with others	**Definition**
Bonding social capital	Social relationships between like-minded people
Bridging social capital	Social relationships between people outside of agricultural community, including general public
Linking social capital	Social relationships with people characterised by power differences

5.2 Method

The data collection was undertaken through two data collection exercises:

1) Telephone survey with 20 group facilitators.
2) Face to face interviews with 5 case study CSFF groups, which comprised a face-to-face interview with 1 facilitator of each group and 3 or 4 group members, with a total of 23 interviews.

Telephone survey sample

The selection of the groups for the telephone survey were based on the following criteria:

1. Groups that were from the early cohort of groups that signed up in 2015, 2016, 2017 to ensure sufficient time had lapsed for any social outcomes or behaviour change to start to emerge.
2. Groups that represented a wide geographical distribution across the country, at least 1 group from each of the 14 CSFF areas.
3. Groups that represented different group types in terms of whether they self-identified at the beginning as farmer-led, adviser-led, organisation-led, or another type of group.
4. Groups of various sizes ranging from small (7-20 members), medium (21-40 members) and large (41+ members).

The final sample is presented in Table 20. All interviewees were offered anonymity so group names or identifiers have been removed.

Table 20: Telephone survey sample

Area	Year started	Type	Group Type	Size	Number of Members
9	2016	1	Adviser Led	1	13
6	2015	1	Adviser Led	1	16
11	2016	1	Adviser Led	2	23
14	2016	1	Adviser Led	3	48
7	2015	1	Adviser Led	3	72
13	2017	2	Farmer Led	1	10
13	2017	2	Farmer Led	1	20
14	2015	2	Farmer Led	2	30
12	2016	2	Farmer Led	3	42
10	2017	3	Organisation Led	1	10
4	2017	3	Organisation Led	1	13
2	2015	3	Organisation Led	2	31
7	2016	3	Organisation Led	2	32
12	2015	3	Organisation Led	3	76
3	2016	3	Organisation Led	3	59
8	2015	4	Other	1	7
5	2016	4	Other	2	30

6	2017	4	Other	2	39
1	2017	4	Multiple boxes ticked	2	27
7	2015	4	Multiple boxes ticked	2	33

Case study sample

The five case studies were selected based on the following criteria:

1) Groups offering a wide geographical spread across the country;
2) Groups representing different environmental habitats and priorities; and
3) Groups that had not previously been interviewed and therefore less prone to interview fatigue.

The 5 groups selected are presented in Table 21. One of the case study groups (090001/6/7) was facilitated by the same person and was treated as a single super-group for the analysis.

Table 21: Case Study Groups

Group number	Group Name
030002	South Pennines Facilitation Fund
040001	River Loud
070012	Herefordshire Meadows
090001/6/7	Sandlands + Felixstowe + Shotley
130010	Winchester Downs

Questionnaire design

Three questionnaires were designed. One for the facilitator telephone survey, one for the facilitator case study face-to-face interview and one for the case study group member face-to-face interview. Some questions were common to all three questionnaires and there were similarities between the questions for the facilitator telephone survey and the facilitator face- to-face interview, but with the face to face interview giving more scope for open responses.

The questions were designed as a mix of closed and open questions. The questions were based around the conceptual framework previously mentioned (Figure 8). They also drew on the Natural England (NE) Social Indicators study (Mills et al., 2020) and included questions to provide information for the CSFF Evaluation Framework.

The questions were designed around the following 5 key headings:

1) Background information about the group – group expertise/familiarity; facilitator experience; additional resources.
2) Social capital indicators – relationship between group members, relationships with others outside of farming and government agencies; health and wellbeing.

3) Behaviour change – change in interest in environment; influence of group pressure; confidence to achieve outcomes.
4) Advice and training, upskilling and agency.
5) Continuity.

The Steering Group commented on the content of the questionnaires and incorporated some additional questions. The questionnaire was piloted with a facilitator of a group not included in the sample and the wording of some of the questions changed following feedback from the pilot.

A project information sheet and participant consent form which set out the ethical and data protection issues and rights of the participant were prepared and approved by Natural England. The questionnaire, project information form, consent form and data protection processes were also approved by the University of Gloucestershire Ethics Committee.

Data collection

The Natural England project officer contacted the facilitators of the groups identified for the telephone surveys and case studies to obtain agreement to participate in the study. All the telephone survey facilitators agreed to be interviewed. Three of the case study facilitators initially contacted declined to be involved in the study due to concerns about interview fatigue amongst their members and therefore three replacement case studies were identified, and these facilitators agreed to be part of the study.

The 20 telephone surveys were undertaken between 10th February and 9th March and lasted between 35 minutes to 1 hour 45 minutes, with most taking an average of 50 minutes. All interviews were recorded following either written consent for face to face interviews or verbal consent for the telephone interviews.

The case study face-to-face interviews were undertaken with the facilitator and group members over a period of 2 days for each case study. The facilitator was asked to identify group members to interview. In one case study, only three group members were interviewed, instead of four, as a participant had to cancel due to illness. In another case study, the facilitator was only able to identify three members to interview as lambing had started and members were extremely busy. Also, in this case study one elderly group member was concerned about her health and asked that the interview be conducted over the telephone, rather than face-to-face. It is worth noting that the group members who were interviewed had volunteered to do so and therefore were likely to be more positively engaged with the group than some other members.

In total, 43 interviews were completed: twenty facilitator telephone interviews, representing around 20% of all 98 CSFF groups; 5 facilitator face-to-face interviews; and 18 group member face-to-face interviews.

Data analysis

All interviews were transcribed and the transcripts uploaded to the qualitative data analysis software, QSR NVivo 12. The transcripts were coded against specific themes relating to the questions, which assisted in identifying common findings.

An online survey form was created on the Bristol online survey platform. All the data collected from quantitative questions were entered into the form. The use of this software helped to ensure that data was entered accurately and assisted in the generation of graphs.

5.3 Facilitator Interviews

Table 22 provides details of the 25 groups for which the facilitators were interviewed. Group sizes ranged from 7 members to 92. There had been a considerable increase in group size with an average percentage increase across all 25 groups of 40%, as reported by the facilitators at the time of the interview. On average 8% of the group members were new to agri-environment schemes (AES) and 22% of group members had no AES.

Table 22: Group membership of all groups interviewed

Group ID	No. members at start	No. of members now	% change	No. new to AES	% of total	No. with no AES	% of total
1	13	15	13	1	7	0	0
2	15	19	21			10	53
3	10	23	57	2	9	0	0
4	34	48	29	1	2	1	2
5	8	92	91	Not many		0	0
6	10	10	0	4	40	3	30
7	19	21	10	4	19	12	57
8	24	32	25	1	3	1	3
9	13	43	70	15	35	11	26
10	9	9	0			5	56
11	13	16	19	0	0	3	19
12	15	40	63				0
13	6	38	84	5	13	5	13
14	36	61	41			Less than half	
15	7	7	0	0	0	0	0
16	17	31	45			11	35
17	60	77	22			55	71
18	27	39	31	2	5	7	18
19	11	32	66	0	0	0	0
20	8	32	75	A small cluster		3	9
21	30	60	50			22	37
22	18	37	51	5	14	5	14
23	8	62	87	10	16	10	16

24	46	55	16	13	24	28	51
25	17	30	43			7	23
Average	19	37	40	4	12	9	22

Group expertise and familiarity

The majority of groups (84%) did not exist prior to setting up the Facilitation Fund, although for some an informal network of members did exist previously, or a few members knew each other from other groups or projects they were involved in. Generally, the facilitators believed that between 50% to 80% of their members knew each other previously.

Did your group exist prior to joining the Facilitation Fund?

The facilitators often wanted to make the distinction between knowing someone by name and actually knowing a person:

> *"I would say very few, there's an interesting dynamic within the farming community that people know of people but they don't know them. So, they know who farms where, but they're not necessarily familiar with their needs and their businesses and their potential for collaboration."* (Group 22)

> *"There is a classic example of two land owning farmers on X who farm 2 miles apart and have done so for 40 odd years and they introduced themselves for the first time at one of the meetings."* (Group 24)

The geographical nature of some of the groups, either a whole county or a long, thin strip, meant small clusters of members had formed within the group's boundary where members were better known to each other.

Did you know any of the members before establishing the group?

The majority of the facilitators (88%) knew the members before establishing the group. In some cases there was evidence that facilitators had used their previous connections with the farming community to recruit members and that members who had signed up early already had a degree of trust in the facilitator and played an active part in getting 'the message out' and recruiting other land managers. The three facilitators who did not know the members previously had replaced an earlier facilitator. It was considered helpful to have known some of the members before the group was established as this helped build on existing relationships, and also sped up the application process, as one facilitator commented:

> *"Knowing people helps, with the application process it helps because they gave us a very short window and you had to have the farmers signed up to make the application, then actually knowing them in the application process was essential. It would've been much harder in the time frame going to people you didn't know and getting them to collaborate."* (Group 5)

Facilitator qualities

The facilitators were asked to identify what they do well as a facilitator in order to identify the key qualities of this role. Table 23 shows a summary of the key qualities that emerged from the data. The qualities ranged from providing information and events, to the softer interpersonal skills of providing personal support and confidence building.

Table 23: Summary of key facilitator qualities

Facilitator quality	No. of mentions by facilitators
Getting people together to discuss a topic	4
Informing members about latest issues	4
Enthusing and motivating members	3
Avoiding leading the group	2
Listening to the group members	2
Getting members to talk openly, confidence building	2
Organising good events	2
Getting on well with people	2
Coming up with ideas	2
Being very organised	1
Respecting and helping the person	1
Providing a balance of events and activities	1
Always available to help members, for whatever purpose	1
Making sure everyone's needs are met	1
Amalgamating member's thoughts and ideas	1

5.4 Social Capital Indicators

A series of questions identified whether being part of a CSFF had contributed to any changes in the members' level of connectedness and their levels of social interaction and, if so, in what ways.

Bonding social capital

The first set of questions aimed to identify the nature of any relationship that has developed between the members of CSFF. Bonding social capital is characterised by strong bonds between similar groups of people. These bonds are seen as strong ties, that are low in new information but high in reassurance and support. There is evidence that the presence of such bonds can increase the quality of engagement and environmental outcomes through information sharing and knowledge exchange and collaborative working. There is also some evidence that group working can lead to enhanced environmental outcomes due to collective commitment-making and a sense of collective efficacy. Also, perceptions of acceptable farming practices can be changed if an individual can share information in a group and see the individual farming practices undertaken by their peers. Bonding social capital is characterised by strong social trust. This social trust enables the information and knowledge sharing outlined above. However, if this trust is absent there is a danger that group working can have negative effects on environmental achievements. There may be a fear of exposure to the potential judgement of others, particularly if the environmental activities undertaken by one group member do not fit with the cultural norms of the group. This is unlikely to occur in the presence of strong social trust. There is also the possibility that socially bonded groups can enforce conformity (group think).

The first set of questions aimed to identify the level of bonding social capital that has developed in the groups.

Information sharing and knowledge exchange

Information sharing and knowledge exchange are good indicators of bonding social capital and were seen as one of the main outcomes of the groups.

Are you aware of any sharing of knowledge and information amongst the group members as a result of CSFF?

Much of this sharing of knowledge appeared to happen during group meetings and events. These settings allowed the group members to express their curiosity about different practices and what works and does not work. The following quotes from facilitators illustrates this point:

"Yes, that comes out in meetings, you get a lot of that in meetings. So, whether it is during a field walk with a vegetation expert or a classroom exercise with some lecturer. Because they feel that it is their group they are willing to share their knowledge. You say evidence, I've never written stuff down, sometimes at the meetings, particularly indoor meetings,

people will hang on talking for over an hour. They will talk and talk and I am pushing them out of the door eventually." (Group 24)

"Yes, that is definitely happening because when we have our training events, I think partly because of the way we format it and partly because the way people are about getting to know each other, they are very keen to share knowledge, they don't hang back they are keen to come forward and talk about different things whether they are management or cover crops, what species they've got and how they've established them and give the full figures." (Group 8)

"At meetings very much so. At a meeting a little while ago one of the members bought in a friend who had gone for controlled traffic farming and he came along and did this informal presentation and we had a big debate and people were chipping in with their own experiences and things that they could do better and I think that more than one person will be going away and trying out the suggestions that came out of the meeting." (Group 2)

There was also one example provided of knowledge sharing beyond the group members as the following quote explains:

"This group is talking outside of the group and getting other people interested and we're trying really hard to get funding to get other groups up and running while other farmers are interested. There's a definite benefit, and the knowledge transfer goes further than the events we hold. These farmers are talking to neighbours in the next catchment and they can talk about it, and the people that aren't in the group are wanting to set up their own so the information is definitely filtering out." (Group 19)

Although this information and knowledge sharing was evident in most groups, there were a few groups where this type of exchange was limited and one example of some reluctance to share as the following quote illustrates:

"There is some of that. I have had one member though say 'why would I want to share what I'm doing in terms of my tillage options, because I think I'm ahead of the game and I don't want you lot to catch up'. It is a real mixed bag of attitudes towards that stuff." (Group 4)

Trust and helping each other out (reciprocity)

Fundamental to the development of social capital is the development of trust between the group members and group members helping each other out (reciprocity). Most facilitators (84%) reported evidence of this trust building, although 16% either didn't know, or were unable to provide evidence of this occurring.

Are you aware of more trust and members helping each other out, as a result of CSFF?

There was evidence of this trust building and confidence-building in relation to the information and knowledge exchange processes that were taking place. The quotes below emphasise that this trust building takes time to develop:

"You can just tell by the things they say in meetings. To start with, I'd ask a question and no one would answer, perhaps afraid of looking silly. Now, I can't shut them up sometimes!" (Group 7)

"I've noticed a big improvement in how they listen to each other and how the quiet ones are more confident about speaking. The dominant ones have got better at listening. It can be really quite touching when you get them all together, just how much they talk about, everything, including their worries." (Group 20)

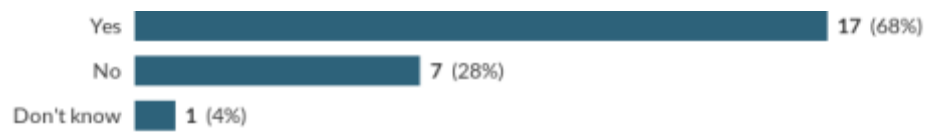
A number of examples were provided of group members helping each other out. The quote below provides an example from one group:

"Somebody was absolutely desperate for some straw, we had the wet spring and they couldn't get their cattle out and were desperate for straw, got some from another group member who they didn't know previously so yes, and somebody hosted a wedding for an employee of one of the other farmers when their venue let them down at the last minute so yes! It's amazing and it's been really interesting to watch that social interaction." (Group 7)

Collaborative working

Related to the building of trusting relationships is the notion of collaborative working. Over two thirds of the facilitators were aware of new collaborative working amongst group members as a result of developments within the group. The definition of collaborative work by the facilitators varied, for some it meant helping through machinery sharing, and for others collaborative working referred to collaborating to deliver environmental outcomes, or to run public events.

Are you aware of any new collaborative working amongst group members as result of CSFF



A limited number of specific examples were offered by the facilitators of collaborative working as a result of the group. Three examples were provided of machinery sharing, three examples of collaborative grazing, one example of a group sharing soil sampling

equipment, one example of members sharing materials to make compost, and one of collective purchasing of bird seed, as the following quotation illustrates:

> *"They [local ornithological society] came out and gave a really nice presentation at Christmas. On the back of that one of the members spontaneously said 'I'll put an order together for some bird feed and we can do some supplementary bird feeding through late winter early spring' and to save everybody individually ordering, he just wanted to get if off the ground and he said 'look I'll get a truck load of this stuff in and if everyone tells me how much they'll take'. He divvied it out and it was great, it didn't take any effort from me." (Group 10)*

Some of the facilitators felt that this type of collaborative activity was still in the planning stage or would start to happen if the group continued for longer.

There were also examples of collaborative working leading to the development of other off-shoot groups, as explained by two facilitators.

> *"A couple of them have got together in a little regenerative grazing group, with a WhatsApp group, and they go around visiting each other's farms, it's part of the group but it's growing into something bigger which is great, and it's now being supported by a different project in [the county]" (Group 21)*

> *"Well, there's one example, a member just asked me to put her in touch with another group member because they both keep goats. It was to see if she was interested in connecting with more people who manage goats in the same way." (Group 23)*

For a few groups it was noticeable that there was already an element of collaborative working between some group members before the group formed and therefore collaborative working could not necessarily be attributed to the presence of the group itself. This was particularly evident in the remote upland areas as highlighted in the following quotes:

> *"Those who are neighbours were already prone to things like machinery sharing or timing of operations. There was already a good level of that in practical agronomics. I would say that might have improved or increased slightly but not enormously because it has already come from a strong base." (Group 2)*

> *"A few of them had already got together in a X meat group that were supplying a supermarket, so a few of them had worked together on that and some had got money from another fund for monitoring live weight gain in the X, so there were little collaborations already going on." (Group 15)*

Negative relationships

Inevitably, in any group tensions can arise and in response to a question about evidence of negative relationships, five facilitators provided evidence of such negative

relationships.

Is there any evidence of negative relationships between members, such as members putting others under pressure to deliver the expected outcomes?

Facilitators referred to a few disagreements and different points of view that have arisen but have been amicably sorted out, often helped by having a strong steering group. Some tensions in particular have arisen in the more diverse groups where there are commercial farmers and smallholders, who have different agendas and interests. One facilitator mentioned some heated discussions about veganism and badger culls and the quote below illustrates the issue well:

> *"We've got a few small landowners who are perfectly entitled to be part of the group but of course they have a different agenda and different interests. It is alright in a big meeting but I've found in some of the smaller cluster meetings it can be quite difficult. Nothing major, no big fall outs. They have different objectives, they tend to have different ways of communicating. They tend to communicate as if they understand all the farming issues, and the farmers don't think that they do. It can just come over sometimes as 'We know what you should be doing and why aren't you doing it.'" (Group 18)*

Four facilitators mentioned one particular individual in their groups who was particularly negative or truculent, but was generally tolerated by the other group members. Part of the group development was recognising the differences and negotiating a way through them to maintain group integrity and respect for members.

Four facilitators were aware of members who did not get on before the group was formed, but those tensions were generally left outside of the group activities, as explained in the following quote.

> *"The old adage about nobody remembers what you did right but never forgives you for the things you've done wrong. Some things go back generations. They are not all spitting feathers, but the bigger the group and the smaller the community, tensions will arise." (Group 6)*

Two facilitators mentioned group members coming under some pressure to meet outcomes, but it was not considered negative or resented.

Health and Wellbeing

It is widely recognised that farming is a stressful occupation which can impact on mental and physical health. Farmers face numerous stressors, including long working hours, time constraints, unpredictable weather, uncertain markets, untimely equipment breakdowns, social and geographical isolation, and increasing regulation, among others. A number of questions asked the facilitators to identify whether they felt group membership had an impact on their members' health and wellbeing.

Social benefits

The social benefits of the groups identified by the facilitators ranged from strengthening social networks and the social interaction between group members to helping with wellbeing and reducing feelings of social isolation.

Are you aware of any other social benefits derived from being a member of the CSFF, particularly with regard to isolation and wellbeing?

A high proportion of the facilitators (87%) were aware of the social benefits that members were deriving from group membership. In particular three facilitators noticed the social interaction at group meetings when members stayed to talk to each other long after the meetings had finished. It appears the groups are providing an opportunity for farmers to get to know each other, even for those who are neighbours. As one facilitator put it:

"I think the social side actually it has been significant, we weren't expecting it. It has been a real surprise for all one of us. I mean the facilitators, it has been a huge surprise how lacking that was and how much we are helping to fill that void and I think it is hugely satisfying too." (Group 8)

Several facilitators also gave examples of specific interactions that they had witnessed which illustrated the social benefits that members have derived from the group.

"We had a lovely situation quite early on where a woman came along and said 'I've never been to one of these things in my life, I've recently lost my husband and taken on the farm and I don't know what to do, help'. And it was really nice to see everyone rally round like that. In a community sense I think it's great." (Group 14)

"I will give you one example, a person from X came up to X at one of the meetings and give them a big hug and said thank you for what you and X have done… There was a farmer who never came to events or responded to emails in the beginning, now he responds to all my emails, comes to more and more events and brings his wife along…. People feel that sense of belonging and that, sort of, safety that it is our group, that it doesn't belong to Natural England or the government or whatever." (Group 24)

The benefits of breaking down social isolation were also identified. This appeared to be particularly important for groups located in more remote areas of the country, although not exclusive to these areas:

"Yeah. That's huge. That kind of it. Yeah, as I said before one of the biggest successes of the group really is breaking down the isolation" (Group 23)

"One of them said to me just recently I could go for days without speaking to anybody. I might see the tractor in the next field and wave but I

couldn't even see who it was that was driving it, but through this I feel I've developed relationships I didn't have. There was one who was new to the area and didn't know anyone but through the group has made friends, so that interaction has really increased and it wouldn't have happened without the group. So many of them have said to me that they've really appreciated it." (Group 21)

"It's interesting because I think that a lot of the younger farmers are under as much pressure as the older farmers because of their jobs. And what I see is that we're providing a farming helpline." (Group 5)

"Some of them – one lady says it's part of her social life now. She really loves it and it just gets her off the farm. So, from a social point. Also, one of the other things we were talking about was mental health. Doing something along those lines, awareness of mental health and doing some sort of workshop. It's definitely gone in directions that we didn't necessarily think it would go." (Group 9)

"There was a suicide in the area about four months ago and everyone rallied around and helped with keeping the farm going, one of the group members has taken on the tenancy, so I can tell there are some members of the group that are very stressed, so we do touch on support organisations for the farming community. We had a partnership meeting a few weeks ago, and we had the farming support network present as well just to subtly say here's some details, call us if you need." (Group 20)

It is not only other group members or the events that help with the social isolation and social support, but it appears that facilitators also play a role, as highlighted by the following quotes:

"It's all part of it, I think sometimes being part of the group and having me to refer to. I know that's not what the groups aim for but sometimes you find yourself being approached and providing a form of contact to reduce isolation, even if it's not other members actually contacting me. I can think of one member who probably does that, so there's an element there of that, for sure." (Group 17)

"Definitely, I get more phone calls. I could do with having more time to make more phone calls!" (Group 20)

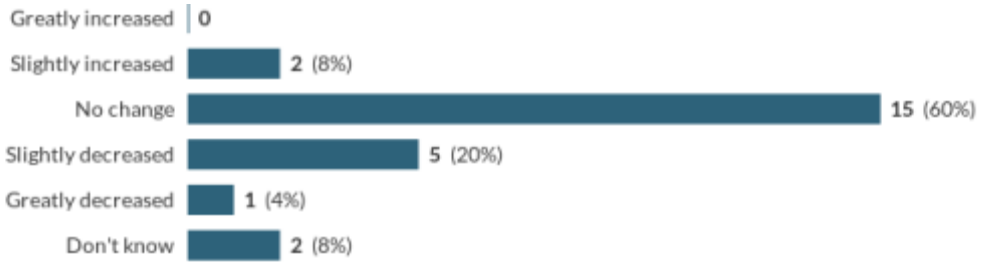
Two facilitators also expressed concern that they were aware of farmers in their area that were socially isolated and not members of the group. They felt it was important that future policies recognise some individuals will not want to work as part of a group, and to have mechanisms in place to ensure these people can also access appropriate resources and support when they require them.

Stress levels

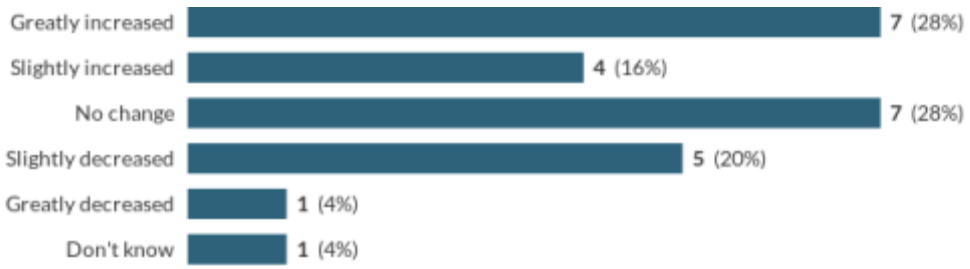
One of the questions asked facilitators if they thought that being part of the group had changed members' stress levels in terms of their AES workload, administration and bureaucracy, inspections, financial issues, and family conflicts.

On a scale of 1-5, overall to what extent, if at all, have the group members' stress levels increased or decreased as a result of:

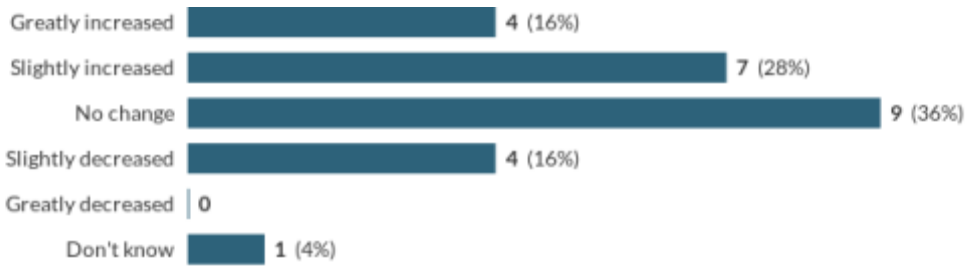
Workload due to agreement



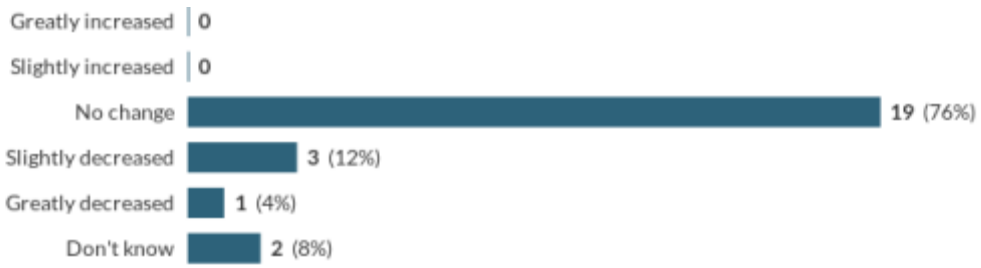
AES administration and bureaucracy



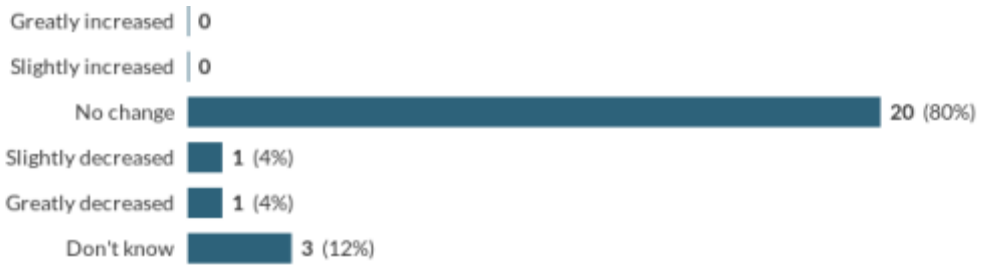
AES inspections



Financial issues as a result of their agreement



Family conflict as a result of their agreement



In terms of their agreement workload, most facilitators thought that group membership had no effect on stress levels (60%), whilst 21% thought it decreased stress levels because the members were more informed about the schemes. The quote below also shows how an AES agreement taken up as a result of the group had helped to reduce both stress levels and social isolation:

> *"One farmer in particular had no staff, but because I put him in a massive stewardship agreement with a lot of capital he's now got farm staff which has made a big difference to him on a day to day basis and he is a lot less stressed because he has people to help now and that was completely justified through the business because of the stewardship and the facilitation. He is a lot less isolated now." (Group 16)*

Nearly half (40%) of facilitators thought members' stress levels had increased as a result of the administration and bureaucracy of their AES, mostly for those who had entered into the new Countryside Stewardship scheme. However, around a quarter (24%) of the facilitators also believed that the group had reduced the pressure for members. This was because the facilitators had provided some hand-holding and support with the administration and bureaucracy of the schemes. Some facilitators (40%) also believed that inspections had increased stress levels for members, with four facilitators again suggesting that their presence has helped reduce the stress levels by being available as a helpline to resolve issues or provide clarification. The following quotes show two facilitators thoughts on their members stress levels:

> *"The only thing I can say is that when they've received RPA requests for evidence, I've been really able to help them with that and send them photos of things and just clarify things and sit with them to fill out the forms because they're not feeling very confident or nervous of it. They will always be very nervous of RPA, rightly so, because they are very black and white. I think as an individual facilitator I've been able to help to reduce the stress levels, because they've been able to ask the daft questions and they can get help with it. With quite a few of them I've sat with them and done their claim forms, so that they get it right. I think it helped reduce stress." (Group 16)*

> *"It is not necessarily workload as such, it is fear of being non-compliance. I think being part of the group has probably helped alleviate, some of that concern, a little bit….. There is still a lot of concern about that stuff. Are they doing the bird seed right, or have they done things at the right time of the year?" (Group 4)*

A few facilitators have tried to help members if they are having financial issues with their agreements by calling the RPA and trying to fix issues that have an effect on their members' finances.

Bridging Social Capital

Bridging social capital refers to social connections between individuals who are dissimilar with respect to socioeconomic and other characteristics. The relationships between people in such networks tend to be weaker, and less sustained than those demonstrating bonding social capital. However, these types of relationships can have advantages through bringing new information and ideas into the group and

introductions to new networks. There is also evidence that those who are frequently engaged in non-agricultural networks and with the general public are thought to be more likely to be involved in environmental activities as through this contact they feel a larger social responsibility. Furthermore, there is evidence that if farmers experience acknowledgement of, and some social recognition for, their contribution to the protection of the environment they are more likely to maintain the adopted practices.

Nearly all facilitators believed that through the group there had been engagement with non-agricultural organisations or individuals who members do not usually come into contact with.

Is there any evidence of engagement with non-agricultural organisations or individuals who members don't usually come into contact with, as a result of CSFF, such as ecologists etc?

The groups are engaging with a much broader range of organisations and specialists, including wildlife specialists, such as botanists, ornithologists and invertebrate specialists, but also soil and water specialists and other experts in regenerative agricultural practices. The quotes below show how this interaction has led to improved environmental activities:

"Yeah they've had loads of interactions with ecologists. They've had botanists, ecologists, birders, bat people, they've had all sorts of people, water quality people, flood engineers. Just about everybody! Parish councils, town councils, district councils. There's a lack of resource of people out there, the farmers would welcome people to come and survey their land, and we've worked with the existing bodies that we know and love like BTO and people like that but we could do with an army of ecologists because I know the farmers would welcome them." (Group 5)

"The members are really keen on, we've got an event in a couple of weeks on wading bird monitoring, and our ecologist will go out and speak to the members about how they would go about recording birds on their farm and the best methodology to do that, so they're upskilling themselves to go into new AES and record what benefits they've produced through AE and it gives them a real understanding of what they're trying to achieve, and gives them ownership of their schemes because they fully understand what they're getting paid for, for adding bird options and they can see what birds they've got, and which ones have young, and how to record that, and they take real ownership over the scheme and it's the same with peat habitat, if they fully understand what a working peat bog does in terms of NFM, water quality and carbon storage they're more likely to make sure it's managed to the best of their ability." (Group 19)

The following quote provides a good example of how interaction with others outside the group can introduce new ideas:

"I invited some speakers from the [X group] to speak to the group on [X] about what they were doing in terms of wildflowers and chalk grassland creation and restoration and management and it became quite evident that in the patch we haven't done very much at all, nobody has really engaged that much. …. Everyone looked at each other, whether they were the stakeholder people, National Park, Wildlife Trust and the farmers and said 'actually is anyone doing wildflower seeding or green hay?' and we couldn't think of any single person. Whether that is an influence from me, I don't know, as a collective there is a bit of group think – 'we need to think about these things and almost forget about the other bits'." (Group 4)

There was a mixed response from the facilitators about whether their group activities had resulted in engagement with the general public or local community. Over half (58%) of the facilitators said that their group was engaging with the general public or local communities, whilst 42% said this was not the case.

Is there any evidence of engagement with the general public or local communities as a result of CSFF?

Examples of such public engagement that have come about directly as a result of group activity included Open Farm Sunday, farm walks for the local community, interaction through websites and social media, talks at local shows and schools, information boards besides footpaths, and volunteer opportunities.

Half of those groups who were not currently engaging in this way, expressed an intention to do so in the near future, although one facilitator felt that the funding was not available to undertake such activities. Two groups in very remote and sparsely populated rural communities, felt less need to engage with local communities in this way as there was less of a distinction between the local and farming communities.

There was a strong sense from the facilitators that promotion to the public of the environmental achievements of the groups was important and that the work that farmers are doing is currently under-valued. This view is supported by the fact that only four of the facilitators identified examples of where the group had been acknowledged by the public for their work in delivering environmental benefits.

Linking Social Capital

Linking social capital is used to describe networks of people characterised by power differences; in this case, the links between farmers and institutions. It can be measured by the ability or desire to form positive relationships with government agency staff or with landlords. Such connections are important for accessing support from formal institutions through personal contacts and also for building social trust. There is evidence that farmers who do not trust the government are less likely to adopt AES.

Over half of facilitators gave examples of changes in the level of engagement with government agencies.

Is there any evidence of changes in the level of engagement with government agencies/landlords?

Facilitators referred to actively encouraging staff from Natural England, Defra, Catchment Sensitive Farming, the Environment Agency and the Forestry Commission to attend meetings in order to provide the group members the opportunity to meet with these people face-to-face. A number of groups had also been involved in the Defra consultation on Environmental Land Management Scheme (ELMS). The benefits of such interaction are highlighted in the following quotes:

> *"Yeah, with policy definitely. I think people are much more confident to meet policy makers and work in a constructive way with them. Obviously, there are things that have happened with delayed payments that have caused serious financial hardship for people that have joined, payments placed on hold, and the appalling administration of countryside stewardship, so we've helped farmers to get over some of that to be able to speak cohesively to policy makers who have been down." (Group 5)*

> *"Given the contact on a general basis, these farmers have better contact with people in those agencies than most farmers do and I think that is a big advantage to them." (Group 6)*

> *"We have had events when Environment Agency's officers have been present. That has improved members' recognition that the Environment Agency people don't have horns and aren't out to get them." (Group 2)*

One of the issues have been lack of agency staff in the area, particularly Natural England staff and also lack of continuity of staff:

> *"But depends which agency you are talking about. Farmers like stability and changes in personnel within the agencies has not been helpful. This works against building of trust." (Group 22)*

When asked whether there was any evidence of changes in the relationship with government agencies, facilitators gave a mixed response. Just over half of the facilitators (52%) identified changes in the relationship with government agencies as a result of the group, whilst 48% thought there was no change in the relationship.

Is there any evidence of changes in the relationship with government agencies?

As one facilitator explained:

"They know who to talk to, they know their names and their faces and they know what power they've got and the blaming the faceless bureaucracy is tempered by the fact that they know these people are explaining how it works and what they are able to do and not able to do at a local level and that gives the farmers an idea of how much of it is nameless bureaucracy and how much of it is an officer's decision and I think that is quite important." (Group 6)

Willingness to Engage

There is evidence that the quality of engagement that a farmer has with the environmental activities on their land can depend on various factors related to their willingness to engage including:

- their level of interest in the environment, such as wildlife and landscape features;
- whether they feel they can make a difference through their environmental activities (response efficacy);
- any perceived social or cultural pressure to undertake environmental activities (subjective norm);
- whether they can make their own free choices on decisions that affect their farm (agency).

There is evidence that developing an interest in the environment affects farmers' willingness to engage with agri-environment activities. Facilitators were asked whether there had been a change in the group members' interest in environmental activities on their farm since being involved in the group.

Has there been a change in the group members' interest in environmental activities on their farm since being involved in the CSFF?

Unsurprisingly, all but one of the facilitators (who didn't know), answered this question positively. One facilitator explained that reasons for this change of interest included the learning and interaction taking place within the group, but also the changing policy environment and the move to ELMS:

"Obviously, they must have had some kind of interest to have joined the group in the first place but they really have engaged, and we've talked about different things from cover crops to soil health to agronomy to farmland birds. Sometimes it's surprised me who is interested, which is really interesting I think, a couple of the really big farmers are really keen. There are a couple of them that are hard to get, at first I thought 'how's this gonna go' but actually I think their attitudes are changing for the better. I think part of it is the FF that's getting people together to talk about more, and the other is that basic payment is going and it's going to be replaced by ELMS and I think they all see themselves well placed

within this group because they'll have the best advice and they're already on that road." (Group 1)

When asked which particular environmental activities the members have shown an interest in the following emerged as the most prominent: farmland birds; soil health; grassland management; carbon sequestration, cover crops, pollinators; hedge management; and, flood management.

A large majority (88%) of the facilitators felt that being part of the group has resulted in members doing more for the environment than they would have done individually.

Is there any evidence that being part of the group has resulted in members doing more for the environment than they would have done individually?

Some facilitators, however, found it difficult to articulate in what way members are doing more for the environment and suggested it was difficult to measure:

"I'd like to think so because that's the whole point of it all. I don't know how you measure that, that's really hard to say. There are very few people in the group who aren't trying something new, whereas we wouldn't have known before, if we hadn't engaged." (Group 21)

Four facilitators mentioned the presence of peer pressure activating members to do more for the environment than they would have done without this pressure:

"There's a bit of peer pressure, isn't there. Because if one of them's doing it they probably think 'oh maybe I should be doing that', so there's maybe a little bit of that." (Group 15)

"One of the farms that went into a scheme that hadn't before was because they felt they needed to do more being part of the group." (Group 3)

"It creates more of a community approach to things, rather than things being a burden on the individual. I think it does have a massive impact, people who have changed how they managed their land have done it because their neighbours have. So that's farmers who are already doing it showing it works, rather than just the theory, so I think that's a good way to encourage change." (Group 14)

"Peer group pressure - for instance one farmer went hell for leather cover cropping influenced the others to look at it and adopt it…. The other way that would have happened, is that one person would have done it and other people would have looked over the fence and seen it and then gone to that farmer and said what are you doing and what are the benefits, what have you, whereas in a group it happened very quickly over a large area, whereas before it kind of step changed as each farmer came to understand what it was about and learnt it from each other, or gone to the Oxford Farming Conference or been somewhere else and learnt about it." (Group 6)

All of the facilitators believed there was evidence that group members were undertaking environmental activities voluntarily since joining the group.

Is there any evidence of group members undertaking environmental activities voluntarily, without payments, since joining CSFF?

These voluntarily activities included grassland restoration, butterfly banks, tree and hedge planting, riparian planting, fencing off watercourses and installing woody dams and silt traps, relaxing hedge trimming regimes, conservation measures for rare arable flora and corn buntings, uncultivated headlands, establishing buffering habitats, providing habitat for pollinators and bird seed for farmland birds, pond creation and restoration, installing bird boxes.

Subjective norms

The next set of questions aimed to identify the social acceptability of undertaking environmental activities in the group. The first question aimed to identify whether there had been any changes in the group members views about AES.

Is there evidence that being part of a CSFF has changed the members' views about AES?

This question received a mixed response from facilitators. Over half of the facilitators (58.3%) identified some positive change in members' views about AES as a result of group membership. Different reasons were given for this change of view, some facilitators thought it was because the members are more informed about the schemes, both in terms of a better understanding of what the scheme options are trying to achieve, but also in terms of the administration required. Some facilitators thought it related to peer pressure, as the quote below shows:

> *"Some of them, definitely. I think some of those I mentioned at the start they wouldn't have bothered or got around to it, it's just too difficult. But if they're sitting in a meeting and everyone else is in one, they feel more like they should go for it." (Group 22)*

Other facilitators revealed some of their group members' underlying dissatisfaction with AES. Some are wary of the administrative burden of the scheme as the following quote reveals:

> *"Those that aren't in a scheme would like to have a scheme, but they have good reasons not to be, and usually it's because they're worried about the stress it'll put on them. Until they feel things are less onerous, it's the fear of penalties, not that any of them would do anything deliberately*

but they just hear scare stories. And I try and reassure them but they just say 'oh no I don't think I want to do that'. When you've got one of the members, who've had some pretty awful things have happened in their family which have caused them stress, I'm not going to encourage them into something that might actually make it even worse for them. So, lots of reasons for not being part of AES, but I think most of them would like to be. They believe in the principles, and doing stuff, but they're just very wary of bureaucracy." (Group 7)

Interestingly, the quote above relates to a group where over half (58%) of the members are not in an AES. Other facilitators feel that the new Countryside Stewardship (CS) scheme has put farmers off AES:

"They have all pretty much gone off them! The new CS is just a bad product that has not been sold very well. and the farming press and the RPA, all those things together have just made CS not a very good product so some farmers are just not bothered or just waiting for ELMS." (Group 6)

"It is definitely true that some of the members have got disenchanted with AES and for some of them that has kind of meant that they have not engaged as much with the group as we hoped they would. It is a real challenging time with AES. People not getting paid on time and seemingly administratively burdensome. Considering all that is going on it is doing quite well really." (Group 9)

"Think they generally feel much more positive about the environment and they know they can get good money to help them do things on the farm, but fundamentally they distrust the schemes because the rough ride they have had in the administration of that." (Group 16)

"That kinds of ebbs and flows a bit. The general perception is that it is overly bureaucratic and complicated. That is the underlying perception, but people are more willing to be a bit bolder and to enter into the spirit of it and rather than just do it as a tick box exercise. But the underlying thing is that this is complicated and bureaucratic and I run the risk of being penalised by an inspector who doesn't really see what I'm trying to achieve." (Group 4)

When asked what other farmers in the local area thought of the group, some (56%) said that they didn't know. Others felt that the group was respected and admired by other farmers and several facilitators had been approached by farmers to start up new groups. This positive response from the farming community clearly indicates a cultural acceptability of group membership.

One facilitator explained how group membership provides a safe forum in which to discuss environmental outcomes:

"… People are now saying it's okay to think about the environment, it's safe, you know, you are not a weirdo, you're not odd, you're not wrong. It doesn't make you a bad farmer it makes you a good farmer." (Group 24)

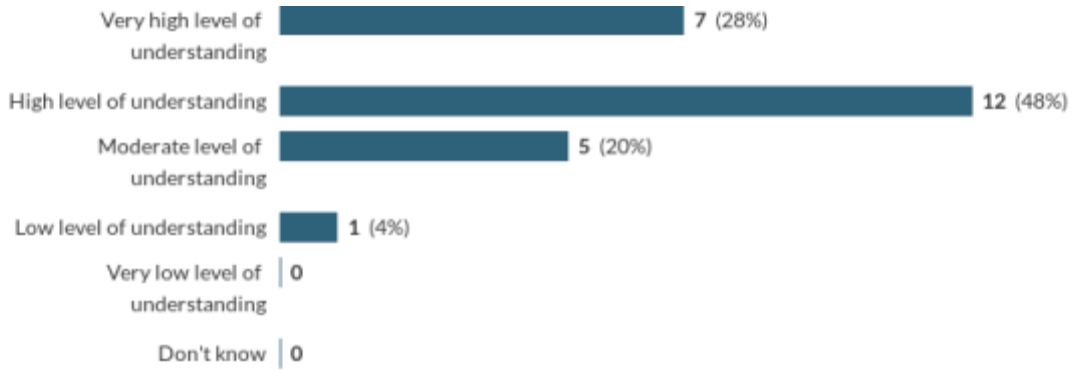
This point is echoed by another facilitator when asked about the most successful outcome of the group:

"So some of these people they've known each other their whole lives because they've lived within five miles of each other forever, and maybe they bump into each other down the local pub or wherever and they'll talk about their yields or the machinery they've bought, whereas this is a space where they can get together and talk about the environmental issues which they wouldn't talk about in other situations, and sharing best practice, and having a laugh with each other and being able to approach each other. And it leads people to think more." (Group 1)

Response efficacy

The next set of questions aimed to identify whether members feel they can make a difference to the environment as a result of group membership. There is evidence that the more that a farmer feels they are making a positive contribution with their efforts, the more likely they are to continue with their environmental activities. The first question aimed to identify whether the facilitator thought the group members had a clear understanding of what the group is trying to achieve.

On a scale of 1-5, to what extent do group members have a clear understanding about the outcomes of the group?



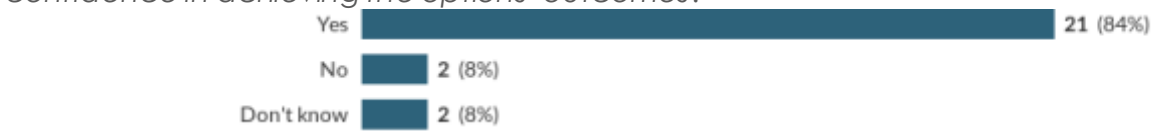
The majority of facilitators (76%) thought that the members had a high or very high level of understanding about the outcomes of the group. Five facilitators thought that members had a moderate understanding of the groups' outcomes and one a low understanding.

Further questioning revealed that the members may have an understanding of the group's priorities but not necessarily the outcomes they are aiming to achieve. As one facilitator explained:

"The thing is it's whether they are actually interested in that and I'm not sure that many of the group are. It's a bit like being at school, no child is interested in the national curriculum but they might be interested in certain parts of the things that they get taught and I think that's the case. I explained what the aims are at the outset, but we've probably haven't mentioned, we only probably mention it once a year when we

have a bit of a review. Farmers are mostly interested in what we talk to them about whether they connect that back to the aim or not, I don't know." (Group 11)

Is there evidence that being part of CSFF has changed the members' levels of confidence in achieving the options' outcomes?



The majority of facilitators (84%) thought that group membership had changed the members' levels of confidence in achieving the options' outcomes. This was clearly articulated by one facilitator:

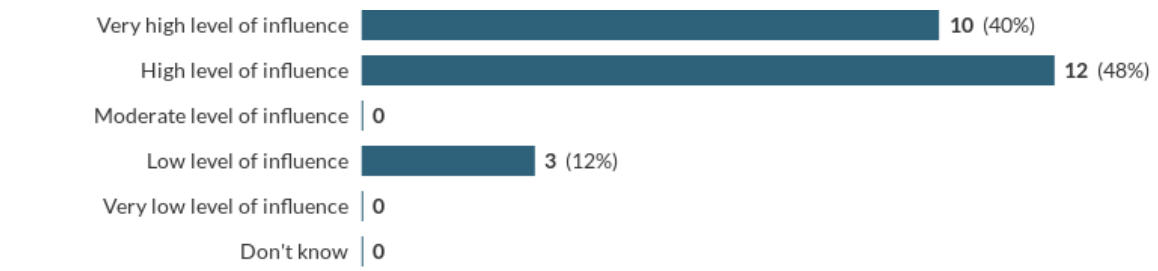
"They understand what we're trying to achieve, so they have more confidence to achieve it and they're more likely to attempt something because they can see what the end goal could provide." (Group 17)

Agency

In social science, agency is the capacity of individuals to act independently and to make their own free choices. In the context of environmental management activities, agency refers to the capacity for farmers to make their own decision as to how they manage their land. If management practices are heavily prescribed with limited flexibility, farmers can feel that they have lost some control over the management of their land and this can result in feelings of dispossession, which can affect the quality of engagement with environmental activities and therefore environmental outcomes. There is evidence that a greater understanding and 'ownership' of the environmental activities may be associated with greater effort and care in their implementation.

The majority of facilitators thought that their group members had a high or very high influence over the implementation of the group's work, but interestingly, three facilitators thought that there was a low level of influence.

On a scale of 1-5, to what extent are members able to influence the implementation of group's work?



The 10 facilitators who thought their members had a 'very high level of influence' with regards to implementation explained that members were able to suggest events and activities at any point and these would be accommodated. It seems suggestions are welcome and encouraged. Some of the groups rely on a steering group of members to suggest ideas, whilst others take a more open approach:

"They have a chance, all the time. They can come to me after an event and say well I'd like to do this now, I'll host it, or can we go here and do this

and that, and every year we have a get together where we look at what we've done and they get a chance to choose things for the future." (Group 21)

"I'm not going to force things upon them, it's got to be something they want to do. If I have an idea and they look at me as if I've gone mad and it's not what they want to do then that one gets dropped, so it's very much up to them." (Group 7)

A few facilitators did express frustration that members were not always as proactive in making suggestions as they would like:

"The group are not very proactive in coming to me and saying 'I really want to hear from this person' or 'I'm really interested in that' which is a shame because it would be good if they were a bit more proactive. But at the same time if any of them have come to me and said 'I'm interested in this' I've tried to keep that in mind to plan future events. If they did then yes, I completely would put an event on, or some kind of training for what they're interested in." (Group 1)

One clear lesson from the 3 groups where there is a 'low level of influence', is that from the beginning it needs to be made clear that the members are able to influence group activities:

"I've always said to them what do you want to do and I very rarely get much response. I get one or two suggestions, but I think they have been just a bit lazy and leave it to me. So, I think if I set it up differently they would have perhaps become more involved… That is definitely my mistake that I didn't really emphasise that and the lead farmer has already been 100% supportive of me but I think that he like me has been frustrated by a lack of motivation in taking things on. You would need a very, very strong lead farmer who has very good skills, not dominating but sort of coming in and enthusing and talking to people in a way that gets them motivated. I guess you learn by your mistakes." (Group 16)

The quote below again shows that the group was not necessarily established with a clear intention of the farmers driving the agenda. This is now recognised with the development of a farmer working group which will drive activities in the next phase of the group:

"Because we started off in a rather strange way in that we had X group. We then had a joint application between X and X group we started off with a little advisory group which I think is a bit unusual. We had some of the X group who are not farmers. We are only 6 people on the advisory group, 3 who are farming and 1 who isn't. We have now formed a farmer working group with the farmers choosing the people themselves from the group who are formally signed up. The advisory group will step back a bit, it is more about how do we handle the budget and meet the milestones. With the farmer advisory group, the plan is that they will drive this more in the next phase". (Group 18)

The third group has also struggled to get engagement and a response to a later question suggests that this group is unlikely to continue in the future:

"I'm constantly saying 'if you've got any ideas, we can do it' and get met with a wall of silence. We put out a little short list, which of these do you like the look of? And by and large we just get on and put something together." (Group 4)

Whilst the majority of facilitators (87.5%) suggested that members had contributed their own ideas to the group, several mentioned that it took some time for members to develop the confidence to come forward with their own ideas, as the following quote illustrates:

"This is why facilitation is needed. Members have ideas but they need to be encouraged to express themselves. This has improved as the members realise that they are in control and that the group is a supporting and safe space." (Group 24)

Have members contributed their own ideas to the group?

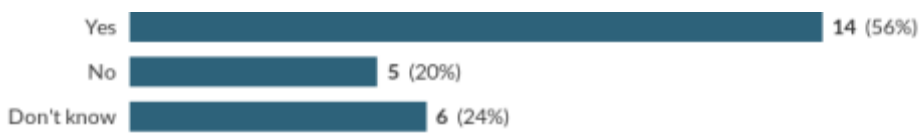
Three facilitators responded negatively to this question, and the responses of two of these are provided below:

"Not really, not much. It's a bit frustrating. I think some groups are much more farmer-led and perhaps began that way. The farmers looked for a facilitator where in this group we called the meetings and steered the beginning of the group and it has been difficult to change that dynamic." (Group 10)

"They are happy to let it run as it runs, they don't feel they need to interfere or suggest another direction." (Group 12)

A mixed response was given by the facilitators to a question about whether the group had contributed to any sense of ownership of their AES, with just over half believing that it had done so.

Has being part of a CSFF contributed to any change in a sense of ownership of AES?



The main reason for the positive response is that the group had helped members to understand the aim and objectives of AES and what they are trying to achieve which makes them more engaged and therefore creates a sense of ownership of the environmental outcomes. However, several facilitators felt that AES were limited as a mechanism to meet the objectives of the groups as the following quote highlights:

"The FF enables this soft approach, inspiring way of trying to enable people to go into CS and then they're faced with a faceless, punitive way that that scheme is completely inflexible….It's really interesting that this is the problem, once they go into the current scheme it's completely rigid but there's no relationship to be had. We can do our best as facilitators, but it's just a brittle scheme. The options are brilliant but it's non-flexible in the real world." (Group 22)

During the interviews a number of facilitators provided specific examples as to how the current scheme prescriptions were too inflexible to meet the groups aims, for example, for the creation and restoration of grass meadows or a specific option on undergrown cereals.

Table 24: Level of engagement in group by members

Group ID	Group Type on application	Completely farmer-led vs completely agency-led (1 farmer-led to 10 agency-led)	On a scale of 1-5, to what extent are members able to influence the implementation of the group?	On a scale of 1-5, to what extent do group members have a clear understanding about the outcomes of the CSFF?	Have members contributed their own ideas to the group?
1	Adviser Led	6	Very high	High	Yes
2	Adviser Led	3	High	High	Yes
3	Adviser Led	2	High	Very high	Yes
4	Adviser Led	8	Low	Low	Yes
5	Adviser Led	3	Very high	High	Yes
6	Farmer Led	3	Very high	Moderate	Yes
7	Farmer Led	5	Very high	High	Yes
8	Farmer Led	1	High level	High	Yes
9	Farmer Led	5	Very high	Moderate	Yes
10	Organisation Led	7	High level	Moderate	No
11	Organisation Led	6	Very high	Moderate	
12	Organisation Led	5	High level	Very high	No
13	Organisation Led	5	High level	Very high	Yes
14	Organisation Led	4	High level	High	Yes
15	Organisation Led	9	Low level	Very high	No
16	Other	1	High	High	Yes
17	Other	5	Very high	Very high	Yes
18	Other	4	Low	Moderate	Yes
19	Multiple boxes ticked	3	Very high	High	Yes
20	Multiple boxes ticked	6	High	High	Yes
21	Farmer	3	Very high	High	Yes

22	Organisation Led	7	High	High	Yes
23	Adviser Led	2	Very high	High	Yes
24	Farmer Led	2	High	Very high	Yes
25	Organisation Led	5	High	Very high	Yes

Some of the responses in Table 24 show a trajectory in the group's development with some starting out as more advisory or organisation led at the application stage and now categorising themselves as more farmer-led (see Groups 2, 3, 5, 14). The facilitator of group 2 explained this trajectory in the following quote:

> *"I would say the group has moved over that scale over the 5 years, at the beginning, it was maybe 7 or 8, I was gathering suggestions and would have asked for them. Steering Group members came forward slightly coerced, now the group is talking about it running itself." (Group 2)*

Other groups that have started as farmer-led have not always seen the level of engagement that was hoped for:

> *"We like to think we are farmer led and that is the plan, but they can be quite reticent in saying what they want to do." (Group 9)*

Group 22 as an organisation-led group explained their trajectory

> *"From speaking to other facilitators they've all been on a similar sort of journey in terms of, they didn't want to lead at the start, they wanted to get engagement with members then after a couple of years of talking about it, gaining trust and building those relationships I think they all then said I need to lead now, they've given us the direction so now I need to lead. So, it changes, but perhaps I'd say we're now towards a 7, but it's all been done in consultation with the group." (Group 22)*

Several groups, although mainly organisation-led, felt that there was an even split between farmers and the organisation leading the group:

> *"I would genuinely say it is both, that's because the agreement was built around what farmers wanted… It was very much a 50 50, we have got this opportunity and here are some things for you guys to think about and what do you want to do as well… We always try to get the farmer's opinion about what they want to learn about." (Group 25)*

> *"It's a mixture of both, but the farmers approached us to start the group because they didn't feel they had the skills or the time to do the claims or that kind of work and they've come up with the subject matter and left it up to us to do more research into the ideas and put the events on, with follow-up workshops." (Group 19)*

Capacity to Engage

A number of factors can affect whether land managers have the capacity to engage with environmental activities. In the context of this evaluation of CSFF, the skills and

knowledge obtained through group training and events were considered in terms of increasing the members ability to undertake environmental activities.

Training

The facilitators were asked to identify which group training activity or event was the most popular with the group members and which one was most influential on members' activities and outcomes.

The most popular training events in terms of number of attendees are listed below:

- Evening meetings on a member's farm with farm walk
- Soil health (mentioned most by the different groups)
- Silvapasture
- Agroforestry
- Water quality
- Hedge management
- Cover crops
- Farmland birds
- Pollinators
- Arable flora survey
- Bats and parasite control and wormers
- Natural capital ("because no one knows what it means").

The facilitators found it more difficult to identify the training events and activities that had had the most influence on the members' activities and outcomes. The following specific responses were provided:

- Grassland restoration which resulted in 12 ha of restoration.
- Farmland birds and wild bird seed mixes
- Soil health and herbal leys resulting in 300 ha of herbal leys in the group's catchment
- Cover cropping – requested seed from a seed company
- Cover cropping leading to 400 acres of cover crops
- Social media training that led to public engagement activities.

The facilitators were also keen to point out that the events and activities had led to changes in thinking which may not have yet led to changes on the ground, but were likely to do so when signing up to new AES:

> *"Probably the carbon footprint, and understanding the importance that that has going forward as a public good, and everyone's gone away from that thinking about how they can best manage their farm in terms of where they would plant woodland, and restore peat, and the knock-on effect of each farm understanding what their carbon footprint could mean for them and the knock-on impact on the landscape and habitat restoration is actually quite massive. Once all of those farms come up for their AE renewal I think the influence of any of those workshops will get on the ground, once the new AE scheme cycle starts. (Group 19)*

> *"And another member who's really keen, after our last meeting he was really inspired by the speaker that came from Groundswell and he's been*

seeking further advice on how to introduce livestock into his arable rotation as a form of regenerative agriculture. So good things are starting to happen, another one of the group members is potentially interested in some river restoration and possible reintroducing beavers into the area. I think these conversations wouldn't have happened, we might, in a few years start to see a lot more happening because it's allowing that conversation. With these farmers in particular it's quite a slow process, because they're quite big units, intensive, growing potatoes, sugar beet, maize, so it's a slow mindset change." (Group 1)

Skills and knowledge

Is there evidence that being part of CSFF has led to new skills and knowledge?

The majority of facilitators (87%) answered positively when asked whether there is evidence that being part of the groups has led to new skills and knowledge. Examples were provided of members actually implementing the different skills and knowledge gained – supplementary bird feeding; mob-grazing; re-introducing livestock into arable rotations; walling and hedge laying; soil sampling; shift to wider rotations that are better for the soils; cover crops; reduction in pesticides; a reduction in fertilisers; meadow creation and restoration. Some of the new knowledge may lead to awareness raising, resulting in subtle changes in behaviour as the following quote explains.

"There is this obsession in the farming world that my neighbour is going to look at my farm and if I have a rough area with willows and brambles and long grass growing, they are going to look at me and think I am not a very good farmer because it is not very tidy. X from FWAG says 'if you look at the patch of grass out there which is all long and straggly, that is where all the butterfly eggs are. If you chop all that down, come the spring you have killed them'…. I can't say, with hand in hand, that farmers were saying to me when walking out the door, 'Right I am going to stop cutting the grass ', but you get the feeling that they will look at a rough patch and say 'that meeting we had last year, where they said that if we leave brambles and we leave willow,.. That's where all the insects lay their eggs… I suspect that people have looked at those areas and said 'why do I need to mow that? I don't need to impress my neighbour by keeping everything tidy, just leave it. It will cost me money to mow it, just leave it.' I'm sure that this is going on. (Group 24)

Advice

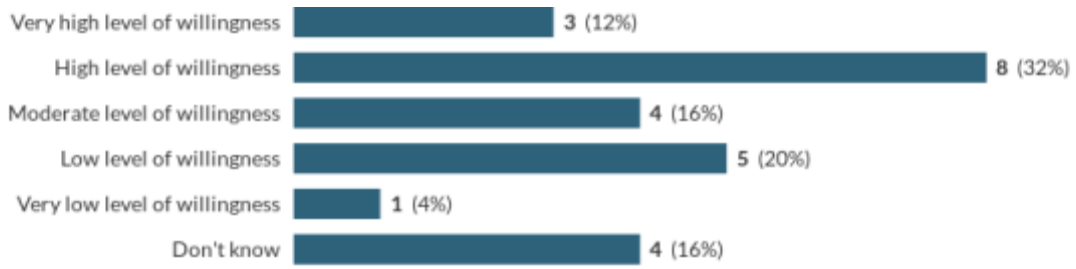
All but one of the facilitators stated that they had been approached by members for advice, although several pointed out that it was clear that their role as a facilitator for a

CSFF group was not to give 1:1 advice. If they have given advice it has been informal verbal advice, or emails, discussing ideas or potential sources of information, and management for specific species or habitats. If, for example, land managers want help putting a stewardship scheme together they are directed to advisers who can give them this more informal help. Some of the facilitators who are also independent advisers will charge for advice.

Have you been approached by members for advice?

There was a mixed response as to whether their members would be willing to pay for 1:1 advice.

On a scale of 1-5, to what extent do you think members would be willing to pay for 1:1 advice?



More facilitators felt that members would be willing to pay for 1:1 advice, rather than have a low willingness to pay, but generally with the caveat it had to financially benefit the farm business, either by resulting in some income for an AES agreement, or ensuring they avoided penalties. As the following quote explains:

> *"They are willing to pay but it's for things that specifically feed into an income stream for them. So, if they know they're going into a stewardship scheme, or applying for outside funding for which they need some work done then they'll pay for it, maybe less so if they're just asking for advice on how to manage their options. I can see that will increase when things are more results driven." (Group 17)*

Those facilitators who thought there would be a low or very low willingness to pay for advice referred mainly to the smaller farms whose financial margins were tight. As the following quote emphasises, this is particularly likely to be the case if members have been receiving some advice for free from various NGOs.

> *"I think that they are so stretched, when you are talking about such small farms it would be very challenging for them. Especially as we have been able to give them a lot of advice for free so that would be quite a challenge to start making them pay." (Group 9)*

There was general consensus that larger farms would be more willing to pay for 1:1 advice, whilst the small farms would be less inclined to do so.

There was no general consensus from facilitators as to when in the agreement cycle this 1:1 advice would most likely be needed. Some suggested it was at the application stage:

"When people are working up their applications, I know NE do these clinics when they can go for an hour with somebody, but they're not long enough in my opinion - having done some of their clinics in the past they're not successful. People want their hands holding, at least round here because that's what they've been used to, especially with the National Park they used to do their agreements for them and that kind of thing, so people are scared." (Group 15)

"Application stage. It is a big mistake that these government organisations make, they are obsessed with helping farmers to fill out the form. That is the easy bit, what the farmer really wants to know is what do I do on my farm?. As I see it that has been my main role, to say' ah, you've got an old orchard there, I think we can manage that, couldn't we, and they'd say 'I'd forgotten about that'. Or 'how about that water meadow?', or 'how about that wood?' or 'how about that ancient monument?' and then starting to build up a practical plan with them to me is key." (Group 16)

"There are probably two stages, there is that stage when someone needs to be walking the farm with the farmer and actually highlighting what is valuable. The farmers can do some of it themselves but they won't do it all. Then they'll want more specialist one to one which is likely to be how do you complete this form. Because it was early on, it was 'the farmers will be able to do this themselves' and they said 'no we won't', especially if it's all new". (Group 18)

Several other facilitators suggested that the 1:1 advice would be needed throughout the agreement cycle. This was explained well by one facilitator:

"During the application phase, then the initial implementation, we find a lot of issues with the first year of implementation and getting stuff done in time. Whether you are talking about spring establishment of bird seed, or whether or not which winter stubbles you should be putting on the form, when they have to be doing stuff when, that is all quite intensive. Then they tend to get into the swing of it. They quite like a bit of a health check and then not long before the end of the agreement, you are then starting to think about what do we need to be doing next, get prepared for the next scheme." (Group 4)

Continuity

Facilitators were asked if there was any longer-term ambition within the group to continue its work in the future.

Twenty of the facilitators replied that there were definitely plans to continue the groups and four groups were actively exploring options for alternative funding, in case this was no longer available from Natural England. Some other facilitators said if the funding did

not continue, they would still look to work with the farmers and offer advice through their organisations.

Three of the groups had not yet had the discussion with their members. One felt that the group was unlikely to continue and another group had already taken the decision not to continue as a FF in the future as the following quote explains:

> *"No, the funding runs out in June this year and we're actively not continuing with the FF group. We're moving into more one to one, specific advice using alternative funding. That's what the members have requested. Stewardship is time limited so they felt they needed to look beyond that and the requirements of NCA and everything else that's been used to drive CS outcomes. They understood and appreciated that all that was very good but they needed to look further afield and get much more advice with regards to what will be good for their businesses as the schemes develop and change over the next 5 to 6 years." (Group 12)*

There was a sense that the facilitator was key in keeping the groups going as the following quotes highlight:

> *"The group is desperate to keep going, we just need to find a way for it to happen. We're waiting to see if there's any chance we can rollover past the end of this month, but if not we'll have to spend some time looking at how else we can achieve that. I think the facilitator role needs to be built into that, because people were keen but there was no group before for a reason, and that role is so vital for getting these groups up and running and keeping them going, keeping that momentum to help the group work." (Group 19)*

> *"It needs someone to pull it together, maybe in some groups a farmer would step up and do that but it is a lot of work so it needs a central coordinator…. In terms of costs, you can cut them to an extent, but in some way there needs to be a facilitator and in some way people need to feel they're getting something out of it. There needs to be some budget to get advisers in otherwise I can see things drying up a little bit, you need fresh ideas coming into the group…. So without a budget to keep a facilitator going, and specialist advisers, the group would struggle. If there's money to do some projects separate to AE then that's a massive bonus." (Group 22)*

> *"I think just continuing to support someone in a facilitator kind of role. The cost benefit of having that facilitator will become very relevant when you add in all the stakeholders within that locality and those are ever evolving as well, with carbon trading and resilience planning and all the other mechanisms. I think the brilliant thing the FF has offered is the resource for us to exist, to be the coordinators, to be the person that goes out and inspires and helps, and enables and contextualises the landscape and the land that people have in that landscape, and that's what we need to continue is having those people out there, having the facilitators funded and it is cost beneficial as I say because through catchment partnerships and local nature partnerships you get*

alignments of government and non-government organisations all working collaboratively and the farmers benefiting from that, so the role of facilitator is essential." (Group 5)

"The group's work will not continue unless there is me, or someone else, and I know they want it to be me because I'm someone they've got to know and trust. So without the facilitator, or whatever you want to call the role, it won't continue, with the best will in the world it would not continue, and I can't do it for free." (Group 7)

"I'm speaking without having talked to them about it, but inevitably if you want to do something as a group, unless the members are going to give up their own time they're going to need someone to help organise them, and there may be somebody who's prepared to give up their time but I think a lot of them are too busy so I'd say they might look for that, someone to carry out the role for them and that's got to be funded." (Group 17)

"At the moment it is my time arranging the events themselves and my time talking about farmers what they want and what their issues are and how we can bring that to the group, the great cost in it is my time. If you pay for my time it will happen. If you've got CSFF it will happen." (Group 6)

"It is vital to have the facilitator time covered because otherwise we wouldn't have the resource to do it. Not on any scalable way. I couldn't take on a second group for example. Without covering the time our organisation wouldn't have allowed me to go off and be a facilitator it really wouldn't have worked." (Group 10)

The opportunity to offer one to one advice was mentioned by several facilitators. More flexibility in how the budget is spent, particularly on capital works, was mentioned by a number of facilitators too. Less administrative burden, particularly in claiming mileage for farm visits, was mentioned by two facilitators:

"For things to roll over, if that was an option. Keeping things exactly the same, if it carried on like this that would be fine. It's working. They could add in options for one-to-one support, that would be better, if they gave us funds for that and it was clearly defined. If we had funding from other groups it would probably come as a lump sum, so I could say, right we'll deliver this amount of activity for this money. They pay, we deliver. At the moment it's far more detailed. I don't mind either way, I'm quite happy to do the detailed claims. I'd like to see more funding to do things on the ground, but I see the FF as a mechanism to get funding for that at the moment. I think it's useful to have those boundaries, you know, it can get messy if you're trying to fund things through different mechanisms. So I think simple schemes are the way forward." (Group 23)

Most successful outcomes

Facilitators were asked to identify the most successful outcome of their groups to date. The responses varied considerably and mostly focused on the more intangible outcomes of the group, rather than the specific environmental outcomes achieved on the ground.

Four facilitators mentioned the most important outcome was getting their members to understand what is happening at a landscape or catchment scale and increasing connectivity for species and habitats:

"The intangible outcome has been to raise awareness of being in a catchment, of it mattering what you do in that catchment and being willing to change behaviour to improve water quality." (Group 2)

"It would be the work they've done along the X for connecting two populations of marsh fritillary, two big areas of chalk grassland. Collectively they've been brilliant at doing that." (Group 3)

A further four facilitators mentioned one of the successes of the group was giving the farmers a voice, particularly with the development of ELMs:

"It's the sense of community and the lobbying power and the influence that we've got. So quite often doing things like this there's an awful lot of consultation going on people are talking to group members all the time and want to see group members getting their voice heard on the political stage." (Group 23)

"The ability for the farmers to have a voice and to be part of something that demonstrates to policy makers and partners that the farmers are genuinely wanting to be part of the solution, and that's a structure where you're integrating local knowledge and expertise and that's an essential piece of success, and you can't impose targets on people's businesses. As a group of farmers, they've willingly met many people from Defra and lead on many different initiatives for Defra because they are able to stand together and say they're contributing to future resilience." (Group 5)

"It is a conduit, forming a group who feel a little bit more engaged with what is happening at this moment of time when things are changing and people are talking about ELMs. Trying to corral all the various initiatives out there and to say we can be a conduit to get that stuff out to farmers and the other way round, the farmers feel a little bit more empowered that they have a bit more of a voice." (Group 4)

Another four facilitators suggested that the most successful outcomes for their groups were the social and knowledge sharing networks that had been created, that provided future opportunities to build engagement and create environmental outcomes:

"The social network has been brilliant, and now I've got a shop window where I can communicate with all these farmers in one go." (Group 22)

"I think they'd say it's the fact that they're all working together and co-operating and looking at things like joint hedgerow management,

sharing machinery, sharing expertise and thinking much wider than just what goes on on their own farm. I think that's been really important." (Group 7)

"Staying together! Sharing knowledge, getting to know each other. (Group 20)

One facilitator felt that the biggest success of their group to date has been changing the mindset towards AES away from maximising the financial outcomes of the scheme to considering how to maximise the environmental outcomes:

"…. Countryside Stewardship and Environmental Stewardship, the way they are set up, it becomes all about money. Give a farmer a smorgasbord of options and he'll pick the ones that give the most amount of money without thinking about what would be the best thing environmentally. So, from me, apart from the social aspects of facilitation, the biggest impact has been to start turning around that mindset to one of saying 'okay, what is the right thing to be doing, what would I'd really like to do to help whatever species or habitats I've got.' Then, and only then, will I look at the schemes and go what measures fit with what I want to do." (Group 24)

Three facilitators specifically mentioned an increased interest in soil health as an important outcome for their groups and more tangible environmental outcomes included pesticide management both specifically of metaldehyde and generally in reducing pesticide pollution, natural flood management activities and the use of cover crops.

Main obstacles / difficulties

The facilitators were asked to identify the main obstacles or difficulties that have been faced in initiating and carrying out the work of the group. The main issues raised were:

- AES administration
- AES prescription limitations
- Attendance at meetings
- Inability to give 1:1 advice
- Bureaucracy of CSFF
- Brexit uncertainty
- Restrictions on workshop for regulatory aspects of farming

Some facilitators mentioned the administrative difficulties with AES, particularly the mid-tier CS, which were putting people off applying. As one facilitator explained:

"Nature of the mid-tier scheme itself, it's massively bureaucratic and puts a lot of people off applying in the first place, not because they don't want to do stewardship but because it causes great problems and that doesn't really help us." (Group 14)

The limitation of the AES options to meet the aims of the group was mentioned by some facilitators, for example one facilitator explained:

"Our project is for wild pollinators and insects. A lot of things we've discovered and validated that these insects needs are not clearly built into

stewardship. We're asking farmers to change behaviour and do some things they're not going to get any money to do, particularly when it comes to riparian corridors, and nest boxes and nesting areas for pollinators." (Group 20)

Some facilitators mentioned getting attendance at meetings as a problem. This was particularly the case for the smaller groups, as is explained by one facilitator with a small group of nine members:

"Getting attendance at meetings is difficult. Farmers are busy and it is impossible to find a date that works for everybody. Some of the more time-consuming things like the full day trips, I've done 2 of those, they are poorly attended. And when you've only got nine, it gets to the point where it's almost not worth running." (Group 10)

The inability to provide one-to-one advice was also mentioned by facilitators as an obstacle to achieving environmental outcomes.

The second thing that doesn't help at all is we're only allowed to do one to many advice, not one to one, and a lot of the options in mid-tier require one to one advice, so if a farmer can't get that advice it puts them off applying and it means we can't tailor advice to specific farms, that's a design problem with the scheme. The advice available from one to one advice surgeries is not sufficient, we need a better advisory resource behind the scheme. The workshops help but they'll never replace good quality one to one advice. (Group 14)

"It won't allow for one to one support, you can only get so far with one to many training and then to instigate stuff on individual farms you need that one to one support to make stuff happen on the ground." (Group 3)

Several facilitators mentioned administrative issues with the Facilitation Fund. For some there were particular difficulties in obtaining signatures for attendance at events, when family members or farm staff attended in place of the group member, as one facilitator explained:

"Something that takes an inordinate amount of time is getting the signatures of participants. Quite often family members at the end when the person who is signed up for the fund is not available, but you have to go out and get that person's signature to be able to claim the funding. The fund administrators do not seem to understand that farms are mainly family units and that people within those units talk to each other and share information. The respondent would rather see a family member attend an event rather than no one attend at all. However, driving out to a farmer to get a signature costs time and money (time and petrol cannot be claimed)." (Group 25)

Other facilitators mentioned the administrative burden of expense claims and particularly the claims for mileage.

5.5 Group Case Studies

South Pennines Case Study

Background and Group development

The South Pennines group was established in 2016. The group started with 8 members, who were mainly customers of the group's previous facilitator, and as of March 2020 62 farmers in the area were a part of the group. This increase in size is largely down to word of mouth. All members said they would, and have, recommended the group to their neighbours or other farmers in the area on a number of occasions and the facilitator regularly notices farmers bringing their families along to events too.

All four members interviewed felt their prior relationship with the facilitator was important in their decision to join the group as it had allowed them to build rapport and understanding with him, therefore allowing them to trust his leadership:

"We've had a number of discussions with him. He was brilliant at telling us how to maximise our income streams on the farm" (Group member 3)

"I've known him 8 years and he suggested it'd be a good idea. I joined because I respect him and he understands that trees are farms, as well as sheep" (Group member 2)

Group members found their facilitator to be approachable, hard-working and enthusiastic. They did feel he would benefit from support in some areas relating to specific agricultural issues, given his background in forestry; however, they noted he was more than capable of finding plenty of experts to deliver talks on subjects he did not know as much about.

"If he doesn't know something, he defers to people who do. If he's not fully read on a subject he'll find someone who is" (Group member 3)

"He gets such a variety of different speakers to come and talk to us, we have events on a monthly basis and for some he'll be getting two or three speakers coming along...He's got marvellous contacts for group meetings" (Group member 4)

This is something the facilitator acknowledged himself, stating that he liked to treat his group members as the experts and understand their perspectives to facilitate their access to the knowledge and resources they needed most.

The facilitator considers his group to be largely farmer-led and this was further demonstrated by all farmers who felt they had ample opportunities to make suggestions and that their contributions had an influence on the activities the group were undertaking. A steering group of 5 to 6 members oversees the group's direction and current actions. Members of the steering group hold their position for a set period of time, before other members are invited to take their place to ensure everyone in the wider group has the opportunity to influence its direction more directly.

The group has a number of environmental priorities including water, woodlands, grassland and moorland. A number of smaller groups have been created to address some of these aims, for example a group working on natural flood management in the

Calderdale valley alongside the Environment Agency and the local authority. Further, some members are involved in ELMs trials:

"We've been selected as one of the test and trials groups for ELMs, we've got a working pilot group of 12 members, we all meet and get regular emails" (Group member 4)

All group members said they had a clear or very clear understanding of the aims and objectives of the group as these were something their facilitator reiterated at all meetings. They found it helpful that he spent time explaining how each topic they covered linked into the group's overall aims. On the whole, they felt working as part of a group meant they were more likely to achieve their aims, and all felt confident that they would do so:

"It massively increases our chances of achieving things. It's everything from making sure you fill the forms in correctly, what you should aim for, what you might get, what you might not, where to concentrate your efforts and also the group power" (Group member 3)

Some members did reflect that there were larger scale issues beyond their control that could impact their success such as climate change, disease and the current uncertainty in agriculture.

Relationship with AES

All group members felt they had more influence as part of a CSFF group over the direction AES was taking in their area:

"As a group we definitely had more power, I think it encourages more people to try and get on these schemes and it gives you a better chance of getting more out of them" (Group member 3).

There was a consensus that the structure of current AES needed changing in order to correctly support upland farming in areas such as the South Pennines, particularly if there is a drive for environmental and conservation related efforts as a number of farmers maintain high stocking densities on the moors.

Group members were willing to engage in schemes which they felt were right for them but they considered the current Countryside Stewardship (CS) scheme options too limited and complicated, which has made them less inclined to enter into the scheme:

"We've got a low CS uptake in the group, so if that was a measure of success we'd be doing very poorly. Old schemes were better than CS, so I'd say it's tainted our views" (Facilitator)

"This has shown me the shortfalls of the current schemes, and how they can be improved for small scale, diverse farms like mine" (Group member 3).

The facilitator and some members described how making schemes simpler would make people more likely to apply for a scheme, as they would be considered less complicated and risky.

Group member 2 felt there was potential for landscape scale action in the area to be taken further, by:

"approaching groups of farmers with funding for a managed scheme, putting the workers in and making it happen. What we have now is hit and miss, some will do it because they know it's right for the environment, others won't because they won't be able to feed their families, and that shouldn't be happening" (Group member 2)

However, in general, group members felt that the group had made them more aware of the value of working at the landscape-scale, as they now had more of an understanding of what their neighbours wanted to achieve from their AES agreements which meant they felt they could align their priorities with one another.

Additional Resources

On the whole, the group were largely unclear about where additional funding had come from, though they were aware that their facilitator had been successful in securing grants and other resources from a number of organisations:

"I don't know. M said we did have funding from other places though" (Group member 2)

"We've been told about funding but I can't say I remember where it was from" (Group member 3)

These organisations included the Environment Agency, the Local Authority and the Woodland Trust. The facilitator said he had worked to create an environment in which group members are able to apply for multiple sources of funding which are most relevant to their environmental goals on their farms.

Overall, he found the money received from the Facilitation Fund itself to be useful in gaining access to further funding from a variety of other organisations. He explained how this money was essential in ensuring work which group members decided they wanted to try as a result of group meetings could actually be carried out:

"The other funding has delivered the practical action on the ground, which the Facilitation Fund couldn't do" (Facilitator)

As a result, he attributed the majority of the outcomes the group has achieved so far completely to the funding and resources they had received from various organisations.

Bonding social capital – relationships between members

Knowledge and information sharing

3 of the 4 group members and their facilitator described how the regular monthly events allowed them more time to discuss current issues and best practice with one another informally. Whilst the talk given at such a meeting may last up to an hour, the facilitator found:

"There's always half an hour, forty-five minutes after a meeting where nobody leaves because they're all talking to each other" (Facilitator)

Group members echoed this:

"Events are a source of news, they're a great outlet for what's happening and getting news on those things that are definitely going to be affecting us… usually you wouldn't bother but when the group meets you can

catch up with everyone and see how their methods are working" (Group member 3)

"*There's much better communication between everyone, in terms of schemes coming together, working within your area, you understand what everyone's doing scheme wise*" (Group member 4)

Member 4 is a young farmer who joined to attend events with her parents; she has found being part of the group has allowed her to apply the skills and knowledge she is learning on a land management degree course practically. She noted that though there were few young members, it was a good opportunity for her to network with older members she would otherwise not have met, and attend talks which were relevant to her degree as well as her work on the farm.

One group member did not feel as though he were sharing any more information than he had been previously, and felt that most topics covered at the events were things he could research himself at home. Despite this, he did recognise the benefits of having an expert to talk to directly:

"*If you want to research it, you can. It's nice to sit in a room and have someone running through the slides, and if you don't understand you can ask a question… it's worth the time and effort to turn up to meetings*" (Group member 1).

Collaboration

The group has not seen any formal collaborations develop as a direct result of funded events; however, this does not mean to say that collaboration does not occur at all between group members:

"*I had a relationship with a few people round here long before the group began, if someone's stuck, you help them out, we do that naturally round here!*" (Group member 1)

"*I think I do help group members more than I did before because I know them and I've built a working relationship with them*" (Group member 4)

Attending group events allowed farmers to strengthen the weaker bonds they developed through occasionally helping one another out by meeting more regularly, as discussed in the following section.

Group member 3 found that through conversations at events he was able to support other members' businesses through buying products, such as cheese or oil, directly from them. In a similar situation, group member 2 gave some of their willow to the local basket weaver, whom they had met at a group event.

Social benefits

Being a member of the group was considered to be particularly beneficial for farmers' mental health and wellbeing.

"*Wellbeing is a huge thing. That's kind of it. Breaking down isolation is one of the biggest successes. My next challenge is to break down the barrier between farmers and non-farmers*" (Facilitator)

"I think there is a mental health issue for some farmers, and that can be addressed. They're pretty desperate because they've been running too many sheep and they're short of money. But there are also some people who are missing because they're too proud, so there needs to be a way of supporting them too" (Group member 2)

"I know others have benefitted, especially the older farmers because they've made new friends in people they didn't know that well before. They probably go to the pub a bit more now and socialise a lot more than they would have without going to the group which is quite nice" (Group member 4)

Group member 2 considered the sense of community their facilitator was focused on building to be one of the greatest successes of the group, and this sentiment was shared with other group members:

"M is building a community…It feels good. You can feel at the end of the evening that everyone is relaxing and as they're going home M will say be careful, he's very caring in what he does." (Group member 2)

"There's a closely-knit community feel" (Group member 4)

The provision of food was felt to be another important element of the events as it encouraged farmers to leave their work for an evening:

"It's all still related to the farm, so you feel less guilty for going, but you're getting time away, and a meal" (Group member 1)

"Including food is good, they're coming in for a meal too and it forces them away from the farm, so they've got to socialise and a lot of them wouldn't do that if they hadn't been in the group" (Group member 2)

The four members interviewed reported some increased satisfaction with their job as a result of being part of the group, as indicated in Table 25

Table 25. Changes in job satisfaction.

	Large increase in satisfaction	Moderate increase in satisfaction	No change to satisfaction	Moderate reduction in satisfaction	Large reduction in satisfaction
your work-life balance?		2	2		
being a farmer?	1	2	1		
your freedom of decision-making?		2	2		
your overall quality of life?			4		

When asked about the group's biggest success, the facilitator himself said two things came to mind, one of which was:

> *"…less tangible, it's the sense of community"*

Aside from the growing sense of community, in which individuals from 'all extremities' of the group came together to talk to one another, there was also evidence that members were building more trusting relationships with one another and as a result, were more likely to discuss more sensitive matters.

> *"I think trust can be seen in the level of chat in the room. When we first started people left fairly quickly after meetings and that's not happening anymore. There's lots more interaction within and after the meetings and they're talking to one another which is trust-building I suppose"* (Facilitator)

Though all respondents spoke positively of the community developed through the group, there was evidence of tension between some farmers and land managers around the ways in which they thought land in the area should be best managed:

> *"There is evidence of some negativity between farmers around effective delivery"* (Facilitator)

> *"It can get very opinionated and topical... when there's been speakers in the past with an opinion it can be difficult to remain in the middle, because everyone has their own opinion at the end of the day, but there's a difficulty in trying to remain level headed because some people will get over-powering and say 'listen to me!' and you'll want to stand back because you're thinking, I haven't come here for a debate, I've come here to listen to the talk. It's difficult, because everyone has their own opinion and they can't stay quiet, they like to say what they're thinking and it can get heated"* (Group member 4)

Despite this, group member 2 felt that going to events had given them more confidence to challenge others at events with regards to their practices, and maintain discussions as to why they felt certain methods were problematic:

> *"There have been conversations that have probed, the more traditional farmers letting the more alternative farmers know they're being watched... and there are interesting discussions that wouldn't be possible, if I were talking to one farmer that probably wouldn't happen but it feels more supportive in the group"* (Group member 2).

This suggests that, when managed effectively, group events can provide an important forum for land managers to openly discuss their opinions with one another, and move forward collectively with landscape-scale AES that deliver the environmental aims agreed by the group.

Bridging social capital – social relationships with dissimilar people

Most members had engaged with the local community, but felt that this was not a direct result of being part of the CSFF group. A number of the farms in this area lie on the Pennine Way National Trail, which means some group members find themselves conversing fairly regularly with members of the public. They found some were interested in the work they were doing, and the majority respected their land as they walked across it; however, they felt there was a disjuncture between the public's appreciation

for the work they were carrying out and their understanding of the effort that was going into producing outcomes:

"We know people appreciate what we do, but now they need to understand our roles as stewards" (Group member 2)

"I don't think they understand how much goes into it really, they don't know the amount of work it takes, but I think it is valued" (Group member 3)

"The general public have no idea of the management that's involved, you know? The amount of work to change farming systems isn't appreciated by the general public, but it is valued amongst farmers because they understand the restrictions" (Group member 4)

Though their relationship with the public tended to be positive, group member 1 was critical of events which saw a large number of walkers using the footpaths across his fields at once, because in wet years this had a significant detrimental impact on the land.

The group carried out a large-scale public survey which received 773 responses. The questions aimed to discover what people in the local area considered to be natural capital, and what 'public goods' they wanted for their 'public money'. Both the facilitator and group member 4 spoke positively about the public's engagement with the survey and the results they obtained:

"As a group we created this questionnaire that was sent to all the residents in the South Pennines, visitors, everybody. We sent it to understand what they understood a public good to be, and what they were willing to pay for, and we got recognition in the local paper. I'd say it's the most successful thing I've been involved in, something to be proud of!" (Group member 4)

"We did a big survey, we asked 'what do you want from your countryside' and we got hundreds of responses. We've got really good community engagement there, through asking the public what natural capital did they want us to deliver for them" (Facilitator)

The facilitator hopes to generate further public interest, and use the results of the survey to take the group in a direction which will be appreciated by all members of the local community.

Linking social capital – relationships with people characterised by power differences

The facilitator encourages representatives from government bodies and other environmental agencies to visit the group:

"They can come in and speak. We've had Natural England in several times for the tests and trials, we've had consultations with the Forestry Commission... it's across the board really which is why I know so many people. I guess that speaks to the whole Facilitation Fund approach, it's the relationships that develop"

He found that from these visits:

"The relationships with government agencies have changed, it's probably a better understanding of what the agencies' objectives are and the mechanisms that they want to deliver. And individuals within those agencies will have a better understanding of our farming community too"

Group members appreciated the opportunities to talk to members of various agencies and felt their voices were more likely to be heard as a result of these visits, and due to their collective power.

"We've had two or three meetings where Defra's come along, we've had the CLA come along, we've had a rep from the RPA, there has been a lot more involvement, correspondence and communication with government agencies and statutory bodies, being part of the group, which I think all the members like" (Group member 4)

Though this was the case overall, some members still expressed frustration at the level of bureaucracy they had to deal with when it came to scheme administration and payments, and also felt that their relationship with Defra would be improved if the same representative came to visit them, as opposed to 'never seeing one of the same faces' (Group member 4).

Behaviour change

Seeing others implementing changes in practice encouraged others to try the same, and also meant people were more likely to apply for schemes they otherwise wouldn't have.

"I think people are more willing to try things since attending events and being part of the discussions that are starting to happen" (Group member 2)

One of the largest changes the group has seen has been in relation to soil testing and management; it is now a priority. All group members felt they were far more aware of the significance of healthy soils, and were taking measures to ensure they were managing their soils effectively:

"Soil health is a big thing, I'd like to think if farmers in the area didn't know or do anything about it before, they're at least mindful of what they should be doing now. A big one is liming, farmers used to lime but things like that have been forgotten as money's got tighter... now when M's talking on the topic I'm thinking, when did I last do that?" (Group member 1)

"I'm now aware of the soils and how important they are, and how much they will be in the future with carbon capture... before I'd wonder why we needed to do soil testing and analysis but now I understand how important it is... We haven't done anything to do with soil management since the early 90s, so we've said over the next 5 years we're going to get all the fields tested on a year to year basis so we can understand what's needed" (Group member 4)

Group member 1 felt that in order for innovative behaviours to flourish in farming, new entrants needed to be encouraged into the sector. He felt that he and his neighbours,

all over 70, were not best placed to implement changes that were being encouraged within farming systems.

Advice and training

The group members found a range of different events useful. A recent visit from a sheep farmer who gave a talk on managing a viable farm business whilst reducing stocking densities was frequently mentioned:

"We were a bit shocked because the information we got about sheep farming was really interesting, and showed why sheep in this area should be kept at lower stocking rates" (Group member 2)

"A guy came in to talk about making sure your farm is going to work as a business, he was a brilliant guy who explained and showed hard evidence, they had two or three hundred farms' worth of data, for how to make your farm work as a business... the most enlightening thing was he was an intensive sheep farmer, but then he worked out the profit and loss and the cows he was using for regenerative grazing were far more profitable, so he went far less intensive in how he managed his land, and he explained that most farmers could cut down... and their profits would still be more" (Group member 3)

Other talks which were influential, generated discussion within the group, and saw members taking further actions focused on flood risk, woodland creation and soil management. Only one of the members had used their land for training, but all others said if approached by the facilitator they would be more than happy to allow him to use their land for an event.

Members' views on paying for one to one advice were mixed, and differed depending on the farm type. All respondents felt they were most likely to need advice with regards to their scheme applications, with the facilitator stating:

"It's the preparation and administration of applications, so AE delivery and deciding what options to put where and actually filling the forms in. They're not administrators, they're farmers" (Facilitator)

One member strongly believed no one should be put in a position where they feel they need to pay someone to help them with their applications whilst others were more willing to pay. Of those that would pay they felt that the advice would have to be highly specific to something which was going to be of direct benefit to their business.

Not only did the facilitator express his frustration at the fact he was unable to offer one to one advice supported by the group's allocated funding, he also felt hindered by the lack of consideration for facilitator training, as it is the facilitator's responsibility to keep their skill levels up to date:

"I'm always undergoing professional development, but the FF doesn't pay for facilitator training, so I can train other people but I can't pay for myself. I've just been on a three-day veteran tree course and learned how to deliver that to the group, but I have to cover the cost myself" (Facilitator)

Some of his group members agreed, and felt that the work he carried out was likely undervalued:

> *"He has to do his research to understand the system, I think he should get funding to do that research because at the moment he's putting his own time into that, so he could be supported with more funds to continue his education. He's doing beyond the job he's paid to do at the moment"* (Group member 2)

Continuity

All group members felt it would be a shame to lose the sense of community that has been developed throughout the course of the group's time together, and thus spoke positively about continuing to work together. On the whole, they did not feel that any changes were required in order for this to happen, but they did recognise that it would be helpful for the facilitator to have a partner or team to whom he could allocate facilitation tasks.

> *"Support for M, he's doing his best but it's too much for one person"* (Group member 2)

For the facilitator, this is an opportunity 'to create a legacy' with a group of people working towards a common goal. The group currently has funding for a further 18 months, but the facilitator is aware that funding will be required from other sources if they are to continue working as they are now. His main concern is that:

> *"If we don't get funding it'll fall apart fairly quickly, or it certainly wouldn't be as effective as it is now"*

As such, he has already had discussions, and offers, from a number of organisations who would be keen to continue supporting the group in the coming years. His main focus is acquiring funding that will allow the group to implement things on the ground, and in so doing, gain further recognition from the public as to the value of the work his members are carrying out on their land.

Herefordshire Meadows Case Study

Background

The Herefordshire Meadows CSFF group was established in September 2016. The group initially started with 30 members and by February 2020 had doubled in size to 60 members. The group developed from an informal network of mainly former FWAG members who had an interest in meadows and undertook walks around each other's farms. The following quote explains how the group started.

"And a lot of our former FWAG members were saying you're just boggle eyed on resource protection in Herefordshire now, all that soil and water stuff, we'd like to do something nice to do with orchards and meadows and whatever. So, we started an informal network to go round and visit, and then from that Natural England encouraged us to apply and we had to form as a group and they asked me to be their facilitator." (Facilitator)

The group was established by an agency and it is considered very much farmer-led. The facilitator believes that one of the great advantages of CSFF is having the freedom to respond to the members' interests. Both group members and the facilitator felt that all members had a high level of influence over the group's activities and events as they are encouraged to make suggestions for training events or places to visit. As the facilitator explained this is one of the advantages of Facilitation Funds.

"and that's so unusual with funding, we didn't have to say 5 years ago we'd run a seminar on small scale grazing strategies, we didn't know that's what was relevant then, but that's what they wanted to know so we just put it on and they were thrilled to bits and that's an example of it working at its best." (Facilitator)

Herefordshire Rural Hub provides administrative and project management services to the group. The group also has a website (www.herefordshiremeadows.org.uk) that promotes events and news about meadows and signposts meadow owners to sources of local advice, contractors, further help and support, and technical information.

The facilitator is described as being very enthusiastic, adaptive to new ideas and well-networked with a good understanding of the farming community. She is particularly good at putting people in touch with the right people and organisations for the support they require.

The main environmental priority of the group is to improve the biodiversity of existing lowland meadows, lowland acid grassland, pastures and commons through enhanced management and to join up habitat networks to enhance diversity and abundance of native wildflower species. The group is unusual in that it covers the whole county, rather than a smaller area such as a catchment.

All group members interviewed stated that they had a very clear understanding of the aims of the group and what it was trying to achieve. Whilst it was recognised that grass meadows are difficult to establish, the success rate appeared to be high, with 75-80% success rate in establishment being mentioned.

The group members' levels of confidence in whether the outcomes of the group would be achieved were mixed. One member was 'unconfident' and felt it was dependent

on future agricultural policy. Another was 'somewhat confident' because he had witnessed the increased understanding and awareness of members and interest from a group of younger members interested in regenerative agriculture. Yet, another was 'very confident' in achieving the outcomes of the group, as the following quote shows:

"The aims we set out originally, we've way over-reached those. I guarantee that. I haven't seen the number for the exact area, but I know the numbers she's got in the group and I know the areas that are going down to wildflower and they're massively increasing now. How much the quality is, well, they've got to do the counts and stuff so...I'm very confident." (Group member 1)

It was felt that being part of a group increases the chances of the outcomes being achieved as was succinctly described by Group member 3:

"Increases it, the more people you have involved it gives you a bigger mass to make things work. As long as you don't get too complicated, and you don't get too big. It's having a critical mass, but also having people who feed in, you know, we have people who have an opinion, if you have some people who just sit back and want everything done, well, it makes like easier and more interesting because sometimes people ask questions you haven't thought of." (Group member 3)

Relationship with AES

The majority of members are in AES, although one of the frustrations for the group is the limited options available for meadows within the mid-tier CS. Current options restrict harrowing of grass swards and re-seeding with wildflowers, which means that the grassland has to be kept out of CS.

"In the mid-tier stewardship scheme there are very few options that allow you to, you can't really create and restore meadows, you can just manage existing, nice grassland, so it's mostly higher-tier now where the options are for people to create meadows but there's very little funding for that, and we're finding it's only people with existing SSSIs that are getting meadows into higher tier stewardship." (Facilitator)

"The frustrations are that the options don't really allow us to do what we think is right. The grassland options in the mid-tier schemes are crap, they don't, I don't think they benefit the environment. They don't encourage diversifying swards, or looking after swards differently, they're really limited." (Group member 2)

As a result many members are financing their own re-seeding work. The outcomes of the group are very broad, covering all the stewardship options, but the members are spending time, effort and often their own resources on getting their fencing and hedgerow network stock-proofed in order to implement better grazing regimes.

"We don't tend to have people in the group who devolve their AES to an agent and it just sits on the shelf and they do whatever they're told or don't do it because they didn't realise they were obliged to do it, which I'm afraid does happen, but they're all pretty engaged in their AES anyway. I hope that by and large they're at the more engaged

end of the spectrum but I think their level of engagement has gone up in that we've helped them so if they've got an issue or a problem we can signpost them and encourage them to sort it out and get a derogation so they can work it out for them, rather than them thinking 'this is too difficult I'm just going to carry on and not sort it out'." (Facilitator)

Few members knew one other prior to joining the group. Because the group covers a whole county, a number of clusters of members around the county exist where members are known to each other and may have introduced others to the group.

The group is comprised of a diverse mix of farm types who have the same aim of wanting to produce meadows and have good engagement with the group activities, as illustrated by the following quote

"I thought that was going to be a struggle to begin with, having small farmers, big famers, organic, and so on, but there's just a common cause and everybody's happy. The biggest success is most people go home learning something and having enjoyed it. And that's backed up in that we're overbooked on most of the days we put on." (Group member 3)

New members are welcomed and help to make the group more dynamic. It is recognised that some landowners have requested to join the group in order to get extra points for their CS application and they have been allowed to join on the condition that they make some positive improvements to their land, rather than simply joining as a tick box exercise. However, as the group grows there is less potential to have new members due to pressure on resources. Even now it is difficult to hold an event for 60 people. According to the facilitator, the ideal size is 20 or 30 and therefore they hold specialised events that attract different group members depending on their interests. It appears that there is definitely scope to increase the group size. In particular, there are a large number of smallholder meadow owners in the county who do not have SBIs and therefore do not qualify for CSFF.

Additional Resources

The group has been successful in securing funding from sources other than Natural England. They have obtained a capital grant from a local charity to help set up a seed harvester as there was not one in the county and received some funding from the Forestry Commission to organise an event looking at the management of rides and glades in woodlands. However, most of their additional funding was secured through Plant Life and the Prince of Wales Trust which to date has been used to restore around 49 ha of meadow on the land of 22 members. This funding was necessary because, as mentioned previously, many of the members are unable to use stewardship options for their meadow restoration, unless they are in an SSSI or in HLS, or higher-tier CS. This funding was equal to the whole value of their Facilitation Funding, but it went on seeds and farmers' time, equipment and machinery to actually create meadows. This additional funding has given real impetus to the group, enabling them to focus their training on plant and insect identification, and to monitor the development of the meadows, with members encouraged to do a before and after survey to see how their meadow is changing and developing. It also means they have more sites to

demonstrate potential pitfalls and best practice. As the facilitator said "I think it's helped us to focus on the doing, rather than just saying, which is great".

Bonding social capital – relationships between members

Knowledge and information sharing

Sharing of information and knowledge about meadows was greatly valued by the group members and learning from one another was seen as one of the greatest benefits. Over time group members have become more confident in sharing information and asking for advice from others. In fact, all four group members interviewed had hosted events on their farms. One hosted a visit of members to look at his meadows after cultivation, another hosted a visit which focused on archaeological features, the importance of maintaining them and how to map them. The third member had hosted bumblebee training, plant ID, and a seedling safari on his farm, all of which were fully attended. The fourth also hosted plant ID training and four farm walks. Group members 1 and 2 made the following comments about the value of being part of the group which involves learning, but also provides social support.

"Knowledge transfer, and getting to know people so you don't mind making a prat of yourself so you can go and say 'shit that really didn't work, why not?' Whereas at other meetings you might not do that. It's a social thing, you make friends within the group too." (Group member 2)

"It's valuable [being part of a group] because we see so many different projects and to me that's very reassuring. When you're on your own, as I have been, you think you're the only one to have a problem. You realise when you're part of a group that everyone has problems, but I think in this area, where so many things can go wrong, it's very valuable, yes." (Group member 1)

Levels of trust and information sharing have developed over time to the point that members are now happy to host events on their farms, as the facilitator explained:

"To start with it wasn't easy to get people to host events, only the very confident did, and now people, if they say 'I don't know what to do next', I'll say 'well how about everyone comes around' and that's the next meeting and they'll just say 'yes' immediately, because that's actually what they're asking for, but they just hadn't realised or they hadn't dared ask. So yeah, I think there's a lot more trust and it's always done in a very non-critical way, so even if they've made a pig's ear of what they've done it's fine because everyone has done something equally horrendous in their time." (Facilitator)

Part of this knowledge and information sharing is facilitated by the group facilitator who puts members in touch with each other or with advisers who can help and share their knowledge:

"To start with I had to put people together and I still do that, people come to me with a problem and I say do you know there's some guy just down the road who's doing exactly the same thing, and I don't have to go with them, they just go and meet up, or when they're at meetings….

Also, sometimes at other meetings in the county I can see they're standing very close to an adviser or agronomist I think they'd work really well with and it's making those introductions so they can get different advice from other people as well, than what their current farm is locked into." (Facilitator)

Collaboration

As trust and relationships have been built some collaborative activities have started to occur between members, some have bought machinery off each other, or bought it jointly to hire or lend it out to other people nearby. Other members have come together and linked their land with a nearby community garden or orchard. A few members have formed a regenerative grazing WhatsApp group and visit each other's farms. This latter example has grown into something bigger and is now being supported by another project. Members have also collaborated in public engagement activities as the following quote illustrates:

"One person got asked to go and talk to a local grassland society and then they said 'let's, why don't we have a load of people from the group, three or four of us should go and talk about what we're doing' and so I think they're beginning to collaborate in ways I wouldn't have envisaged in the beginning" (Facilitator)

Social benefits

The interviews also revealed some evidence of social benefits and friendships developing through group membership, such as starting to share lifts to group meetings and providing support when members are going through difficult times. However, the facilitator did suggest that as the group is geographically dispersed it is harder for close friendships to form, compared to those developing in more close-knit groups. She also acknowledged that the group were unlikely to be reaching the most isolated in the community.

The four members interviewed reported some increased satisfaction with their job and quality of life as a result of being part of the group, indicated in Table 26.

Table 26. Changes in job satisfaction.

	Large increase in satisfaction	Moderate increase in satisfaction	No change to satisfaction	Moderate reduction in satisfaction	Large reduction in satisfaction
your work-life balance?	1	1	2		
being a farmer?	2	1	1		
your freedom of decision-making?		3	1		
your overall quality of life?	1	2	1		

Two members also identified some moderate increase in stress levels due to the workload as a result of the group work. Also, the facilitator has witnessed increased stress levels for some members who required a considerable amount of hand-holding, as the following quote illustrates:

"They're thrilled that they've done it now, but at the time we had to do serious… we'd underestimated the amount of hand-holding we'd need to do for people for whom this was a big challenge, a stressful life event. It's something we'll assess in future, so if someone says they'll have a busy summer we'll probably say well why don't you leave it another year and we'll work with somebody else because I think they could see once we committed the funding we wanted it to happen." (Facilitator)

Bridging social capital – social relationships with dissimilar people

The group has clearly been very effective in introducing the members to different environmental experts. Some of these experts also exist within the group, including botanists, as group member 2 commented:

"The group has a few expert botanists who come along regularly that I never would've met and it's just a lot easier to talk to them once you've spent three hours in the rain looking at orchids or whatever. It's all about networking. (Group member 2)

Two participants commented on the benefits of having a diverse mix of members:

"I think it's been nice learning what people are interested in as you go along, and bringing their skills into the group. I think it's quite unique in the fact, you've got farmers like myself, and managers of big estates, and then we go down to smallholders, people who are banging on the door to get to meetings and people who look after a churchyard or have a private meadow of their own, it's quite nice that everybody comes together, and a core interest is a meadow. They're not interested in whether you spray, or maybe they are, but there's not really a them and us, I never find there's that." (Group member 3)

"Yes, it's been very open and there's a lot more people have joined than ever I knew. There's a good knowledge base, from commercial farmers to hobbyists who've got a couple of acres and people who are just generally interested. Having membership, and such a large diverse membership has been really important. "(Group member 4)

This group member also mentioned the knowledge gained from working with other organisations

"I'd never thought of going out and looking at bumblebees. We were very good at establishing wildflower meadows, we've got a good track record. But suddenly we're dealing with the University of Bangor, the Open Uni, you name it, we're working with a lot of different people we wouldn't have and we're gaining from that knowledge. " (Group member 4)

Linking social capital – relationships with people characterised by power differences

The group has had some limited interaction with Natural England who have, for example, attended farm walks. However, there is little evidence of group membership leading to a change in the relationship with government agencies.

Behaviour change

To date, one of the greatest changes that has occurred has been the creation of an awareness of the environmental benefits of the grasslands. The group activities have made members more aware of the wildlife on their farms, broadening their interest from, for example just birds, to other species, including the wild flowers and insects. This increased awareness has not just applied to individual fields but across the area as a whole. As one member explained:

"What it's done is that it's made me look at the whole, rather than the specific, and I think that's the major benefit of the group, is that I'm looking at a field across the road, these fields here, in the context of the whole rather than it on its own. And in that way it's broadened my attitude to that. "(Group member 1)

For some members, group membership has acted as a catalyst to speed up the changes to their grassland management that they were considering making through increasing their confidence in their ability to undertake these changes:

"We're in the process of doing a lot. We are going to totally change the way we graze and produce grass. We were on that track already, but it's confirmed what we were going to do and we're going to speed it up. We're going to increase the number of species in all our grassland, and change the management of it. We're a lot more aware of, it does just confirm that our thinking is the right way." (Group member 2)

"We re-established 8 acres of traditional meadows and we put in another 20 acres of herbal leys, and we're doing a progression of putting some regenerative leys in arable rotation, so quite a bit of work ongoing. Being part of the group has speeded it up, seeing other people doing it and that it can work has convinced me to have a go." (Group member 3)

As the facilitator states:

"There are very few people in the group who aren't trying something new, whereas we wouldn't have known before, if we hadn't engaged... before it might have been the majority of them who stayed at home and said it'd be nice but didn't know how to do it". (Facilitator)

All four group members interviewed gave examples of changes they have made or are planning on making on their land as a result of the advice and training they had received as part of the group. One member is experimenting with creating pockets of seeds in certain places across a grass field to encourage dispersion. Another is planning on trying more water catchment methods, putting in false dams on their wide margins. It was suggested that quite a few members are also making changes, such as re-establishing leys, grazing differently, letting things go to seed when they normally do

not. Another aims to increase species diversity when establishing grassland across the farm, as the following quote explains:

> *"Now we're in the process of re-establishing a lot of grass on the farm. In the past we would've just put a lot of rye grass and a bit of clover ley but now we're working out how we can increase the species diversity of that economically and practically, and a lot of this has come partly from the group. We've got a lot of water protection margins too and we'll probably make those more species diverse. We'll probably change hedgerow management too. Being part of a group has concentrated our minds, and made it a lot easier and it'll happen a lot sooner than without the help of a group." (Group member 2)*

Advice and training

The four group members all cited different training events or activities as the most useful, reflecting the wide variety of events supported by the CSFF. These have included plant ID, meadows forum, grassland management, resource protection events. In terms of new knowledge, all the group members mentioned having learnt more about plants through ID surveys.

The facilitator is frequently approached by members for advice. If they require help on their stewardship scheme then the facilitator will signpost them to the relevant people. After each event, they publish details about how to obtain further help and answers to questions on the website. If they need specific advice on their meadow, there is a local adviser available who they can pay to look at their meadow and produce a management plan, or whatever is required. The facilitator will also match them up with other people in the network who might be able to offer advice. As she explained:

> *"I feel as though we're now running a dating agency – 'this is the person nearest you who's done this, this is the person who might have a piece of machinery, this is the contractor nearest you', all of that, so, we're finding most contractors don't want to go on a website where 500 meadowers will ring up and say 'can you make my hay tomorrow' but they're quite happy for us to have their details and when we get requests we can put them in touch with people who are near enough to make it work for them, and we're trying to refine our network of contractors and machinery share, hay and seed exchange and all of that kind of thing. That's what people come to us for advice for." (Facilitator)*

According to the facilitator it is not necessarily the technical advice that is most important, but empowering the group to understand the principles of the grassland system that they manage. With this understanding they can then tailor this knowledge to their own situation. The aim of the group therefore is to encourage a discussion of the basic principles. As the facilitator states:

> *"I think that's the most valuable advice they can get, how does this relate to me, where do I go to work it out, and if I can't work it out for myself, which is often really hard, can someone come with a fresh pair of eyes, that's what I think most really value is having a fresh pair of eyes coming in and just saying OK, remember we talked about this but your*

farm isn't like the one we went to here, nor that one we went to there, but you need to blend this and this, and how about that." (Facilitator)

All four of the group members interviewed said that they would pay for 1:1 advice if they had a specific issue. The facilitator also suggested that there would be a high level of willingness to pay for tailored 1:1 advice amongst the members and stated some are already paying for this advice.

Continuity

All four group members were very positive about continuing with the group in the future and believed that was the view of most members. There have already been discussions within the group on how they could continue beyond the funding period which they have been allocated. The facilitator believes there is also a huge potential for the group to grow and opportunities to work in partnership with other organisations. They are already working closely with partner organisations in the Wye Catchment Partnership and Farm Herefordshire to develop further opportunities for joint group activities. However, at the moment the resources are not available to follow-up on all the potential opportunities:

I'd just like, we need more time and more resources really. It's just growing exponentially. It's like pushing at an open door, so much of the work we want to do... I'd like to be able to follow up many more partnership leads and work with lots of other organisations, but it's only a part time job. It's keeping focused on meeting the outcomes of this project, and being sure that we put on events for our members, keeping up with it, it's a real challenge. (Facilitator)

The Steering Group have prepared a business plan to identify whether it would be possible to set up with a charitable status and become a membership organisation. However, the membership fees are unlikely to cover the costs of the level of facilitation input they have received over the last 5 years which would mean they would have to scale back their activity.

Winchester Downs Case Study

Background and group development

The group was established in 2015 with 18 members and has since grown in size to 37 members. Five of these members were new to agri-environment schemes and five are not in schemes, either because they have not renewed their previous scheme or have never been in a scheme before.

Around 7 or 8 members at the start were already known to the facilitator as they were involved in a Nature Improvement Area project. The facilitator felt it was essential to have a nucleus of people on board at the start from which it would be possible to build the group.

The project from which the group developed was very much NGO-led, but the facilitator was determined to change the CSFF group structure to ensure that the group was led by the farmers in order to achieve buy-in:

> *"We had the plan from Natural England that came with the funding and everything, and the last thing I wanted to do was go to a group of farmers and say 'oh, by the way, we've already agreed this agreement with the government agency and this is what you're doing'. So, I put that to one side and said under the headings of arable, grassland, woodland and community, what do you want to do?.... I found that was a brilliant way of getting everything off on the right foot and getting their buy in. Though I suppose I've been steering it, I hope they feel they have buy-in." (Facilitator)*

All four members interviewed confirmed that they had had an opportunity to contribute their own ideas to group discussions which ranged from soil carbon, ash dieback and badgers.

The reasons given by the four members for joining the group varied. Three group members had already been involved in AES for many years and saw the involvement in the CSFF as a natural progression and a necessary step in order to continue in AES in the future. As Group member 3 suggested:

> *"being part of a cluster group will be necessary to carry on with environmental schemes or will put us in a better position to being attached to them in the future." (Group member 3)*

Also, the group was seen as a way of making contact with neighbouring farmers:

> *"It's something that is a very new idea, to actually get together with your neighbouring farmers who you very rarely get together all in one room. Everyone leads quite a solitary life as farmers, and we're very keen on biodiversity and improving the environment, so I thought I'd sign up to find out more." (Group member 4)*

One family was approached by another member and encouraged to join. They were hesitant about joining at first as they identified as commercial farmers, whilst perceiving many of the members as non-commercial farmers with an interest in environmental issues. It appears that through the skill of the facilitator they were made to feel comfortable within the group setting, as the following exchange between husband

and wife highlights:

"But what we do like about X is he's very good, because he sees it has to fit with our business, and our shoot, he's very mindful of everything. Say if you're not a church goer and you go to church you feel kind of guilty because you don't go every week, so you don't go, we nearly didn't get involved with this because we thought are we good enough to go? It can be a bit intimidating, everybody else is already doing this and they'll shake their heads if you're not, but it's not at all judgemental which is what you need because you want to be able to say...

...We don't do that because of this.

This is what we're doing... And X is really good at that and that's really important actually, because otherwise that could put people off I think, very much so. If you don't feel you're going to fit, then you don't go, and it's their loss, and so it has to be welcoming." (Group members 2)

Bonding social capital – relationships between members

Knowledge and information sharing

All four members and the facilitator provided examples of how the group activities had led to sharing of information and knowledge. The facilitator referred to the farm walks as particularly important for members to share their different experiences. Another member explained that although this information sharing had not yet led them to take action it was early days and building momentum which would lead to changes in the future.

"We haven't changed anything yet, but it's only really now that you would, at the moment there's been training but it's still gaining momentum because it's still relatively young the whole thing. We learn a lot from D, our neighbour, he's very proactive." (Group members 2)

Collaboration

Group events have led to a few collaborative activities between members. The facilitator provided some examples of specific activities, such as the sharing of weed-wipers and linking members with graziers. Some group members had not engaged in any collaborative activities; however, one group member explained a collaborative arrangement with a neighbour for dealing with trees with ash dieback:

"The whole thing of them being able to work together, with the ash dieback, we're taking down lots of trees at the moment. Our neighbour, who we didn't really talk to a lot, has SCB coming round so they're going to assess three of ours while they're doing his, so that's good." (Group members 2)

The group has instilled an idea of collaborative working for environmental benefits at the landscape-scale. Three of the group members mentioned the group's main successful outcome was that members had really embraced the concept of collaborative working and that group members accounted for nearly all the land within the group boundary:

"I'm going to be wishy-washy and say it's got the idea of cooperation fairly well embedded in all the farmers here. It's got us in a favourable frame of mind in terms of landscape management. It's possibly changing the mindset." (Group member 1)

I think it's the amount of acres, the amount of people who have embraced it. I don't think he's missing many farms, there's a lot of people saying to me from the X valley who are without a cluster group saying oh, how did you get onto that, why haven't we got one?! I think that's the biggest success, is that people have embraced it. (Group members 2)

"I think probably working as a group, working together with the same aims. Farmers, because we live in the countryside, actually quite enjoy being in the countryside, and it's been great to actually work together, when realising we're all fairly similar." (Group member 3)

Social Benefits

The facilitator identified the social network that had developed as a result of the group as the most successful outcome. As a result of this network he feels he is now in a position to communicate with and influence a large network of farmers:

"I would say the social network really. I could answer this in a lot of different ways! The social network has been brilliant, and now I've got a shop window where I can communicate with all these farmers in one go. I can drop ideas out there and some of them stick, and you come back a couple of years later and say 'oh look, they did that', and it's gone alright, and you can see everyone sucking their teeth and I think that's the way you get long term change, I think that's a great success." (Facilitator)

The facilitator was also aware of improved social relationships and he gave an example of neighbours who had not met for 25 years and are now socialising more with each other:

"I know that the social network has really benefited. The very first meeting, this person saw this person and said 'oh I haven't seen you for 25 years', they're only neighbours, you know!? And these guys go round for dinners and socialise a bit, and that's really important because these guys are really on board with CS and he's all arable, and I think that's how ideas transfer." (Facilitator)

There were also some examples of increased communication with neighbours and other farmers in the area which has led to situations in which they will help one another out. As one member explains:

"For instance, I went past someone's grain silo last week during the storm and went, 'oh, he's got a problem' and as a result of this group I can get in touch with him now, without it I wouldn't have known how to" (Group member 1)

One of the members felt that the group has brought them into contact with a wider group of landowners than they normally associate with. They would usually attend meetings of arable farmers but never get an opportunity to meet their neighbours who

might be non-commercial land owners.

"We were saying this morning I think it's really positive, it's very easy, well round here it's quite bad because there's a lot of people who own land but don't farm it, so you can actually be quite isolated. You're on your little island, and you don't see your neighbours very often." (Group members 2)

The four members interviewed also reported some increased satisfaction with their job and quality of life as a result of being part of the group, indicated in Table 27.

Table 27. Changes in job satisfaction.

	Large increase in satisfaction	Moderate increase in satisfaction	No change to satisfaction	Moderate reduction in satisfaction	Large reduction in satisfaction
your work-life balance?		3	1		
being a farmer?		4			
your freedom of decision-making?		2	2		
your overall quality of life?		4			

Whilst there are examples of social benefits from group membership, the facilitator felt more isolated groups would be more likely to see greater benefits than his group, as he has always considered them to be fairly well connected:

"I think broadly they're a relatively social group of people who aren't that isolated, we're in quite a busy part of the world here, it's not like an isolated part of the country where people are livestock farmers and they're really busy and just doing their own thing, I think it's a relatively engaged group. Having said that there's neighbours who haven't spoken for 25 years, so! It's difficult to pick up on, but it's there." (Facilitator)

Bridging social capital – social relationships with dissimilar people

The group has been successful in building relationships outside of the agricultural community. The facilitator gave an example of how a relationship had developed over time with an ornithological society:

"At the start I didn't want to be their secretary and run round and get people for them, I wanted them to go and find people and that didn't happen for the first year or so, but then one of the guys had a meeting with X Ornithological Society, and it was so much better that he did it rather than me, and he organised some surveys, and he got in contact with me and I put a message out asking if anyone wanted a survey, so we got four people to have their farm surveyed by the Society and he came back to the meeting a year later and fed back, 'so who wants

their farm surveyed next year?' and everyone's hand went up and I thought, 'brilliant, we're doing alright!' So, we're having 8 farms surveyed this year, and that's a really positive example of where we've been able to build relationships like that." (Facilitator)

Two group members mentioned examples of building relationships with ecologists. One is now monitoring rare moths on his farm as a result of a conversation with an ecologist on a farm walk. Another mentioned her involvement in a BioBlitz which the facilitator helped to organise involving 50 people from the local area, including ecologists.

"We did a Bioblitz day here which X helped us organise. We know a few experts and he knew a few and we had a fantastic over 24 hours collecting data and doing all sorts of bird counts, insects, bats, moths, and that was very interesting to meet those experts and build up a relationship with them." (Group member 4)

They were then able to use the data to identify options for their stewardship schemes as the facilitator explained:

"the next year when they went into stewardship we could present all this data and the NE officer could say given the amount of bat activity on the farm I think you should base this agreement around invertebrates, raising the number of them on the farm." (Facilitator)

Other than the Bioblitz there have been few group activities with the general public, although individual members have undertaken some activities and more are planned as the facilitator explained:

"This year X is going to be running a farm walk, looking at diversification and inviting all the village in. These guys down at X want to do similar, they've gone into stewardship, they've got footpaths everywhere and they run a shoot, so they're inviting the village in to explain what they're doing and why they should keep their dogs this way and not go that way so I really hope they go for that and I'll go along and support them and talk about the farm cluster. They're the ones that leap to mind. I think we'll start to see a bit more of this." (Facilitator)

Group members recognised the value of the group in being able to perform a public relations role:

"It's easier to say we're a group of farmers doing this thing for the wider environment than it is for an individual farmer, you know, an individual farmer can go 'hey, I'm doing this,' and people say 'well, so what,' but if you can say 'pretty much all the land you see in a 20 minute drive around this area is being managed by people who are getting together to think about it,' that's a much better message, oh and by the way, here's a list of all the things they're doing, it's a much better message." (Group member 1)

Linking social capital – relationships with people characterised by power differences

Through the group, the facilitator's relationship with NE has improved at the local level, but there has been little interaction with the governmental agencies for the group members, although one member did mention improvements in their relationship with

the National Park.

Behaviour change

The members were able to give examples of a number of activities they had undertaken to benefit the environment:

"The bird feeding project, an enhancement of permanent pasture, wildflower enhancement, there's been some thinning of a copse that's a direct result of being a member of the group." (Group member 1)

"On the back of a coppicing thing we went to we're trying to do that differently, we're trying to do hedges differently, we're trying to do various things, we're trying to feed, leave our pheasant feeders out for longer, full, not to keep the rats there but to try and create and encourage more birdlife, and we're moving them around to keep them fed." (Group member 2)

"We've probably improved the management of the conservation areas we already had in place. Working closer with the chap who works for me. So yeah, a little more attention to detail with the work that we do, especially having seen how others manage theirs." (Group member 3)

"I hope we're growing many more wild bird seed mixes, flower rich mixes, nectar mixes, arable conversion with wild flowers. Supplementary feeding, planting a new hedge, it's all very exciting." (Group member 4)

The following exchange identifies the on-going changes that are being made to management practices as a result of increased awareness arising from group activities:

"Think we're trying to implement, every meeting we go to we try and implement something small, like the coppicing...

We put the barn owl boxes up, bit of assistance from X [the facilitator] about where to put them up and stuff like that.

We're trying to get N to cut the hedges in a slightly better way. The bird feeding thing.

We're a bit more open minded aren't we, just going through our potential mid-tier with the agent, being a bit more open minded and thinking should we have bumblebee plots or fallow in this corner or that sort of thing."

I think so, yeah. We're going to put the pond in. We've got so many barn owls, it's unbelievable." (Group members 2)

Two of the members stated their interest in the wildlife on their farm had not changed as a result of the group as they were already interested, but they valued the group support and sharing of knowledge. Two other members stated that there has been some increased interest. One couple also framed their interest in the group as enabling an increased understanding of future changes in agricultural policy:

"The whole industry is going in a slightly different direction isn't it, and it's obvious you've got to get with it.

The cluster group is a good way of doing that." (Group members 2)

The facilitator explained how the group has been effective in influencing behaviour change, by bringing members together as a group, providing evidence of an issue and then facilitating a discussion between members on how to make changes. In this way they have some ownership of the solutions:

"Getting all of those views in one room is brilliant, because that's how you actually influence change. Get them together, get some evidence, and then start talking about how they can change things. It's not a government body or anyone else saying 'you're destroying the soil' it's saying OK, let's look at what we've got, well these guys have cover crops and have found they work really well, so you could try that, and you could try grazing them and those kinds of things, and you're feeding those questions in." (Facilitator)

The members interviewed would recommend joining the group to other farmers, although one of the members pointed out they while they were keen to recommend membership, they felt that their group would be difficult to manage if it grew bigger. Nearly all the land within the group boundary is owned or farmed by a member of the group and such a good sign up by the farming community clearly demonstrates a social acceptance of the group in the local area.

All four group members were 'somewhat clear' about the intended outcomes of the group and believed that working as a group increased the chances of these outcomes being achieved by being able to share experience, or being given access to expert advice through training events and activities.

Advice and training

The group members found a range of different training events useful. These included hedge-cutting, coppicing, bird ID, carbon sequestration and soil, ash dieback and climate change. The two key areas where members felt they had gained new knowledge were woodland management and soil management.

The facilitator was unable to identify which particular training event or activity had influenced the members' activities and outcomes, due to the wide range of activities they have undertaken and the decision-making processes that farmers go through before implementing changes:

"We've done 25 farm walks, and it's difficult to pin it down because it's never a case of doing a farm walk and you get a direct change. It's several farm walks, and then they go away and think about it and then it might happen. We did a lapwing one, that was very good. As a direct result of that a farmer put a lapwing plot in without hesitation, that was really good. All of the stuff we did at the start around grey partridge kept coming back to wild bird seed mixes and that's had an impact. The farmland bird walks have been brilliant in raising everyone's awareness of what's around them and there's more out there than what they

thought, understanding that bird ID isn't just a walk around their farm, it's a proper job. That's really raised our base level of knowledge. The grassland stuff has had the most direct cause and effect in terms of output. The BioBlitz engaged the local community and helped them into higher-tier stewardship." (Facilitator)

The facilitator felt that one of the obstacles to further behaviour change in the group was the restriction on offering one-to-one advice. In his opinion even being able to offer a minimal amount of one-to-one advice, such as a two-hour meeting every year or every other year would unlock huge potential for achieving environmental outcomes:

"Where I've been effective is giving bits of advice to support delivery, so they're signed up for restoration or woodland management and they just want to bounce ideas in terms of practicality and how to do things and I think I've been useful in that regard. I think that's a niche, a lot of NE staff do a wealth of things I couldn't tackle in terms of auditing and things, but their advice needs translating into something practical, and I've been able to fill that little gap there. I've spoken to this guy here on grassland restoration a number of times, and we'd come up with plan A, then B, and then the weather changed, so C, and we found a grazier in the meantime and now we're on plan D. And I think that's where I've been helpful in getting a big project across the line." (Facilitator)

All four members stated that they might be willing to pay for one-to-one advice if it was something that they had a vested interest in and could benefit from. Examples included soil carbon, soil sampling, wildlife surveys, cover crops, and ash dieback.

Continuity

All four members and the facilitator were keen to continue the group in the long-term. As the facilitator said:

"The first meeting we had there was just such a buzz in the room, so I said to my boss if they want to keep this going in perpetuity they can. There was so much positive energy which was just brilliant. Naturally that will dip and go up and down, I think the FF and the agenda has really kept that going in terms of we want to look at this and that and we've kept that momentum. As long as the energy is there and their identity is there it could go on for years and years, yeah." (Facilitator)

Two members mentioned the forthcoming changes to agricultural policy and the subsidy system and the important role the groups will play in supporting farmers through this change.

In terms of the support that would be required to keep the group going, one member thought there might be agreement amongst the members to pay a subscription, but recognised that this may not be the case for groups throughout England and particularly the less well-resourced groups. Three members acknowledged the importance of the facilitator in keeping the group going, suggesting that without the presence of a facilitator the group would not be able to function:

"This wouldn't have happened without X [the facilitator], someone going round and cajoling us all to join and us realising that it isn't a bad idea, and it won't happen unless there's some sort of coordination and admin in place because none of us are likely to go oh, I'll do the admin, I can't see anybody wanting to take that role, not because we don't want it to, but I can't see any individuals saying oh no, we can't let this happen, I'll do that. Somebody might..." (Group member 1)

The facilitator also highlighted the importance of supporting specialist advisers to talk to the groups to ensure their continued survival. Without their presence the groups will lack the momentum to continue:

"There needs to be some budget to get advisers in otherwise I can see things drying up a little bit, you need fresh ideas coming into the group" (Facilitator)

The facilitator concluded:

"So, without a budget to keep a facilitator going, and specialist advisers, the group would struggle. If there's money to do some projects separate to AE then that's a massive bonus." (Facilitator)

Sandlands, Felixstowe and Shotely Groups Case Study

Background and group development

This case study is focused on three CSFF groups that are based in East Suffolk, one of the most intensively farmed areas in England, and which all share the same facilitator. The Sandlands group was formed in 2015 and the Felixstowe and Shotley groups in 2016 and they all have CSFF funding for 5 years.

As the name implies the Sandlands farms are located on light sandy well-draining soil and are extremely vulnerable to drought. To continue supplying supermarkets with potatoes, onions, carrots, brassicas and other vegetables, these farms rely totally on irrigation. Whilst the farms within the Shotley peninsular do not grow as many vegetables as the other two groups, the area is still quite intensively farmed. The Felixstowe group is different to the other two groups, as not only is it the smallest, but some of the farms are large in size, owned by absentee landowners and farmed by land managers. This means that much of the land within the group is controlled by a small number of working land managers.

Table 28 below summarises the group numbers.

Table 28. Group membership in Sandlands, Felixstowe and Shotley.

Group	No. of members at start	Current no. of members	Members new to AES	Member with no AES
Sandlands	28	35	5	1
Felixstowe	6	6	3	5
Shotley	12	14	5	7

The groups did not exist prior to receiving CSFF funding for their establishment, but some of the members were known to each other through various farming groups, such as vegetable growing groups. The facilitator believes that the culture of cooperative working through these long-standing producer groups (carrots, potatoes and other vegetables) has made the members amenable to CSFF, as he explained:

"They all get it. They all totally understand the whole… And I think some of that is the fact that a lot of them are part of cooperative groups already. So, in terms of marketing vegetables they see the benefits. It's not a leap of faith to think that there are environmental benefits from working together. They get it." (Facilitator)

The facilitator also knew some members from the various farming groups which helped with the establishment of the group as he was not relying completely on cold calling. In addition to the social network linked to membership of producer groups there was another social network linked to game shooting which took place on some of the farms

The facilitator's previous experience of working with groups, his passion for wildlife and the environment and his membership of a farming co-operative have all helped in his role as a facilitator.

"What I did pre-farming had an influence because I was an overland expedition leader, so I was used to handling groups of people from all over the world and getting them to work as a group… My passion for wildlife and the environment helped me to convince people that this was the right thing to be doing…. Being part of a farming cooperative, effectively, helped me see the benefits of group structure, that sense of ownership and that sense of belonging." (Facilitator)

The three group members who were interviewed for this case study agreed that the facilitator was very good at getting members together and organising events, as well as co-opting the lead farmers who were respected in the community to help with local recruitment.

Relationship with AES

The group has not had as much engagement with AES as the facilitator would have liked. As he explains this is in part due to the uncertainty raised around Brexit and a reluctance to re-sign new agreements until there is more certainty. This uncertainty has limited the use of Countryside Stewardship and its options to generate landscape scale environmental change, as the facilitator explains:

"… the first facilitation group came in as Brexit was starting and the uncertainty started. A lot of members were already pulling out of Stewardship schemes and not really re-signing up. It has basically stalled people. I'm sure that if Brexit had not come along or we had a new scheme in place… I think we could have potentially influenced people… and driven a landscape scale scheme. But, because of the uncertainty it has just put a wall up. People are just not willing to commit. So, if I went to a farmer today and said 'listen X, your neighbour has got some amazing pollen and nectar…, it would be great if we could get a corridor that linked up on your farm, he's not going to do it. Were there's a scheme in place that encouraged that landscape scale, then yes I think we would have had a big influence." (Facilitator)

However, for those that have existing AES the group has been very successful in changing the mindset towards agri-environment schemes. The facilitator believes that members no longer think of maximising the financial outcomes of the scheme but now consider maximising the environmental outcomes:

"…. Countryside Stewardship and Environmental Stewardship, the way they are set up, it becomes all about money. Give a farmer a smorgasbord of options and he'll pick the ones that give the most amount of money without thinking about what would be the best thing environmentally. So from me, apart from the social aspects of facilitation, the biggest impact has been to start turning around that mindset to one of saying 'okay, what is the right thing to be doing, what would I really like to do to help whatever species or habitats I've got.' Then, and only then, will I look at the schemes and go what measures fit with what I want to do." (Facilitator)

This point was supported by Group member 3 who stated that one of the main successes of the FF is that members now think more about the environmental outcomes and benefits resulting from the options they choose:

> *"When the facilitation ceases, something needs to take its place, so there is that forum so people understand why they are doing stuff, because as soon as people understand why they are doing something and what habitats they will be protecting and what species will benefit; they will do it properly…. (Group member 3)*

In this way membership of the FF group has also reinforced and deepened positive attitudes towards AES. One member described that through the group he was learning how to optimise the environmental outcomes from his AES options, for example, by undertaking infield option activities at the optimum time to maximise the benefits.

Additional resources

The group has received some additional resources from the Environment Agency for work on watercourses which is linked to the Drainage Board and a contribution from Woodland Trust for hedge plants. This additional funding contributes to less than 5% of the overall resources.

Bonding social capital – relationships between members

Knowledge and information sharing

The facilitator was aware that the group events had created an environment where members were willing to share knowledge and information between themselves, as the following quote highlights:

> *"Yes, that [knowledge and information sharing] comes out in meetings, you get a lot of that in meetings. So, whether it is during a field walk with a vegetation expert or a classroom exercise with some lecturer. Because they feel that it is their group, they are willing to share their knowledge. You say evidence, I've never written stuff down, sometimes at the meetings, particularly indoor meetings, people will hang on talking for over an hour. They will talk and talk and I am pushing them out of the door eventually." (Facilitator)*

The three group members also agreed that there was now more knowledge and information sharing with other group members. As Group member 2 explained:

> *"Information is the biggest benefit by far. Encouragement to try different practices, partly purely by word of mouth and also actually going to see it being done. I believe there is a social side to it, and I think we all recognise there is… It is something that takes you off your own farm and gives you the chance to hear other people's views and weigh them up." (Group member 2)*

All three members interviewed had been willing to use their land for training events, which included marsh management, butterflies, bird and birdsong identification, soils, and training on how to identify soil characteristics through plants, water levels and coastal flooding, and these events were valued as group member 1 explains:

"We've enjoyed hosting the farm visits. It's on your own place, they can come and talk to you, and you get a lot back from that and it's quite enjoyable to do." (Group member 1)

It was clear from the way in which the members described the group that it was perceived as a safe and supportive space to debate and discuss agri-environmental issues. Here members felt that their voices were heard, and that views and opinions were appreciated. It was a place where members could share and exchange knowledge and make up their own mind about what was right for their own land management practices:

"I think that most people in the group would be happy to listen to what I am saying. But that doesn't mean that everyone would go home and do what I said. I am willing to express a view and I think most people would see me as a viable person to have a view. But whether they would then ascribe that view to their own circumstances and their own farm…" (Group member 2)

"People feel that sense of belonging and that, sort of, safety that it is our group, that it doesn't belong to Natural England or the government or whatever." (Facilitator)

Collaboration

There were some limited examples of collaborative working. Two of the group members explained how the group had widened and strengthened their machinery sharing network.

The facilitator also mentioned a developing relationship between specialist contractors and members. For example, special drills that can be used for pollen and nectar mixes. As one member explained this is particularly useful in their area when farmers are often very busy sowing crops and might not have time to sow the environmental strips. The facilitator has helped to arrange other members or contractors to come in and do the work so it is done at the optimum time even if the farmer is too busy.

Social benefits

All group members interviewed and the facilitator believed the group had created social benefits through more social interaction with neighbours and other farmers in the area. This was particularly beneficial for the more socially isolated group members. Two of the group members reflected on how they had less of a social life than previous generations.

"Farming has changed so much… We have been pouring through my father's grandmother's diary she kept when they first came to the farm. They were socially outgoing; they were always going out… They were always visiting, they had far more time then than we do now because they employed staff, so they didn't work and that they then had the time to enjoy their lives. (Group member 1)

"When I first came here, I used to get off the farm regularly… But I go months now sometimes, and your head is just down and you become very blinkered and that's not good that you both personally or professionally

I don't think. So, this has been a breath of fresh air really." (Group member 3)

Benefits have also been derived from more social mixing. The group activities offer an opportunity for farmers, landowners, managers, employees and all their families to come together. Nothing else in the community provides this opportunity to mix. The benefits of these interactions are clear in one group member's responses:

"The fact that your families, employees, and colleagues can come along as well, it just strengthens the whole thing. When I talk about a landowner, over there, my wife knows who I'm talking about and a relationship builds there with that family and it just grows from there really." (Group member 3)

"Farming is a job that demands long hours so, with your families, you always feel you are not about. But if they can come along to something, which is basically work based, but is also an extra interest as well, it is also time you spend with them… It can be quite isolating doing the work we do sometimes." (Group member 3)

The facilitator also felt that the group had broken down social barriers and reduced social isolation. He had noticed that when members host an event there is a real sense of pride in welcoming others onto the farm. This is shown in many ways from the time and effort devoted to making sandwiches and baking cakes for the refreshments to the presentation of the farmyards and machinery.

"I will give you one example, a person from X came up to X at one of the meetings and give them a big hug and said 'thank you for what you and X have done…' There was a farmer who never came to events or responded to emails in the beginning, now he responds to all my emails, comes to more and more events and brings his wife along" (Facilitator)

The three members interviewed also reported some increased satisfaction with their job and quality of life as a result of being part of the group, indicated in Table 29 below:

Table 29. Changes in job satisfaction.

	Large increase in satisfaction	Moderate increase in satisfaction	No change to satisfaction	Moderate reduction in satisfaction	Large reduction in satisfaction
your work-life balance		2	1		
being a farmer?		3			
your freedom of decision-making?	1	1	1		
your overall quality of life?		3			

Bridging social capital – social relationships with dissimilar people

Group members have interacted with non-farming environmental specialists through events and talks, such as ornithologists, social scientists, small-scale orchard managers, tree identification specialists, botanists, ecologists, Bug Life employees, and education experts.

Individually, members have interacted with the general public about the environmental work that they are doing as they recognise the importance of engaging with the local community. However, this interaction is not a specific outcome of group membership.

Linking social capital - relationships with people characterised by power differences

Two group members did not think group membership had increased their level of contact with government agencies, whereas group member 3 explained that Defra had been invited to a meeting and this has changed his feelings towards the government organisation:

> *"It is a positive thing that we can talk to the people who set the policy direction. I would have never have spoken to them in the past…It's always better when you can put a name, a face, to an organisation. I guess it has yes." (Group member 3)*

The facilitator also explained that members have invited government organisations to attend group events, giving them ownership and control of the process. He explained that members turned up to listen to the government representatives, but it was on their terms. The facilitator believes that this has improved the relationships with government agencies. He explained that he has seen members physically relax and warm to people as the meetings progress. By the end of the meeting the government officials are no longer seen as ogres and the chance to interact in person reassures members they are dealing with real individuals too, rather than simply faceless organisations. At the start of some meetings there are some farmers who sit there with arms crossed and still have their arms crossed at the end, but there are many more who have opened up and have listened to what people have been saying. He adds:

> *"Now you see at the ends of meetings people from Natural England and Defra not being able to get away because people are interested in them and just want to talk, listen and find out stuff." (Facilitator)*

Behaviour change

The main change as a result of group membership has been improved management of existing AES options to benefit the environment. As group members 1 and 3 explained:

> *"The HLS or the Stewardship schemes are basically blueprints, all black and whites, of what everyone should do. But what the facilitation group is trying to do is to… manage your own environmental scheme individually, so each farm is different from another one. So you can't farm the same, environmentally, as Yorkshire or Cornwall or Scotland because we have got different habitats and different environmental*

weather. You have to do it differently. It's such a broad scheme, one doesn't fit for everyone" (Group member 1)

"In the past we would put something in, an option, and just tick a box. Now it feels like a much more integrated part of everything we do. There is more thought going into where we put these things, staff come along as well and the other managers… Now it feels much more like it's treated, as the crops side, you know, we try and get it in in the best conditions to give it the best chance. I look forward to seeing X [the facilitator] coming round to see what we can do to improve it, it's much higher up the priority list. (Group member 3)

Other attitudinal or behavioural changes that group members mentioned were more empathy with soil management, taking the impact of spreading and spraying on wildlife into account, considering the environment over the whole farm rather than just the patches and plots in the AES options, and implementation of cover crops.

The group has also led to some co-ordinated landscape scale management such as four adjoining farms coming together to plan management at a landscape scale. Group member 2 entered into a Countryside Stewardship higher-tier agreement last year and this was tied in with the next door farms. As he explains:

"The plan is to have buffers and stuff, again leading through connecting woodlands, corridors, that sort of thing…. We talked through with X [the facilitator] how to make this a knitted together approach… All of us about the estuary, and are affected by it, so that's the idea of seeing what we could do …. That would advance conservation and that sort of thing" (Group member 2)

All three members said they had an increased interest in wildlife on their farm as a result of group membership. As group member 3 explained:

"A little bit of knowledge drives you on and makes you hungry for more." (Group member 3)

The facilitator also believed that the members now knew more about the environmental benefits their actions deliver, as opposed to focusing on the amount of money different options will generate. He believes that:

"When the facilitation ceases, something needs to take its place, so there is that forum so people understand why they are doing stuff, because as soon as people understand why they are doing something and what habitats they will be protecting and what species will benefit; they will do it properly…." (Facilitator)

He also noted that an interesting spin-off of the group is that they have encouraged attendance from extended family and the workforce of members and therefore the environmental message is getting through to the hired labour as well.

"Farm staff often complain 'the boss goes off to these various meetings and comes back with these ideas and tells us to put them in place and we go why? Because nothing is explained.' … You can see they start to understand why the boss is saying do this or do that." (Facilitator)

All of the group members stated that they had a clear understanding of what the group was trying to achieve. As the facilitator explained:

"they understood what the group was aiming to achieve, which was greater environmental outcomes. I think as time has gone by they are probably thinking that they haven't done a great deal, but at the same time they are becoming aware that it is not necessarily about doing all these environmental things, it is about a growing understanding about why you are doing them." (Facilitator)

The three group members were also very confident that the outcomes of the group would be achieved. However, group member 3 noted that they have not yet linked up their agreements at a landscape-scale, but thought there would be more of this in the future as farmers start to think about where they are placing their options.

There is interest from two other groups of farmers in the area in setting up their own CSFF, which reflects an increased social acceptance of these groups within the local farming community. However, group member 3 suggested that some farmers think that CSFF is another layer of bureaucracy and are therefore reluctant to join.

Advice and training

From the facilitators point of view the most influential training events that the group held were on soils, and what plants can tell you about soils, and a talk by a FWAG officer on the 'hunger gap' in the year for bird food, which was very influential in getting farmers to plant their headlands with bird seed mix.

For Group member 2 the most beneficial training related to the use of cover crops and for Group member 3 information relating to different ways of establishing, regenerating, renewing infield plots.

"We had a discussion about whether it would be better, when renewing a plot, rather than go in there and blitz the whole bloody lot, you could re-establish half of it in strips or something and we talked about that, I suppose that's a reasonable example. Don't go in there and just rip the whole bloody lot out, replace half of it and then another year you might look at doing it the other way round. So, you haven't thrown everything out." (Group member 3)

Whilst the group members did not feel they had necessarily learnt new skills through the training they definitely felt they had gained new knowledge. Group member 1 explained how they had a greater understanding of the underlying rationale for AES options.

"I think you learn more about why you are doing it, rather than what you are doing it for. We know why we are doing it and probably not understood the benefits of doing it. So going to these things you learn about bees and butterflies and what benefits they have on your farm other than watching them. You know, there are more benefits of having them." (Group member 1)

Other examples of new knowledge included learning about wild plants and grasses, establishing and maintaining infield plots, birds and their requirements, tree identification, plant species, insect life and the agricultural landscape, how it was created and what it means:

> *"History of the landscape. That was fascinating because I hadn't tended to think about why the field shapes are the way they are or why these are trees here or why that wood is there. It was fascinating just to sit back and think about how the landscape has developed over the years and changed over the years depending on what we wanted from it. That was fascinating and I look at it in a very different way since then." (Group member 3)*

All three group members said they would be willing to pay for one-to-one environmental advice and two of the members had already done so.

Continuity

The three group members were all keen for their groups to continue in the long-term and one of the groups had already discussed an option for setting up a Management Board, with some board members coming from outside farming, such as local businesses who might provide sponsorship and funding in the future.

To continue, two of the group members felt that funding for a facilitator was crucial to the success of the group. As group member 1 explained:

> *"I think that if it was left to individual farmers, say one person took over every six months, I don't think it would work. You have got to have that coordinator, someone who has a passion about the sort of groups, and X [the facilitator] has that." (Group member 1)*

River Loud Facilitation Group Case Study

Background and Group development

The River Loud Facilitation Group was established in 2015 and is facilitated by the Ribble Rivers Trust. The group started with 18 members and has nearly doubled in size to 30 members. Of these members, 9 are new to agri-environment schemes (AES) and 7 do not currently have AES agreements. Since the group started there have been numerous applications for and uptake of Countryside Stewardship agreements. Last year the facilitator endorsed six applications and there will be another five this year. The facilitator considers that this aspect of the group's work has been very successful.

There was no official group of farmers prior to establishing the FF group, although some farmers had worked together on different projects and schemes in the areas, such as diffuse pollution managed by the Rivers Trust and Catchment Sensitive Farming. The area was in a High Priority Area for Water and the Rivers Trust worked closely with the farmers, although the area no longer holds this high priority status. Two of the group members interviewed for this case study knew some of the other members.

"I knew one or two of them, but there are quite a few that I knew by name and roughly where they were from, but I had never met them before…" (Group member 1)

The current facilitator is new to the group following two previous facilitators who knew members through various schemes that the Rivers Trust was involved in. The previous facilitators were helpful in getting farmers capital grants, and the Rivers Trust had established a good working relationship and level of trust with the farmers in the area. The current facilitator is local and involved in the farming industry which she feels benefits her role:

"I knew of them, my family is quite local and is in the farming industry,… Being linked to farming in some way, it's the relatability factor,… It does relax people, it relaxes farmers straight away… If you don't have a farming background, I think sometimes they feel that you are just going to shout at them, which is never the case." (Facilitator)

The facilitator feels that there is an even split between the members and the River Trust in terms of running the group.

"I would genuinely say it is both, that's because the agreement was built around what farmers wanted… It was very much a 50:50, we have got this opportunity and here are some things for you guys to think about and what do you want to do as well… We always try to get the farmer's opinion about what they want to learn about." (Facilitator)

The desired outcomes for the group include:

- Understanding more about water pathways, diffuse pollution, dirty water separation, manure storage (inc SSAFO regs) and nutrient management.
- Better understanding of management of livestock, soils and pesticides
- Recognising soil loss and damage and learning about remedies.
- Understanding Environmental Stewardship Schemes.
- 100% membership covering the whole Loud Catchment.

Two of the members stated they were very clear about the outcomes of the group and what it is trying to achieve, whilst the third member was less certain of the group's aims.

Additional Resources

The group has been very adept at dovetailing with other initiatives and organisations who provide capital funding and one-to-one advice which are outside the remit of the FF. For example, they have used the Catchment Sensitive Farming scheme and the expertise of its officer to access capital grants for diffuse pollution control. Also, one-to-one advice about Countryside Stewardship agreements has been provided through referrals to the RSPB and other projects where the Rivers Trust were able to provide one-to-one advice. The facilitator feels that this way of working has been very important in building trust with the farmer and also helped with form filling and working to develop individual applications for Countryside Stewardship and capital grants.

Bonding social capital – relationships between members

Knowledge and information sharing

All three group members provided examples of knowledge and information sharing between members through discussions at events and looking around each other's farms. The group situation and setting allows the farmers and group members to express their curiosity about what each other is doing and what has and has not worked. In the past group members could see different kinds of management activities taking place on farms in the area but did not have the opportunity to find out the reasons behind the management activity.

As group member 1 explains:

"well, there are lads, and a lady or two as well, you don't meet them anywhere else. You can have a bit of a catch up and see what they are doing… More of these schemes, sort of thing, so you ask him what he thinks about it, what's his experience been of doing it…. We could perhaps do that, or maybe not like." (Group member 1)

A major activity within the group has been learning more about nutrients, soils and soil management. This has involved a programme of soil sampling and analysis on member farms which in turn has initiated a wide-ranging discussion among members of the results and possible changes to soil management practices.

All the group members appreciated the opportunity afforded by group meetings and events to share and exchange knowledge in a safe and supportive environment. These were places where members could share experiences but also where challenging topics and issues could be debated without being disruptive to the group. For example, group member 3 saw the farm visits as a safe space where members realised they were not alone in their experiences and were able to discuss issues.

"Going out on the farm is great because you actually see other farmers' issues, and soil compaction etc., rather than just your own. So, it's good to go out and look at where other people have water problems or pollution problems, and certainly for those in this area, because we have an issue with United Utilities sewage… that's why this facilitation group was

set up…. So, by going out on other farms and looking at particular problems we can then go 'gosh, we've got that'. So, that's probably more important than being sat looking at a spreadsheet on a screen." (Group member 3)

This point was also recognised by the facilitator who said:

"… it's getting out of the house, seeing other people who are going through similar situations to you are; or they just learn about, even though they know it, it's just like reinforcement or 'oh yeah I'm doing the right thing or I can do it this way'…" (Facilitator)

Group member 2, who owns a small farm, also enjoys the opportunity of visiting other farms, and the neutral space where challenging questions can be asked and answered. She provided an example from a soil compaction event with a soil specialist on a dairy farm:

"I'll just tell you one I found really interesting. Everybody manages in a different way, we all have different problems… The one we went to, I would never have had the cheek to go normally, a heavily stocked X farm… [The interviewee described a perceived environmentally damaging practice being undertaken on the farm] I just couldn't believe it…. It makes you realise that I'm on a different planet altogether… You can't really discuss this one to one, you have to have somebody neutral to draw… Otherwise you would be embarrassed, wouldn't you?" (Group member 2)

However, member 2 did not consider all of the training activities to be appropriate with much of it being directed at larger-scale farmers, as the following quote explains:

"Yeah, we've done a lot of talking, well we all have the same problem around here, it is too wet. But a lot of people who go are big farmers, certainly they have a lot of machinery. So, when I go along… I went to rush management, well the answer was to get great big machinery in to top the rushes or to spray. Then I went to a soil one, and he went on to great lengths about subsoiling. Well you can't do that up here, it just doesn't seem relevant. The bigger farmers are into all that but it means nothing to me." (Group member 2)

Topics have included stewardship schemes, tree planting, carbon capture, soils and soil management and field boundaries (hedges). Group member 3 in particular talked about the sharing of knowledge and information about the condition of their soil following the results of soil sampling. The facilitator also used a discussion about soils and their management as an example of knowledge sharing:

"Certainly at one of the first meetings,… anybody that understands soil and how nitrogen works… you have to have your PH levels correct and a lot of farmers were saying well we need to get the lime right… And we were all agreeing that if we could all spread lime and get the soil structure correct and people were sharing knowledge of what fields they had that done for. (Facilitator)

Two of the group members had used their land for training for other members. Group member 1 covered soils, soil management and grass reseeding opportunities using different varieties. Group member 3 hosted a session on fencing water courses to control fluke, as he explained:

> *"We did a lot of fencing off as part of the original Stewardship scheme… but some farmers have not done anything at all, and they are thinking 'should I or shouldn't I' then they will say to you 'well you have done loads of it previously, is it a good idea?' And I will say 'yes it is' because if you have got fluke on your farm, get rid of all those swampy bog areas because it's made a massive difference here. So even though the facilitation group is in its early stages to get some farmers to do it, the knowledge that, maybe, I had to pass to somebody has made the whole group think they are telling us to do it and he has actually done some." (Group member 3)*

Collaboration

The group members were unaware of any additional collaborative working between the members in addition to what already existed before the group was created. However, the facilitator provided an example which involved the sharing of soil sampling equipment. The group was split into four subgroups and each was given a soil sampling kit. The subgroups were left to undertake the soil sampling and pass on the sampling kits to the next farm when they had finished, which worked very well:

> *"In terms of collaborative working that's been brilliant." (Facilitator)*

Group member 3 explained how he has been working together with another member to have an impact at a landscape scale by aligning his hedge work with his neighbour's woodland:

> *"We have got a neighbouring farm which is on mid-tier… And when we are drawing up our plan we have been trying to incorporate hedge work that lines into some woodland where that is done. So, we are not just helping with pollution we are also allowing a habitat for wildlife to join his farm as well, so we are definitely looking at the broader picture." (Group member 3)*

However, group member 2 felt there was more scope for collaboration. She explained she wanted to do some further fencing of the becks but was unable to as it required an uninterested neighbour's cooperation.

Social benefits

All three members valued the social benefits derived from group membership. For example, group member 1 valued getting to know other members and people who they would not normally meet. Both group members 1 and 2 mentioned the enjoyment derived from discussions over tea and sandwiches. The facilitator in particular had noticed the social benefits that had emerged from group meetings, as she explained:

"I could see how much the farmers value the group, it wasn't just the information they were getting. There is a huge social side to it that can't be underestimated basically. One, they get off the farm, there are few farmers that are quite elderly and they get to come and speak to us, have a cup of tea and some food and just discuss…" (Facilitator)

"It was at our January meeting, some of them were like, 'you're not going to finish the group are you?', they have been saying to me like, one, it's getting out of the house, seeing other people who are going through similar situations to you are; or they just learn about, even though they know it, it's just like reinforcement or 'oh yeah I'm doing the right thing or I can do it this way'…" (Facilitator)

Two out of the three group members interviewed reported some increased satisfaction with their job and quality of life as a result of being part of the group, as indicated in Table 30

Table 30. Changes in job satisfaction.

	Large increase in satisfaction	Moderate increase in satisfaction	No change to satisfaction	Moderate reduction in satisfaction	Large reduction in satisfaction
your work-life balance?		2	1		
being a farmer?		2	1		
your freedom of decision-making?	2		1		
your overall quality of life?		1	2		

Bridging social capital – social relationships with dissimilar people

The group has introduced members to different people not involved in farming through the training events. This has included soil specialists, vegetation management specialists (rush management) and woodland specialists and group member 1 suggested that some members definitely follow-up with these people outside the group. Group member 2 was not always impressed with the quality of the speakers as she felt that they did not always fully engage with the members:

"Now that winds me up a bit. I sometimes think 'what have we gained from this chap, they've taken the money and gone'." (Group member 2)

The group has participated in some public engagements. In the summer the Rivers Trust attend exhibitions and shows in the area and it always has a stand about the group and invites group members on the stand with them to talk to the public and engage with them. The group is also publicised through social media. Furthermore, the Rivers Trust has created some farm walks in the catchment area covered by the group. They

have produced a booklet for walkers using public rights of way that cross the farms (this does not identify the farmers by name) which will help walkers understand what is happening on the farms and provide descriptions of the habitats, such as the woodlands, and what the farms are doing to encourage species, such as wading birds. The group also features prominently in the newsletters produced by the Rivers Trust.

Linking social capital – relationships with people characterised by power differences

The group has had some limited interaction with the Environment Agency and Natural England who have spoken to the group to reinforce legislative requirements. As the facilitator explains:

"So even though we provide them with as much as we can do about the most up-to-date information, it's good to get officials in from different organisations just to reinforce things… So, we do try to put them in contact with people that potentially they wouldn't have the confidence to go and speak to themselves. Particularly, when it comes to legislation and stuff like that, it's all very well be saying that,… It's better coming from the horse's mouth." (Facilitator)

However, none of the group members felt their interaction with government agencies had changed their feelings towards them. According to the facilitator it depends on which agency is being referred to. Farmers like stability and changes in personnel within the agencies has not been helpful. This works against the building of trust.

"The main thing with farmers and trust and agencies is that they have a good relationship with agents that are trying to help them and they are not trying to catch them out." (Facilitator)

Behaviour change

All three group members thought that the group had increased their interest in the wildlife on their farms. They were now more aware of the species and special habitats, such as hay meadows, on their farms and this has resulted in greater interest in the impact of their farm practices on the habitats and species. The group has helped farmers to understand the importance of the environmental benefits their farms provide. As group member 1 recounts:

"I did not think the wildlife was that important before… I knew it was there but I wasn't aware just how important it was." (Group member 1)

For Group member 3, although membership has not changed his attitude to the environment, which was already positive, it has helped to identify the main priority issues that need attention:

"It hasn't changed a lot of attitudes because I was already well on with environmental issues. I was aware of pollution, I was aware that we were in a Catchment Sensitive Area, I was aware of that we were in the NVZ for a while… What it has done has highlighted the main priority problems that we need to be looking at…. So, I am still learning quite a lot." (Group member 3)

This member also believes that being part of the group has resulted in members doing more for the environment than they would have done individually:

"I would say definitely, just the uptake in Countryside Stewardship for our group. I think the group provides them with support, it provides them with ideas, it provides them with understanding and clarity with regard to environmental management and significantly helps them with their farm businesses." (Group member 3)

The group appears to be well respected in the local area and all three group members would recommend membership to other farmers.

The facilitator believes that the group activities have resulted in a number of changes, including farmers being able to fill in AES forms correctly, a widescale uptake of soil sampling and implementation of advice on fertiliser applications and getting farmers to think at a landscape scale, particularly about the management of the water catchment. They have been successful in getting five or six Countryside Stewardship applications submitted each year. In terms of the changes achieved the facilitator explains:

"Sometimes it can be really small, and sometimes it can be really huge…. Farmers filling in forms properly, which sounds really simple… doesn't have any environmental impact, but if they have the confidence to fill in the paperwork themselves… that's good. We have had farmers who have been really looking at their soil sample results, and looking at how they can change their fertiliser and manure applications and to look at phosphates and stuff which has been some good wins for us. Capital countryside capital stewardship uptake as being a good win for us. Looking at the landscape scale side of things, we always tried to talk to them and say 'okay we got these issues in your catchment, let's see how we can implement these things'… Any sort of engagement you get is a win, even if they are only in the group for a brew or some food, a biscuit, and a chat with the neighbours I think socially is a really big element to it." (Facilitator)

Advice and training

From the facilitator's points of view the most influential training events were those covering soils management, nutrient management, rush management, woodland management and watercourse management. As mentioned previously, the events held on various members' farms were particularly influential.

Group member 1 found the spraying course, soil sampling and management (aeration), and rush management events both practical and relevant. He particularly liked the sessions on soils where he learned how to feed the soil which in turn feeds the livestock. Both group members 2 and 3 found the soil compaction event particularly useful.

Group member 1 feels he now knows more about how important the wading birds are on the farm and how the catchment area works, where the water goes, what the risks are and what actions the members can take, such as fencing water courses, tree

planting, hedge planting, dirty water management. Group member 3 has learnt new skills, such as how to soil sample correctly and how to test nitrogen levels in manure. He explains how he has learnt things that he thought he knew:

"Then, some of the guest speakers… Have informed us on stuff that we thought we knew, but didn't really know… Well, like soil samples, the correct storage of manure, nitrogen levels, testing your manure and slurry. We have all done that, we have all had test kits for that. The importance of fencing off riverbanks, not just fencing off riverbanks for trees to prevent floods and pollution but also that it's preventing livestock going into those rivers and picking up fluke. On our farm we have fenced probably 2,000 metres of water courses off and our fluke issues have disappeared. So that is something I have learnt." (Group member 3)

The facilitator is approached for one-to-one advice by group members, usually in relation to pesticide use. She feels that they are particularly interested in advice that helps them to avoid penalties from government agencies.

Continuity

All three group members are keen to see the group continue in the future. According to group member 1 they have discussed future topics to explore, including sustainable power production and carbon economies and the role farms can play. Also, group member 3 referred to discussions about future environmental machinery sharing, such as using capital grants to purchase a soil aerator and rush control equipment.

The facilitator also confirmed that the group has expressed a desire to continue and would be very disappointed if it came to an end.

"All the farmers said we want the group to continue no matter what."
(Facilitator)

Due to the success of the group, United Utilities would like the River Trust to continue working with the group to help them achieve the aim of reducing flood risk and phosphate in the catchment when their Facilitation Funding comes to an end.

5.6 Conclusions

The aim of this section is to draw on the two main sources of empirical evidence, the facilitator telephone interviews and case study face-to-face interviews, to identify the key conclusions in relation to the main research questions: the impact of CSFF on social outcomes and behaviour change.

It is important to note that the evidence is based on interviews with facilitators and group members who were self-selecting in that they volunteered to be interviewed and therefore were likely to be the most actively engaged participants. It is also not possible to identify the extent to which the findings are applicable to all CSFF groups.

Overall, it is clear that the CSFF groups are very diverse in terms of geographical scale and focus for environmental outcomes, ranging from wildlife conservation to resource management. In our sample of 25 groups the geographical scales ranged from a

whole county to small sub-catchments. The groups also vary considerably in size of membership. This diversity is one of the strengths of the CSFF as it reflects local environmental interests and priorities.

Social Outcomes

Focusing first on the social outcomes of CSFF, the following conclusions can be drawn in relation to the development of social capital:

Bonding social capital. There is evidence of the development of strong bonding social capital between group members characterised by positive social relationships built on trust and reciprocity. The presence of such bonds in a group can increase environmental outcomes through information sharing, knowledge exchange and collaborative working.

There is evidence of considerable information and knowledge sharing taking place between group members and this outcome was considered one of the main successes of group membership. Social trust had built up over time, so that group members viewed group events as a safe and supportive space where they could ask questions and learn from other members about the environmental issues affecting their land. Whist discussion groups focused on commercial farming activities have existed for many years, CSFF groups appear to be filling a void by offering a space where land managers with an interest in environmental activities, rather than specifically commercial farming activities, can come together to learn from each other and gain new knowledge and information. The groups appear to be a space in which environmental narratives and frames are given equal standing to the more common agricultural practice and production narratives.

Visits to other members' farms for information exchange were particularly valued. There was evidence that making individual farmer practices visible to their peers had helped in some circumstances to change perceptions of what were deemed desirable and acceptable farming practices. The groups offered members an opportunity to reflect on their current practices, to think more about their AES outcomes and to work on delivering benefits at a landscape-scale.

Only in one group surveyed did there appear to be an absence of social trust, demonstrated by a reluctance to share information and it is reported by the facilitator that this group is unlikely to continue once funding finishes.

These strengthening social bonds had led to some limited examples of informal collaborative working between a few group members, such as machinery or equipment sharing and some collaborative grazing. Some facilitators reported that this type of activity was in the planning stage or would develop further given more time. There was a sense that some of the groups were still in an early stage of development, but there was now an opportunity to build further engagement and deliver greater environmental outcomes in the future. The stage of development that groups were at varied depending on the members' initial levels of engagement and attitude to delivering shared outcomes. For example, although the Herefordshire Meadows and South Pennine case study groups started at the same time, the Herefordshire Meadows group was considered more developed and connected than the South Pennines group

where it took some members time to refrain from placing their own interests first and to allow productive discussions to develop.

Bridging social capital. Bridging social capital refers to social connections between individuals who are dissimilar with respect to socioeconomic and other characteristics. The relationships between people in such networks tend to be weaker, and less sustained than those demonstrating bonding social capital. However, these types of relationships can have advantages as they bring new information and ideas into the group and allow for introductions to new networks. There was strong evidence that the group members were engaging and building individual relationships with a much broader range of people with different knowledge systems, such as environmental resource management and wildlife organisations and specialists, than they would have done previously. This has led to increased knowledge and engagement with environmental activities, such as on-farm wildlife surveys and flood control and diffuse pollution mitigation. In fact, this knowledge exchange seemed to work both ways, with some specialists gaining valuable knowledge from the group members.

There was also some increased interaction with the general public, although rather limited. This was an activity that facilitators were keen to expand in the future, recognising the need to inform the public of farmers' contribution to delivering public goods. For example, the South Pennines case study group had conducted a public survey on natural capital to ensure that the benefits they deliver in the future are actually the things the public want to see. Members of the River Loud case study group engaged with the public at local community shows and events to talk about their group's activity. However, there was some concern that any public engagement activity was currently outside the remit of CSFF. Another form of bridging social capital was demonstrated in the Suffolk case study where members engaged with major businesses (shipping, transport, goods) in and around the channel ports to identify mutual benefits.

Linking social capital. This form of capital is used to describe networks of people characterised by power differences; the links between farmers and institutions. It can be measured, for example, by the ability or desire to form positive relationships with government agency staff or with landlords. Such connections are important for accessing support from formal institutions through personal contacts and also building social trust. Some of the facilitators suggested that their groups had seen a change in the level of engagement with government agencies, largely as a result of agency representatives attending group meetings and explaining policies and future policy directions. In a number of cases this has led to improved relationships with government agencies, despite issues with AES payments and bureaucracy. However, the person attending a meeting needs to be consistent and not someone new each time, to enable members to develop trust and build a relationship with one individual. Group involvement in Defra's ELMS consultations proved particularly important in strengthening relationships and giving group members a voice, which was considered by several facilitators as one of the main successes of the group. However, there were also examples of the negative effects of linking social capital where negative views were re-enforced if institutions lacked clarity in their message or appeared to be evasive about future policy.

Social benefits of group membership. A high proportion of the facilitators were aware of the social benefits that members were deriving from interaction with other group members and this outcome was considered a significant benefit of the groups. Also, in the case study interviews, members frequently mentioned the benefits derived from greater social interaction at group meetings and events.

Social benefits in terms of breaking down social isolation were also identified. This appeared to be particularly important for groups located in more remote areas of the country, although not exclusive to these areas, as can be seen in the Suffolk CSFF case study, where members still felt socially isolated, even though they are geographically accessible. The group member interviews identified a generally positive effect of membership on health and wellbeing in terms of work-life balance, being a farmer, freedom of decision-making and overall quality of life. Members talked about the importance of the events for offering social opportunities, such as getting to know people during meeting refreshments, whilst walking around farms and taking pride in their performance whilst hosting events. Furthermore, for some groups, such as the Suffolk case study groups, the group activities provided a rare opportunity for social mixing in the farming community with farmers, landowners, managers, employees and all their families coming together.

There was some evidence that member's involvement with CSFF had slightly reduced stress levels. Some facilitators believed that their personal presence had particularly helped reduce the stress levels of member's in their dealings with AES administration and inspections, through hand-holding and helping to provide clarification and resolve issues. It was also noted by some facilitators that there were individuals who the groups were not reaching and it was considered important to offer support in other ways to those who were less likely to engage with a group.

Behaviour change – willingness to change

The interviews also explored the extent to which group involvement had led to any behaviour change. Facilitators were able to identify specific examples of behaviour change as a result of group members' actions, such as signing up to AES agreements. The group member interviews provided evidence of changes in the management of AES options as a result of a deeper understanding of their environmental goals and in changes in cropping practices, such as direct drilling and the use of cover crops.

In terms of the groups influencing members' willingness to change, the following factors were identified:

Interest in (and awareness of) environment. There was evidence of increased interest in the wildlife and environmental issues on group members' farms. For example, if wildlife ID surveys had been undertaken as part of the group's activity, this appeared to be successful in raising awareness of species on their farms and encouraging management changes to accommodate the species, such as supplementary bird feeding. Other groups' events and training activities had also increased awareness about on-farm and landscape-scale environmental issues and led to on-going changes in management practices, such as the introduction of cover crops, flood management measures, grassland restoration and hedge management measures.

Response efficacy. The majority of facilitators thought that the members had a high or very high level of understanding about the outcomes of the group, although this tended to relate more to an understanding of the group's priorities, rather than the specific outcomes they were aiming to achieve. From the group member interviews there was evidence of a belief that collective group action would be effective in achieving environmental goals.

There was evidence that collective commitment-making and a sense of collective efficacy had increased some members' engagement in the group. This was particularly the case where the facilitator had been successful in raising awareness of the importance of landscape or catchment-scale issues and increasing connectivity for species and habitats. Initial commitment-making was achieved within groups using a clearly defined boundary and a map showing the coverage of group members' land within the boundary. From here, groups worked to fill in the gaps on the map. There was less evidence of co-ordinated activity between members to achieve collective environmental outcomes at a landscape-scale. Examples given where this did exist included, alignment of AES options for a group of four farmers in the Suffolk case study, tree removal along a river, clearing out ditches so that they all joined up, joint hedgerow management, and management options to benefit specific species.

Subjective norms. There was some limited evidence of peer pressure influencing members to do more for the environment than they would have done outside of a group, such as signing up for an AES, or implementing cover crops, although this activity usually involved individual actions, rather than co-ordinated activities between group members. Group membership has not necessarily led to a greater acceptability of AES amongst group members due to issues with scheme administration, but a high percentage of members would recommend group membership to others. There appeared to be a cultural acceptability of CSFF amongst the farming community, with membership seen as an advantage.

Agency. The extent to which group members were involved in decision-making within the group varied. Some groups were clearly led by the facilitator, whereas in others the group members influenced the group's agenda by offering ideas for events and activities. A few facilitators expressed frustration in their members' lack of proactivity. Ensuring that members understood the need for their input and opinions from the very start appeared to be crucial in members taking ownership of the group's agenda, as evidenced by the approach taken in the Winchester Downs case study.

The group member evidence showed that individual members placed differing levels of importance on the role of agency. For some members it was very important that they played a role in guiding the development of the group, while others were content to take a less assertive role. Most members felt that they could voice opinions and that they would be heard and that their views were valued by the group.

A mixed response was provided by the facilitators to a question about whether being part of the group had contributed to their members' sense of ownership of their AES, with just over half believing that it had done so. Some felt that the group had helped members to understand the aim and objectives of AES and what they are trying to achieve which made them more engaged and therefore created a sense of ownership of the environmental outcomes. This finding was also supported by the case study

interviews with several members citing participation in the group as helping them take greater ownership of their AES. However, several facilitators also felt that AES were limited as a mechanism to meet the objectives of the groups, lacking flexibility in the scheme's prescriptions to meet the groups aims. This was an issue identified in the Herefordshire Meadows case study, for example, in relation to the restoration of grass meadows.

Behaviour change – capacity to change

Training and advice. A wide range of training events had been organised for group members and were universally appreciated by the members. The events that proved most popular related to those held on member's farms, and training events focused on resource protection and management, particularly soil health and the management of particularly challenging AES options.

The facilitators were able to attribute changes in members' management practices to training events, although examples were limited. The facilitators were keen to point out that the events and activities had led to changes in thinking which may not have yet led to changes on the ground, but were likely to do so when their members were signing up to new AES.

All but one of the facilitators stated that they had been approached by members for advice, although several pointed out that it was clear that their role as a facilitator for CSFF was not to give one-to-one advice. If they have given advice it has been informal, verbal advice, or emails, discussing ideas or potential sources of information, and management for specific species or habitats. More facilitators felt that members would be willing to pay for one-to-one advice, than would not, but generally with the caveat that it had to financially benefit the farm business, either by resulting in some income for an AES agreement, or ensuring they avoided penalties. There was general consensus that larger farms would be more willing to pay for one-to-one advice, whilst the small farms would be less inclined or able to do so.

There was no general consensus from facilitators as to when in the agreement cycle this one-to-one advice would most likely be needed. Some suggested it was at the application stage, whilst others suggested that one-to-one advice would be needed throughout the agreement cycle.

Continuity

The group member and facilitator interviews found almost universal support for the continuation of their groups. They were widely valued and seen to have a positive role in delivering future environmental benefits. Four groups were actively exploring options for alternative funding, in case this was no longer available from Natural England. Part of the enthusiasm for continued membership was the recognition that group working was likely to be important for future engagement with ELMS.

Just one facilitator felt that their group was unlikely to continue and another group had already taken the decision not to continue as a CSFF in the future.

When asked what changes or support would be required to help the groups continue long-term, the main response was continued funding for a facilitator. The facilitator was

considered crucial in the success of the group. Without a facilitator in place to organise events and meetings and to drive the group forward most respondents believed these events would not happen and suggested activities would not fit within the remit of CSFF. As well as organising events and meetings, facilitators were considered important in motivating and enthusing members to achieve the group's goals and a conduit for new information.

5.7 Suggestions going forward

- Most groups have reached a stage of development where trust has been built which leads to a sharing of knowledge and information. Building these trusting relationships that deliver results takes time (up to 18 months in some cases), so it is important to ensure funding runs for long enough to enable these trusting relationships to develop, and then allow time and resources for outcomes to be delivered. Funding for group activities should continue as it is likely to lead to increased cohesiveness and a deepening of collaboration between members.
- Ensure funding is available for a skilled facilitator as they are crucial to the success of the group's development. Within larger groups there may also be value in developing leadership roles for respected farmers/'leaders'.
- Provide more opportunities for facilitators to regularly share their experiences and learn from each other. In addition to the national meeting, there should be opportunities for sharing best practice at regular regional meetings, and for partnering up with other local facilitators.
- Recognise facilitators are likely to bring different skills to the table, and encourage them to develop their knowledge too, as opposed to just disseminating information.
- During group establishment make members aware that they are able to influence the group activities undertaken and should contribute their own ideas. A range of management tools can be used to energise the groups and sustain their momentum.
- Streamline AES prescriptions and offer flexibility so that they can be adapted to meet the environmental goals of the group.
- Make funding available for mapping and monitoring of environmental outcomes to demonstrate environmental achievements and thereby reinforce the members' pro-environmental behaviours.
- Allow facilitators some flexibility in how they spend their group's money. A number of facilitators interviewed found they had a significant underspend, but were at a loss as to what they could do with it. One common suggestion was to allocate a percentage of funding which group members could access to complete capital projects that contribute to their group's overall priorities.
- Consider group sizes of around 15-20 members. Smaller groups increase the risk of too few members attending an event to make it worth putting on. If groups are too large the creation of a forum for an open and trusting exchange of information and knowledge can be difficult, although some groups overcome this issue by creating individual clusters of members.
- Provide some funding for one-to-one advice, even if part-funded, to propel group members from an awareness and understanding of the management practices required to actual implementation.

6. Assess additional resources and contributions achieved by CSFF groups

Through the 20 telephone interviews and 5 face-to-face interviews with facilitators conducted in Section 5, additional resources and contributions achieved by the CSFF groups have been identified.

When interviewed the facilitators were offered anonymity and the analysis below avoids using the group names and numbers so that they are not identifiable. As this also limits the reference that can be made on the location of the group, there are some constraints on the analysis. Only for the 5 case studies central to the project agreement was permission sought to be able to name the fund within the report.

6.1 Extent and influence of additional resources

Of the groups interviewed, 16 facilitators highlighted that their fund had accessed additional funding from sources other than Natural England itself. The funding was provided by various other organisations, such as the Environment Agency, water companies, Network Rail, Wildlife Trust, local authorities, national parks and charities (Figure 9).

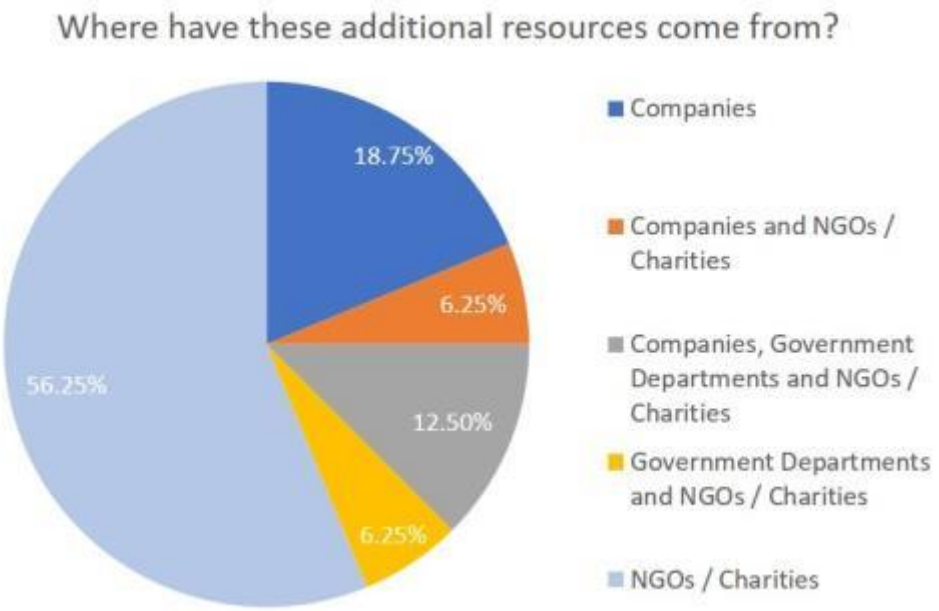


Figure 9: Providers of additional funding to Facilitation Fund groups

The interviewees identified a range of proportions of the overall resources these additional funds have contributed to (Figure 10).

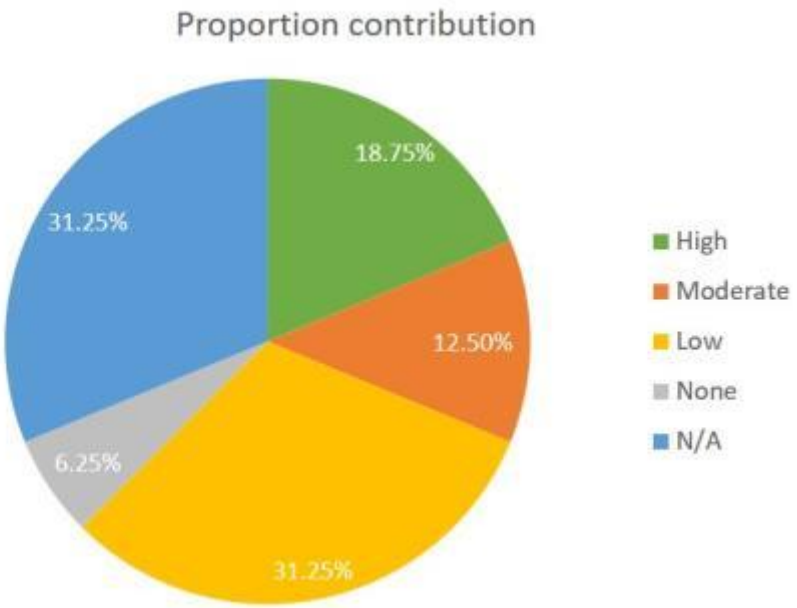


Figure 10: Range of proportion of the overall resources to which the additional funds contributed

The influence exerted by these additional funders/partners on the outputs achieved by the group greatly varied from highly significant to supportive (Figure 11).

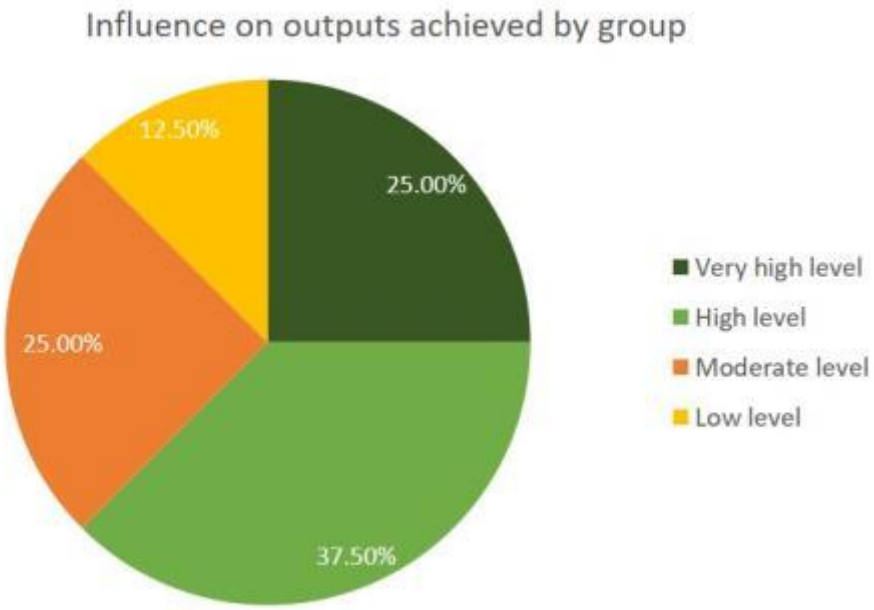


Figure 11: Influence of additional resources on the group outputs

The same applies to the proportion of the outcomes achieved by the groups relating to these additional funders/partners (Figure 12).

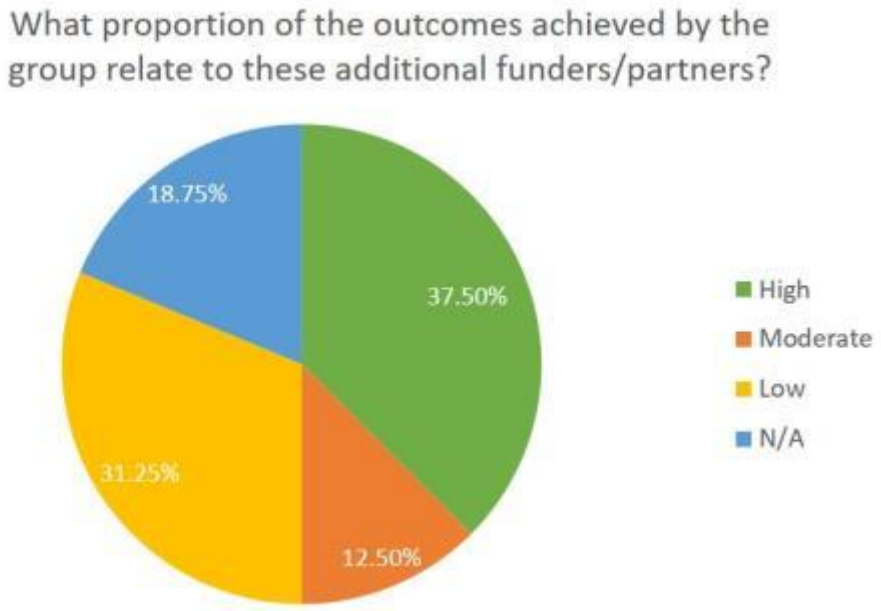


Figure 12: Relation of the group outcomes achieved to additional resources

7. Apply natural capital indicators

7.1 Approach

Natural England uses a natural capital logic chain approach to demonstrate how ecosystem assets underpin the provision of benefits to people through the provision of ecosystem services (Lusardi et al., 2018). The use of logic chains simplifies a complex natural and human system and helps to identify the links across the chain.

The logic chain shows those aspects of natural capital/ecosystem assets (quantity, quality, location) that underpin the provision of ecosystem services. All parts of this chain are affected by management interventions, pressures and drivers of change.

Agri-environment schemes (AES) provide funding to farmers and land managers to farm in a way that supports biodiversity, enhances the landscape, and improves the quality of water, air and soil. With approximately 15% of all farmland in England delivering environmental benefits through these schemes, they have clear potential to maintain and enhance natural capital at scale, providing multiple benefits to people.

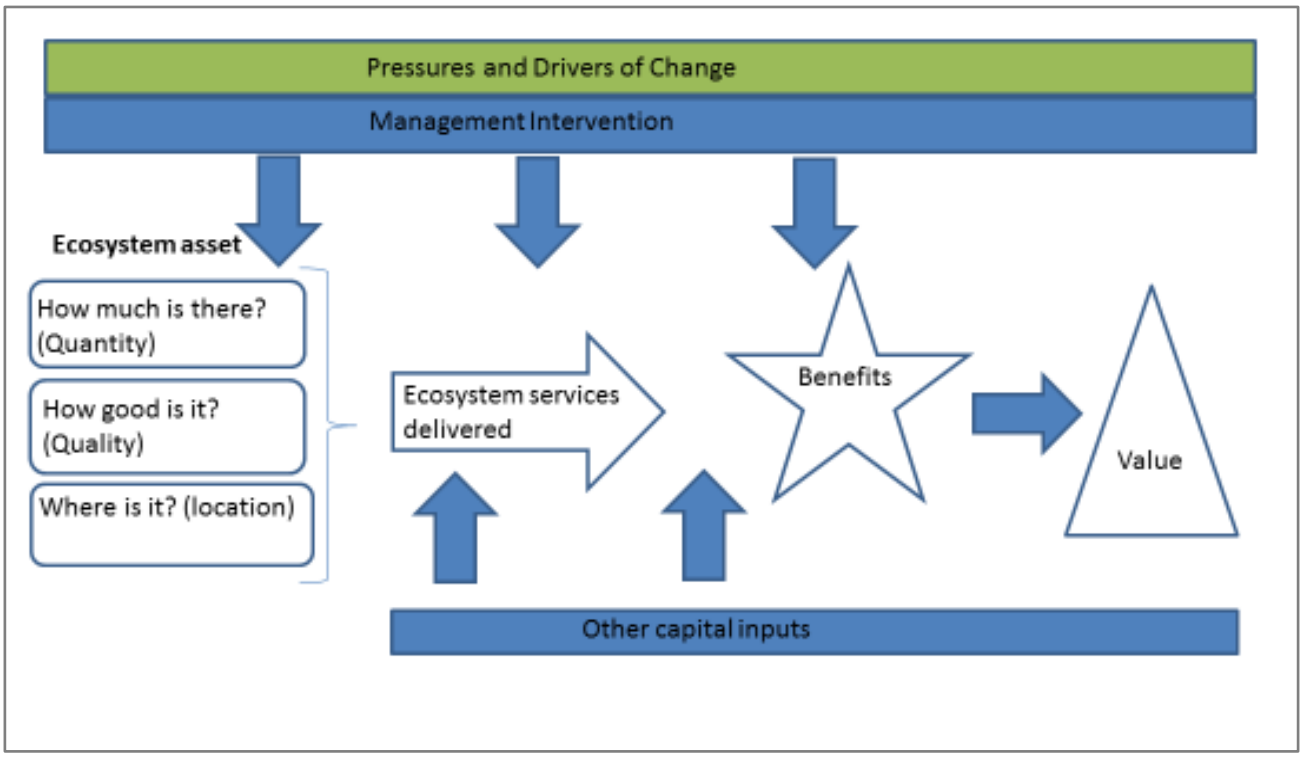


Figure 13: The natural capital logic chain relating interventions to ecosystem assets, services, benefits, and subsequently value

Recent work commissioned and undertaken by Natural England has focused on developing indicators for estimating change in natural capital, as well as understanding the causal links between land management interventions within AES and the changes in natural capital these bring about. The assessment and application of natural capital indicators to CS options within current Facilitation Funds is based on the following prior work:

Natural Capital Indicators: for defining and measuring change in natural capital (Lusardi *et al.*, 2018)

This study identified the key elements of the environment which are essential for the long-term provision of benefits, identifying indicators for measuring change in the state of natural capital at a range of spatial scales. Logic chains were developed for eighteen ecosystem services delivered by 8 broad habitats:

- Freshwater
- Farmland
- Grassland
- Mountains, moors and heaths
- Woodland
- Urban
- Coastal
- Marine

Each logic chain identifies the key natural capital attributes that underpin the provision of the service and the benefits provided.

The study linked the provision of ecosystem services to a set of environmental indicators (Natural Capital Indicators: NCIs) which function as measurable attributes of the state of natural capital, at a range of spatial scales, from local to national, based on expert opinion. Lusardi et al. (2018) identified key indicators for quantity, quality and spatial configuration/location of assets by broad habitat as underpinning ecosystem services. Long and short list indicators were identified.

Assessment of the Contribution of Agri-Environment Schemes to natural capital (Breyer *et al.*, 2019)

This study set out to review the evidence using a logic chain approach at a more granular level, considering the impact of interventions on the state of natural capital assets and relating this to the change in individual services and benefits. The aim was to link AES interventions to assets, services and benefits and establish to what extent the current evidence base enables us to quantify and value the impact of these interventions.

The causal links between land management interventions within AES, specifically CS, and the changes in natural capital these bring about were a central consideration of the project. If the role of specific management interventions in maintaining and enhancing natural capital in England is understood, ways to quantify and value them can be developed.

The developed approach involved matching CS options with relevant and representative NCIs, with consideration to the fact that the NCIs were not specifically developed for use with AES and a certain amount of adaptation was therefore necessary. Only short list indicators as developed by Lusardi et al. (2018) were used for mapping CS options to NCIs. CS options were matched to the NCIs that the options should deliver if their main ecological goal is fully realised and, through the natural capital logic chains, to the services and benefits these underpin to create an initial framework for linking CS options into the natural capital logic chain and to assess their qualitative contribution to assets, ecosystem services and benefits.

This was underpinned by an assumption of a best-case scenario of appropriate option placement and the correct delivery of the relevant management prescriptions. When mapping the options to the relevant indicators therefore only those indicators most closely aligned to the main focus of the individual options and which would always be affected by the associated land management actions were considered for inclusion. At the beginning of the mapping exercise a long list of CS options for inclusion in the analysis was created. Options were considered for selection if the management actions proposed by them had a direct impact on environmental change. Most capital items and supplementary options were therefore excluded.

The indicators and datasets identified in Natural England's Natural Capital Indicators Project (Lusardi et al., 2018) provided the foundation for this project. The main aim was to test the feasibility of using the datasets and indicators for producing a national natural capital baseline assessment. Understanding the state of natural capital is essential to enable the sustainable provision of multiple benefits, now and into the future.

National Natural Capital Atlas (Wigley et al., 2020)

The Natural Capital Atlas trialled using the natural capital Indicators to create a baseline assessment of the state of natural capital in England. The project investigated the data sources which were highlighted by Lusardi et al. (2018), and also identified new sources. Where nationally available data was found, maps and tables display indicators for the quantity, quality and spatial configuration/location of ecosystem assets, and the flow of some ecosystem services.

This atlas takes an in-depth look at the distribution and condition of these valuable natural assets in England. Using a range of indicators, it illustrates, through maps and tables, the state of our natural capital and highlights how it provides benefits to people. It shows where there are both strengths and weaknesses in the quantity and quality of ecosystems. This can inform opportunity mapping of where to enhance existing natural capital and where to target its creation for the provision of multiple benefits, for example, through the focused placement of AES options.

The atlas aims to map the short list indicators developed by Lusardi et al. (2018) though there are some exceptions and where data is not available to map a short list indicator, a long list indicator is mapped. Data gaps are identified where no data exists to map an indicator, because the datasets were not appropriate, not readily accessible, or not available with national coverage.

The framework developed by Breyer et al. (2019) of matching CS options to relevant NCIs provided a good starting point for this current project. It can be brought up to date for new agreements and new groups set up since the original work, and focus on the impact of Facilitation Fund groups on natural capital through the presence of CS agreements.

When applying this approach to the CSFF groups, key questions to address revolve around the types of group to be considered, and whether these are based on such issues as geographical location, holding size or the type of holdings involved. There are many variables and variations that might affect the individual group contribution to natural capital.

In summary, section 7 of this report undertook the following steps:

1. Matching of natural capital indicators to CS options used within CSFF groups across England;
2. Mapping of contributions to NCIs under six of the eight broad habitat categories identified above across all funds (NCIs associated with urban and marine habitats have been excluded from the analysis as CS agreements are targeted on countryside landholdings);
3. Summarizing of CS option areas which impact NCIs in alignment with the baseline analysis of the state of natural capital undertaken in the National Natural Capital Atlas (Wigley et al., 2020);
4. Examination of differences across the project case studies with regards to their relative contribution to natural capital;

Only indicators that are included in the National Natural Capital Atlas (Wigley, et al., 2020) and have been matched to CS options (Breyer et al., 2019) are included in the analysis below. These indicators are listed in Table 31 and Table 38. Only a single NCI for spatial location was identified across all groups as could be related to the CS options present (Section 7.4).

Summaries of the natural capital contributions through impact by CS options on individual NCIs by individual Facilitation Fund are included in Appendix 2. Appendix 3 contains summaries by NE/EA administrative regions to provide a single point of comparison to the mapping of the entire national resource within the Natural Capital Atlas (Wigley et al., 2020).

7.2 Impact of CS agreements within Facilitation Funds on natural capital asset quantity

Table 31: Broad habitat categories and associated Natural Capital Indicators (NCIs) related to asset quantity

Freshwater	Farmland	Grassland	Mountain, moor and heathland	Woodland	Coastal
Coastal and Floodplain Grazing Marsh	Arable and rotational leys	Other Semi Natural Grassland	Blanket bog	Broadleaved, mixed & yew woodland	Salt marsh
Lakes and Standing Waters	Orchards & top fruit		Dwarf shrub heath	Woodland Priority Habitats	Sand dunes
Lowland Fens					Shingle
Lowland Raised Bog			Woodland (above moorland line)		
Reedbeds					
Blanket Bog					
Woodland					

Freshwater

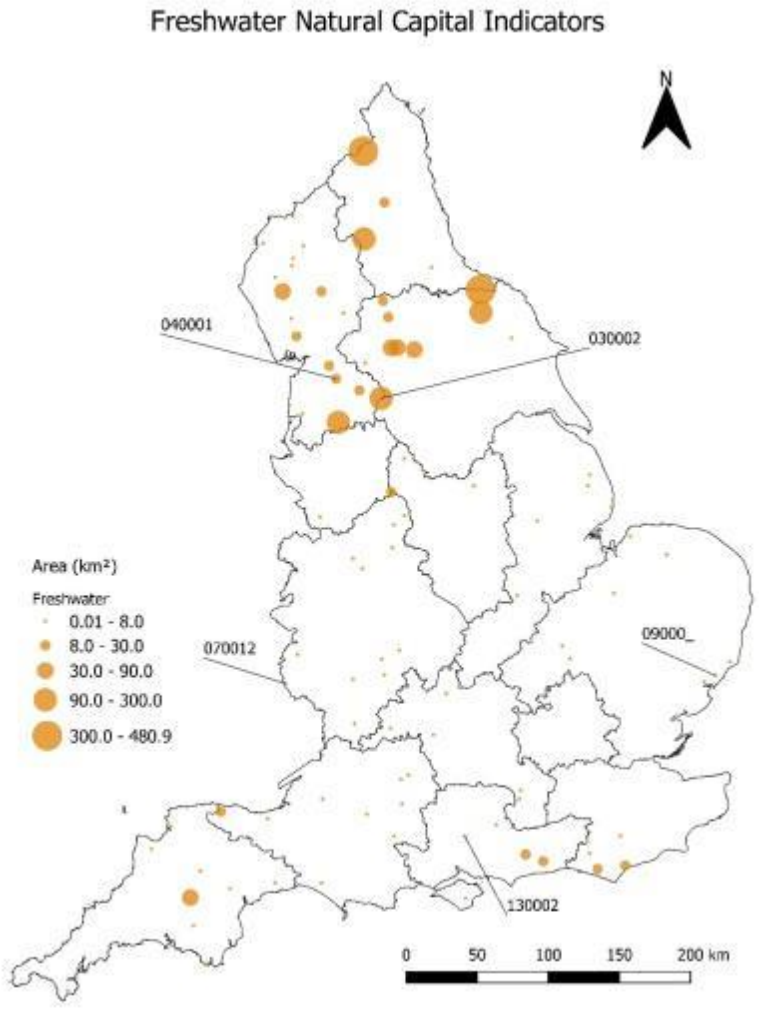


Figure 14: Area under CS options across individual Facilitation Funds which impact NCIs in the Freshwater habitat category

Table 32: Summary of CS option areas which impact NCIs in the Freshwater habitat category compared to national resource identified in the Natural Capital Atlas

		Coastal and Floodplain Grazing Marsh	Lakes and Standing Waters	Lowland Fens	Lowland Raised Bog	Reedbeds	Blanket Bog	Woodland	Sum of indicator area (km²)
National resource identified by Natural Capital atlas (km²)		2182	492	222	97	70	2771	13053	18887.00
Resource covered by options within FF groups (%)		3.49%	0.04%	2.55%	2.99%	2.31%	64.53%	0.87%	
Resource covered by options within FF groups (km²)		76.17	0.20	5.65	2.90	1.62	1788.17	113.84	1988.54
Resource covered by options within the top five FF groups (km²):									
Rank	**FF ID**								
1st	**10006**	0.08	0.00	0.00	0.00	0.01	479.70	1.13	480.92
2nd	**30012**	0.00	0.00	0.14	0.05	0.00	307.38	0.50	308.08
3rd	**30004**	0.00	0.00	0.03	0.00	0.00	165.91	2.64	168.58
4th	**10008**	0.00	0.00	0.00	0.00	0.00	160.16	0.51	160.67
5th	**30002**	0.00	0.00	0.00	0.00	0.00	154.98	0.47	155.45

Figure 14 shows the distribution of land which is managed under agri-environment options helping to protect freshwater. Facilitation Fund groups in northern England account for a large proportion of the total area due to the presence of extensive upland habitats such as blanket bog and likely a relatively high uptake of well-targeted options.

Table 32 shows the amount of land contributing to natural capital covered by options within Facilitation Fund groups. The greatest amount of these are in the upland, with blanket bog being well represented. To a lesser extent coastal and flood plain grazing marsh is also being covered under the Facilitation Fund group areas.

Considering the natural capital as a whole, CS options within Facilitation Fund groups cover over half the blanket bog natural capital assets in England (64%), but a much smaller percentage of the other freshwater habitats (less than 10%).

Figure 15 shows the unique character of the 5 different case study groups within the project, with 030002 and to a lesser extent 040001 being located in the uplands and protecting blanket bogs assets, while the 09000_ cluster is located in the lowland and positively impacting on coastal floodplain and grazing marsh assets.

Figure 16 to Figure 20 below illustrate the locations of parcels contributing to NCIs in the Freshwater habitat category across all five project case studies.

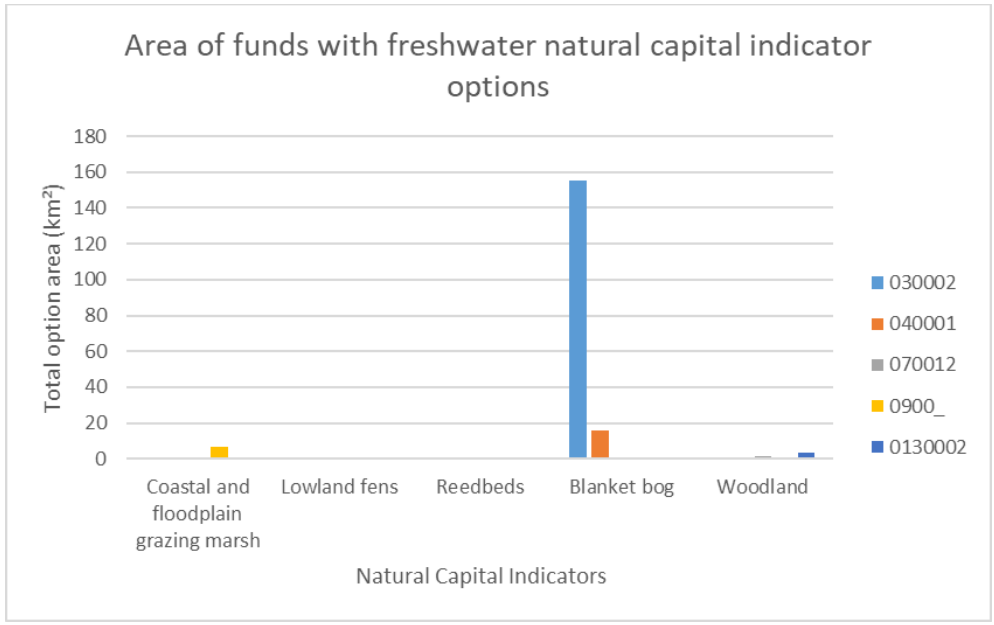


Figure 15: Area under CS options across project case studies which impact NCIs in the Freshwater habitat category

Figure 16: Parcels within CSFF group 030002 with CS options present that contribute to NCIs in the Freshwater habitat category

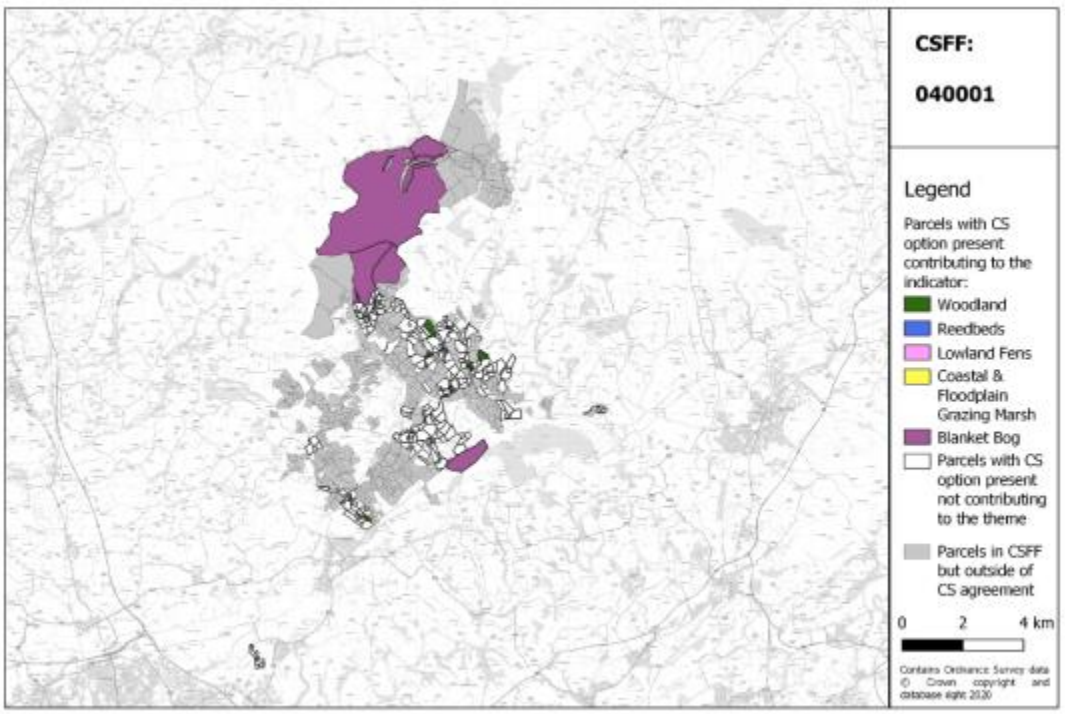


Figure 17: Parcels within CSFF group 040001 with CS options present that contribute to NCIs in the Freshwater habitat category

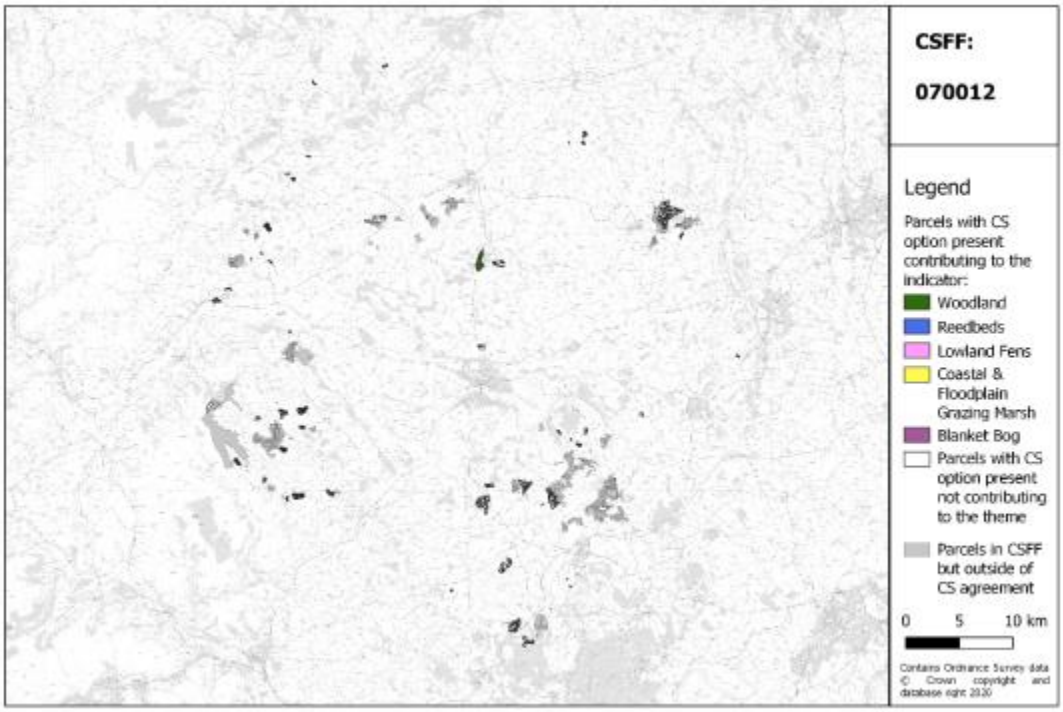


Figure 18: Parcels within CSFF group 070012 with CS options present that contribute to NCIs in the Freshwater habitat category

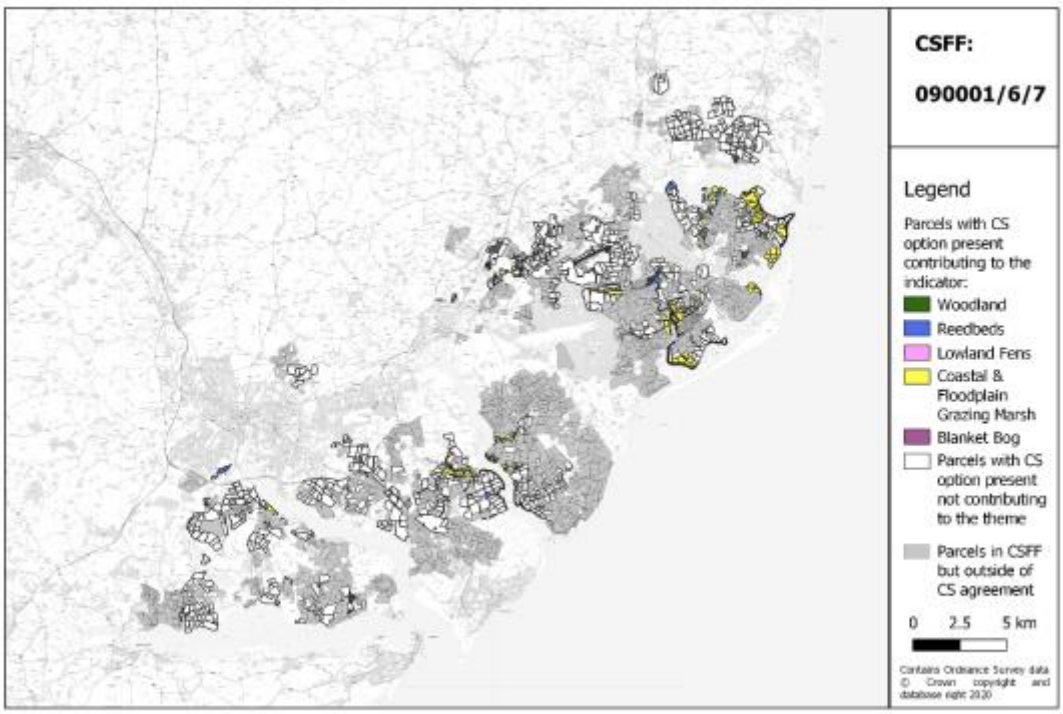


Figure 19: Parcels within CSFF groups 090001/6/7 with CS options present that contribute to NCIs in the Freshwater habitat category

Figure 20: Parcels within CSFF group 130002 with CS options present that contribute to NCIs in the Freshwater habitat category

Farmland

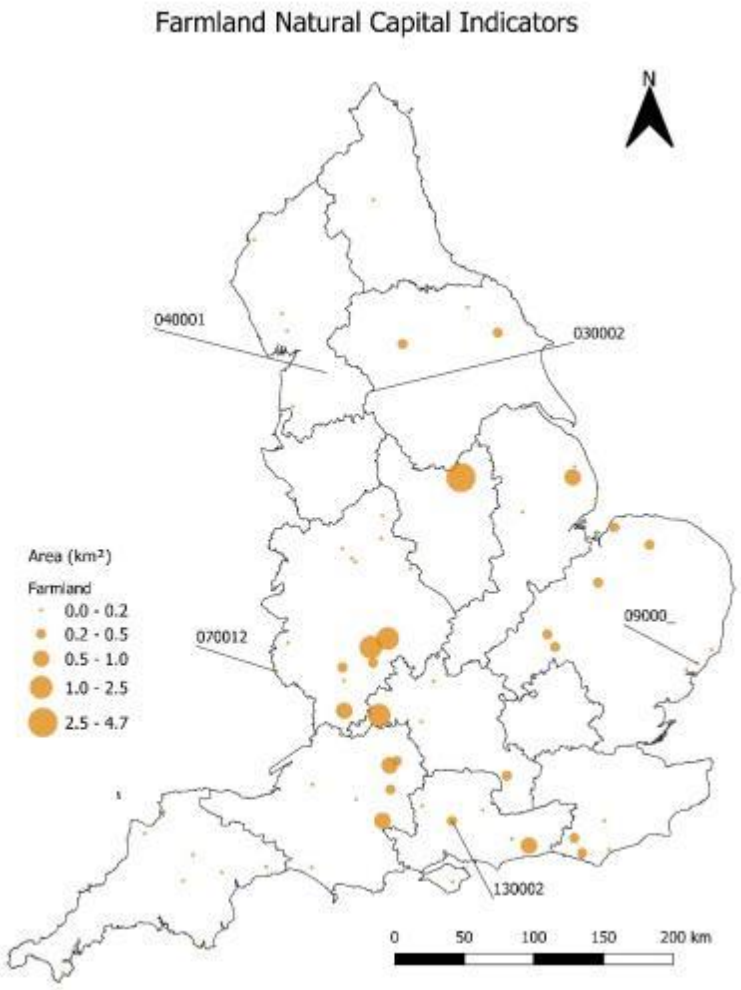


Figure 21: Area under CS options across individual Facilitation Funds which impact NCIs in the Farmland habitat category

Table 33: Summary of CS option areas which impact NCIs in the Farmland habitat category compared to national resource identified in the Natural Capital Atlas

		Arable and rotational leys	Orchards & top fruit	Sum of indicator area (km²)
National resource identified by Natural Capital atlas (km²)		48033	156	48189
Resource covered by options within FF groups (%)		0.04%	1.73%	
Resource covered by options within FF groups (km²)		21.36	2.70	24.06
Resource covered by options within the top five FF groups (km²):				
Rank	**FF ID**			
1st	**50005**	4.71	0.00	4.71
2nd	**70007**	2.47	0.03	2.50
3rd	**70005**	1.15	0.50	1.65
4th	**70013**	1.38	0.05	1.43
5th	**50010**	1.00	0.00	1.00

Figure 21 shows the distribution of land within Facilitation Fund groups which is managed under agri-environment options that impact NCIs within the farmland habitat category. Nearly all the Facilitation Fund groups contain some areas under CS agreements which support farmland NCIs, but those in central England, where arable cropping is more common, support a larger number.

Table 33 shows that few of the options supporting farmland NCIs, which mainly relate to environmental management actions around arable land, are actually supported by the Facilitation Funds, with only 0.04% of the land under the CS options being protect by Facilitation Fund groups. This reflects a low uptake of options impacting farmland NCIs within the Facilitation Fund groups but also the fact that many of the relevant options tend to be small in area in an individual instance where they are applied around field margins, for example.

Table 33 further shows that CS options within Facilitation Fund groups are only supporting 1.73% of the country's estimated orchards and top fruit natural capital assets, likely indicating a low presence of these within groups.

Three funds in the case studies in particular are encompassing CS options that impact on natural capital assets relating to farmland: 0130002, 0900_, and 070012 (Figure 22). However, they are still only covering a small amount of the total area.

Figure 23 to Figure 27 below illustrate the locations of parcels contributing to NCIs in the Farmland habitat category across all five project case studies.

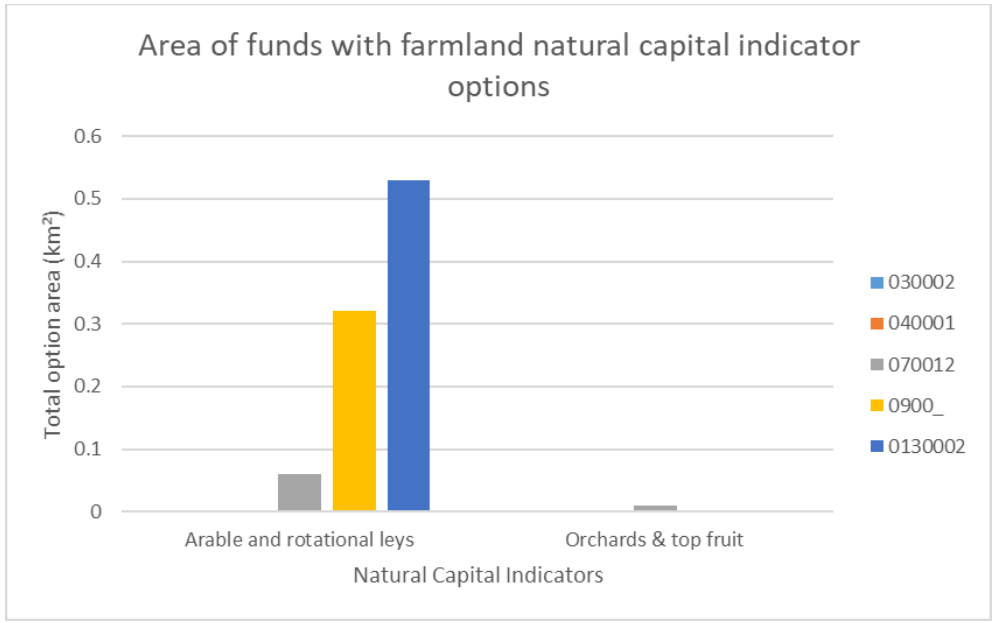


Figure 22: Area under CS options across project case studies which impact NCIs in the Farmland habitat category

Figure 23: Parcels within CSFF group 030002 with CS options present that contribute to NCIs in the Farmland habitat category

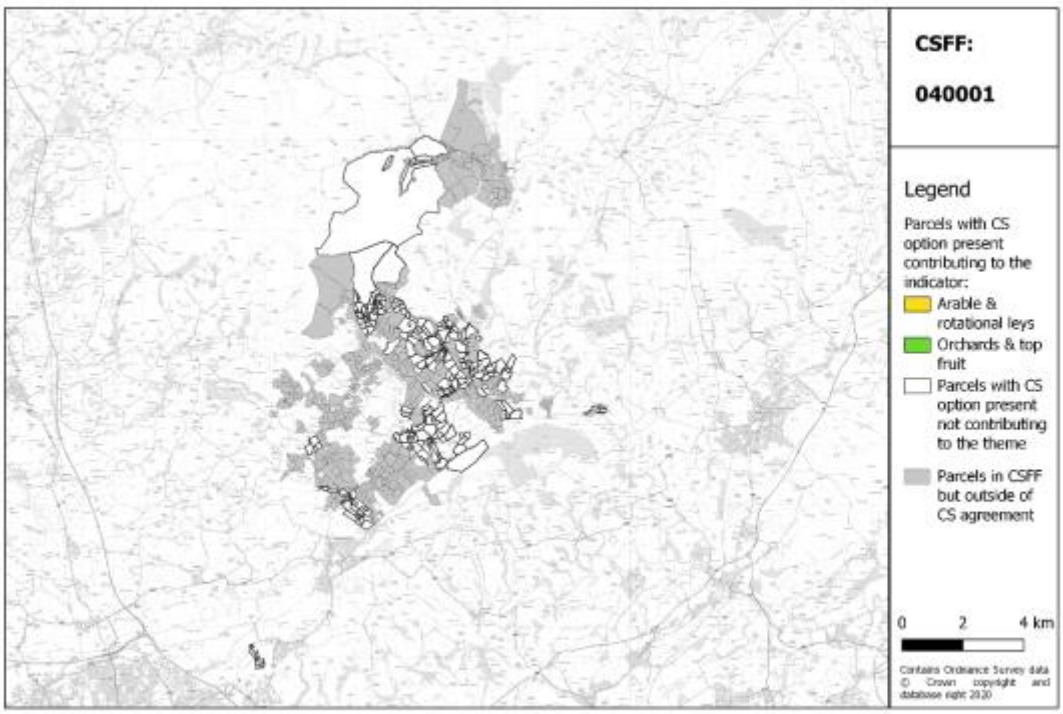


Figure 24: Parcels within CSFF group 040001 with CS options present that contribute to NCIs in the Farmland habitat category

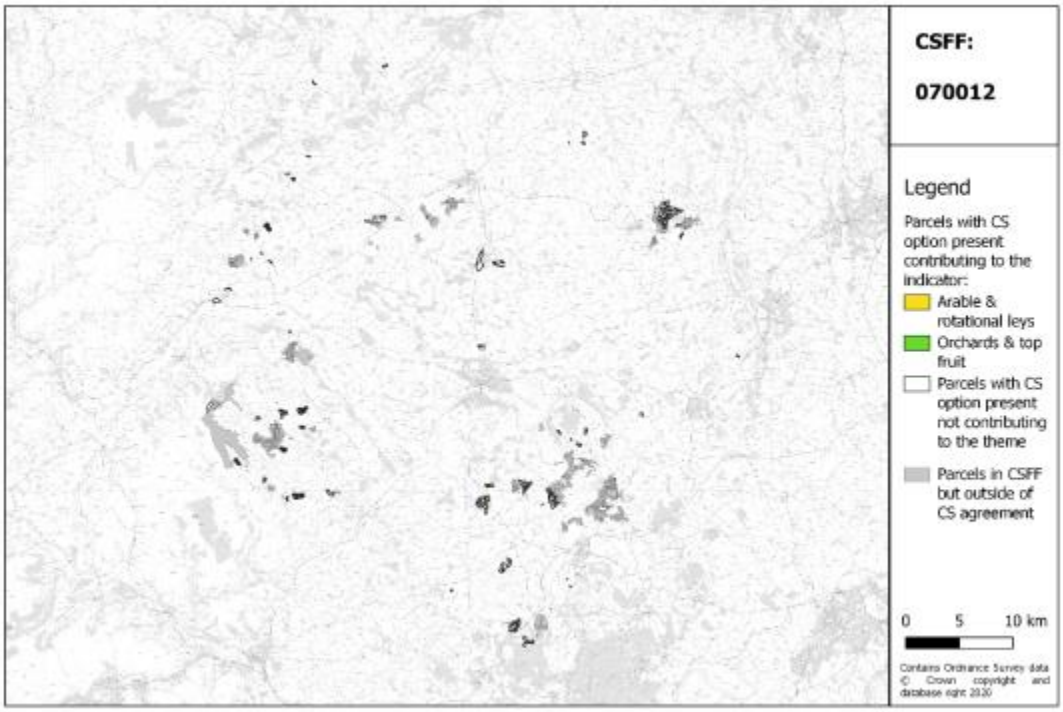


Figure 25: Parcels within CSFF group 070012 with CS options present that contribute to NCIs in the Farmland habitat category

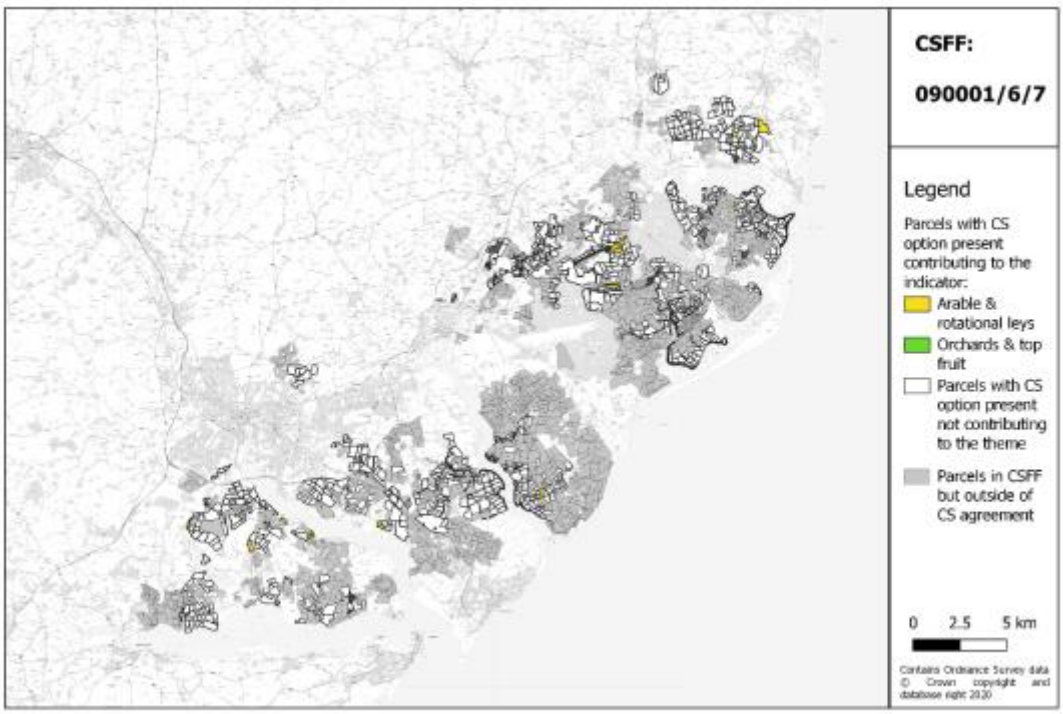


Figure 26: Parcels within CSFF groups 090001/6/7 with CS options present that contribute to NCIs in the Farmland habitat category

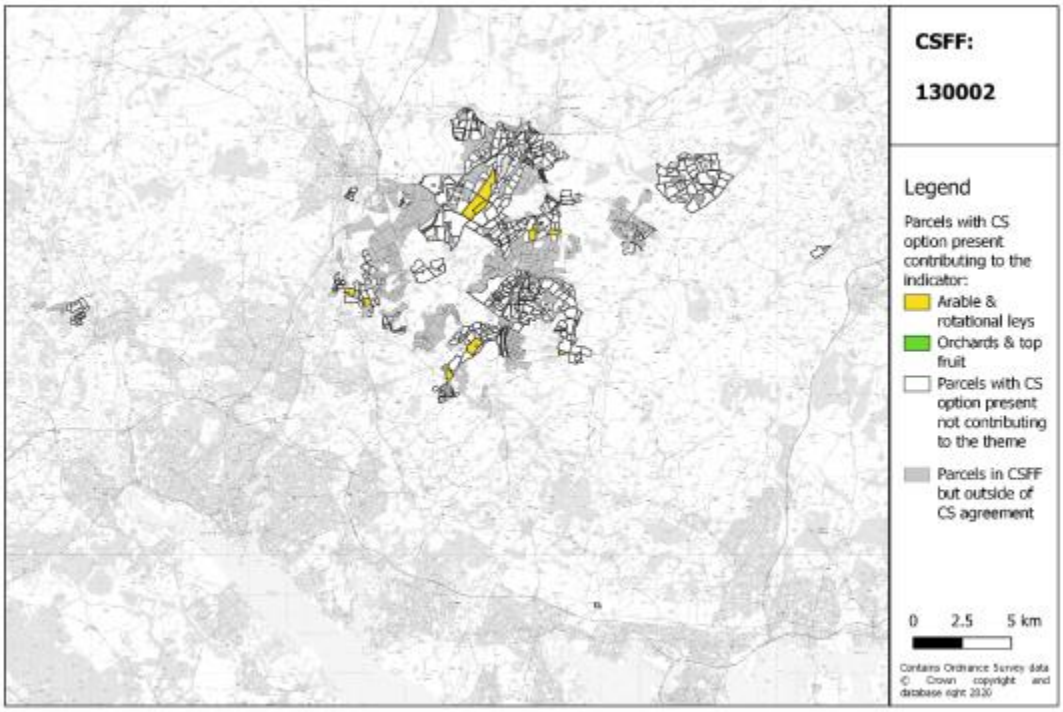


Figure 27: Parcels within CSFF group 130002 with CS options present that contribute to NCIs in the Farmland habitat category

Grassland

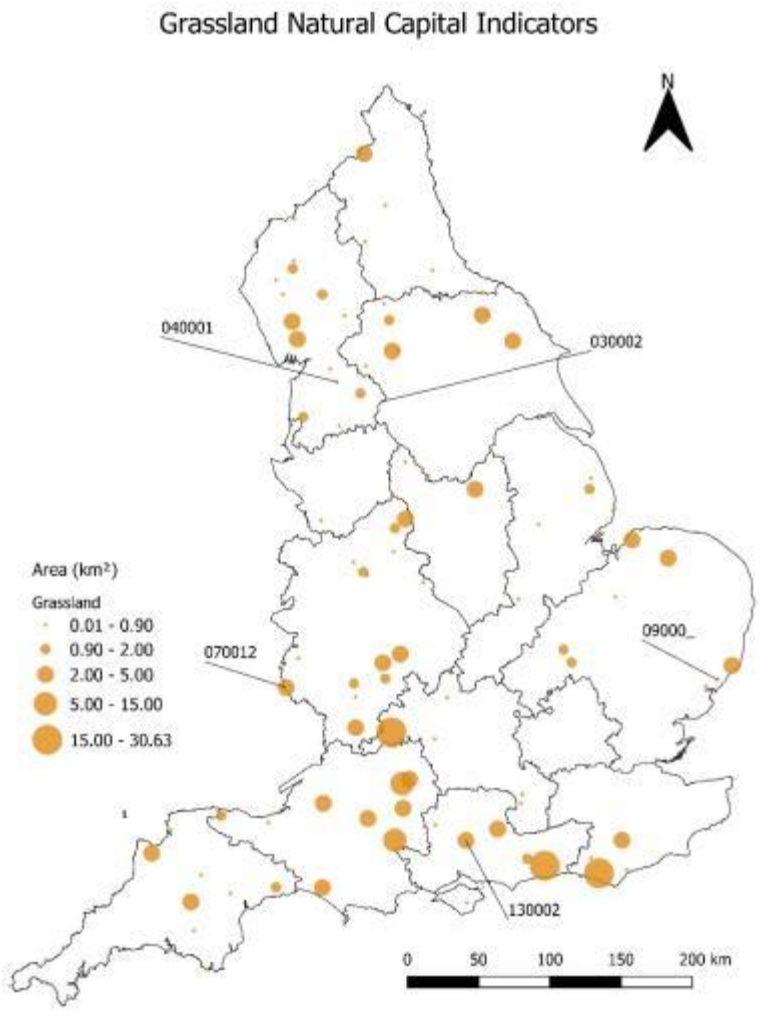


Figure 28: Area under CS options across individual Facilitation Funds which impact NCIs in the Grassland habitat category

Table 34: Summary of CS option areas which impact NCIs in the Grassland habitat category compared to national resource identified in the Natural Capital Atlas

		Other Semi Natural Grassland	Sum of indicator area (km²)
National resource identified by Natural Capital atlas (km²)		1588	1588
Resource covered by options within FF groups (%)		12.98%	
Resource covered by options within FF groups (km²)		206.17	206.17
Resource covered by options within the top five FF groups (km²):			
Rank			**FF ID**
1st	**140008**	30.63	30.63
2nd	**70007**	16.20	16.20
3rd	**140002**	15.46	15.46
4th	**110007**	14.79	14.79
5th	**110006**	12.13	12.13

Figure 28 shows that CS options supporting NCIs within the grassland habitat category are widespread throughout the whole of England, with Facilitation Fund groups with particularly high area coverage being concentrated in the central and southern England.

Table 34 shows the CS option supporting grassland natural capital assets to be relatively popular, with 12.98% of the national resource covered by agreements located Facilitation Fund groups.

Figure 29 shows that the uptake of the CS option supporting grassland natural capital assets differs between the 5 case study groups. This does not appear to solely reflect regional differences, as the group with the highest uptake (030002) and the one with the lowest uptake (040001) are located in relatively close proximity to one another.

Figure 30 to Figure 34 below illustrate the locations of parcels contributing to NCIs in the Grassland habitat category across all five project case studies.

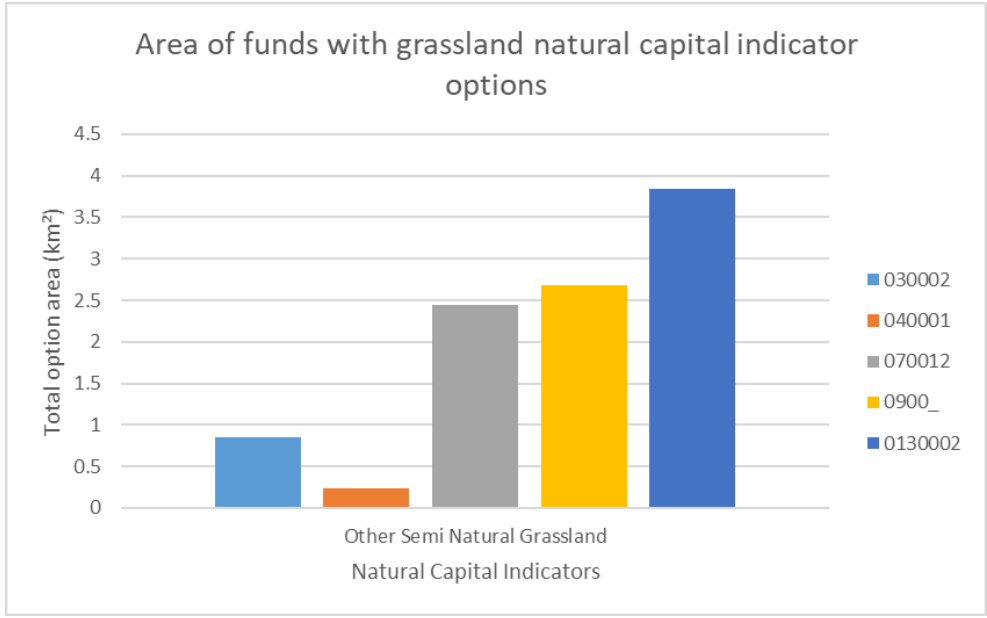


Figure 29: Area under CS options across project case studies which impact NCIs in the Grassland habitat category

Figure 30: Parcels within CSFF group 030002 with CS options present that contribute to NCIs in the Grassland habitat category

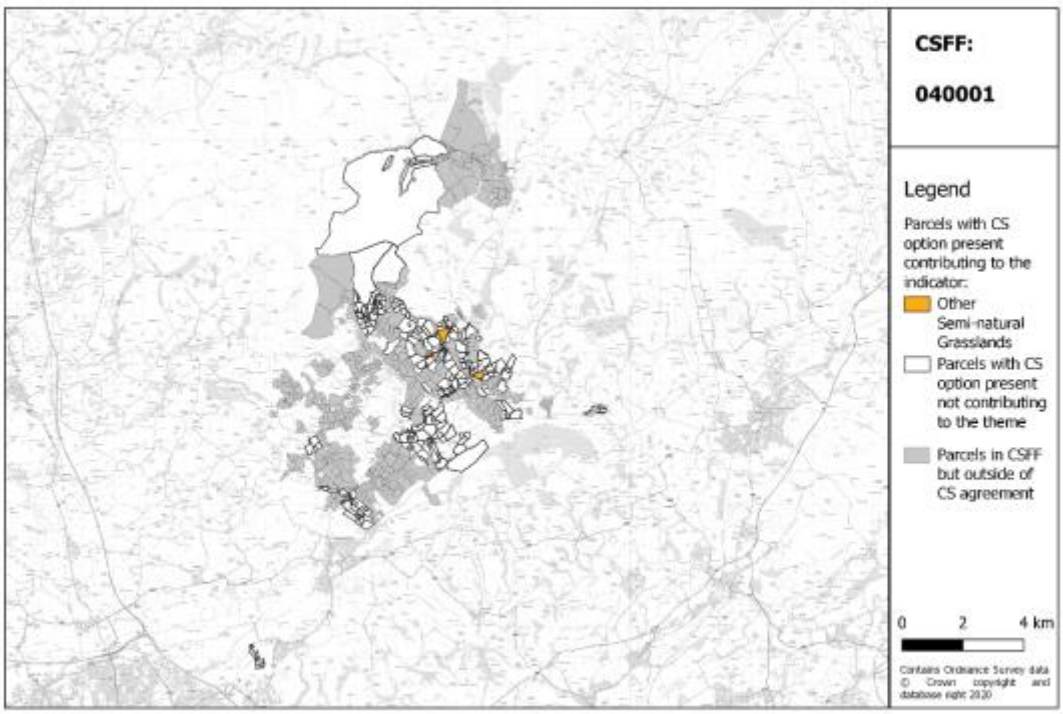


Figure 31: Parcels within CSFF group 040001 with CS options present that contribute to NCIs in the Grassland habitat category

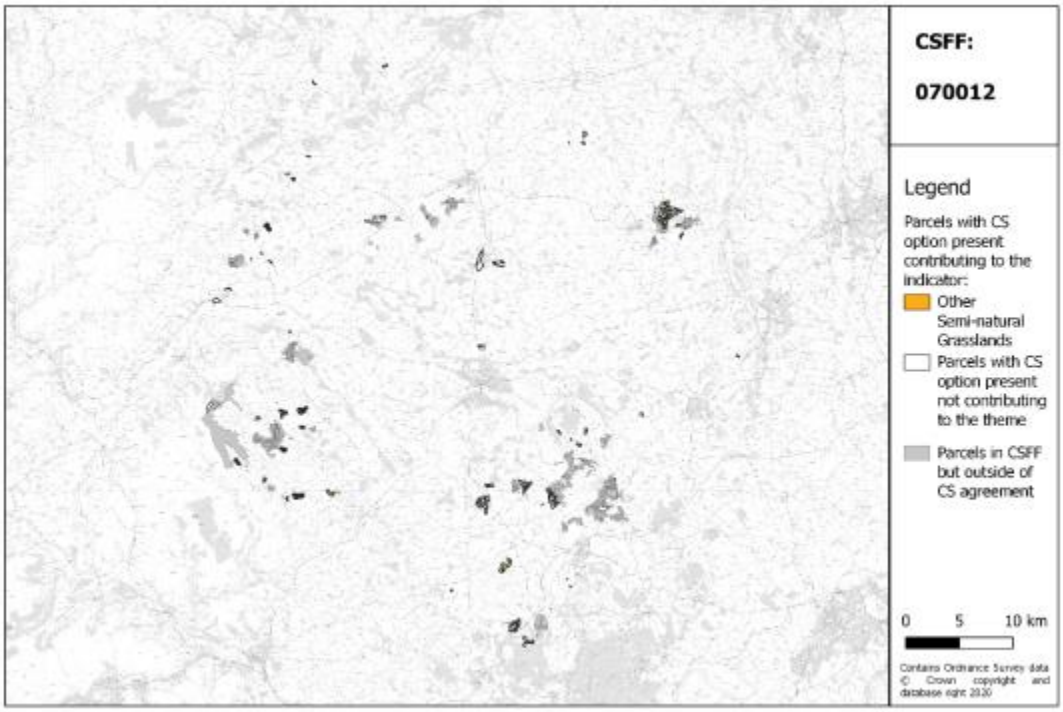


Figure 32: Parcels within CSFF group 070012 with CS options present that contribute to NCIs in the Grassland habitat category

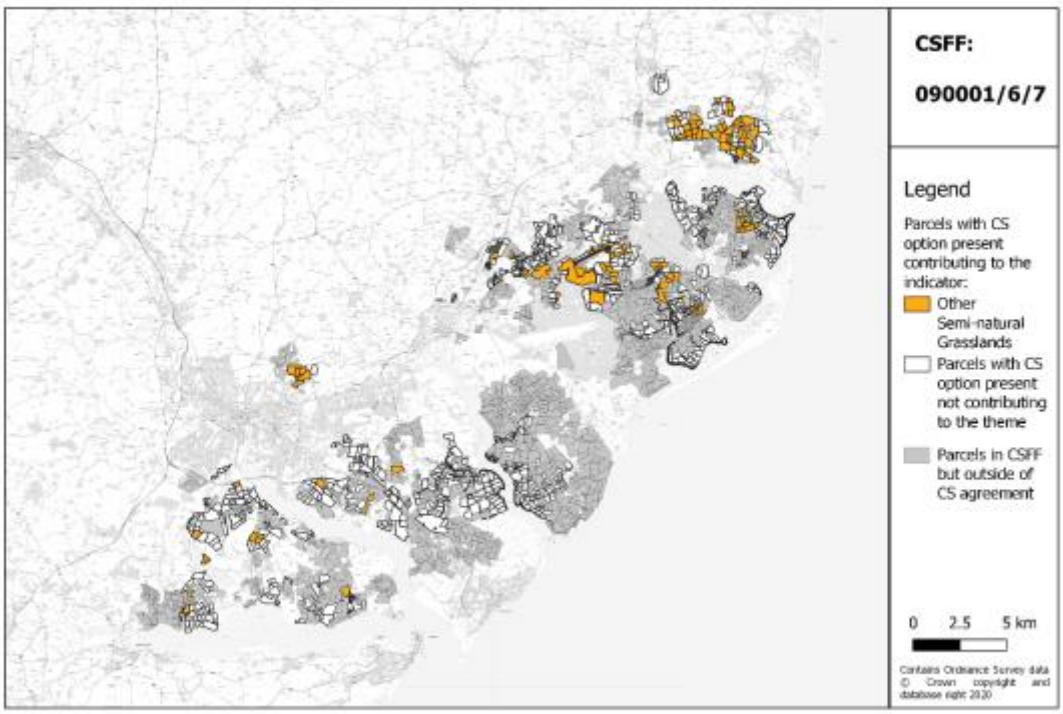


Figure 33: Parcels within CSFF groups 090001/6/7 with CS options present that contribute to NCIs in the Grassland habitat category

Figure 34: Parcels within CSFF group 130002 with CS options present that contribute to NCIs in the Grassland habitat category

Mountain, moor and heathland

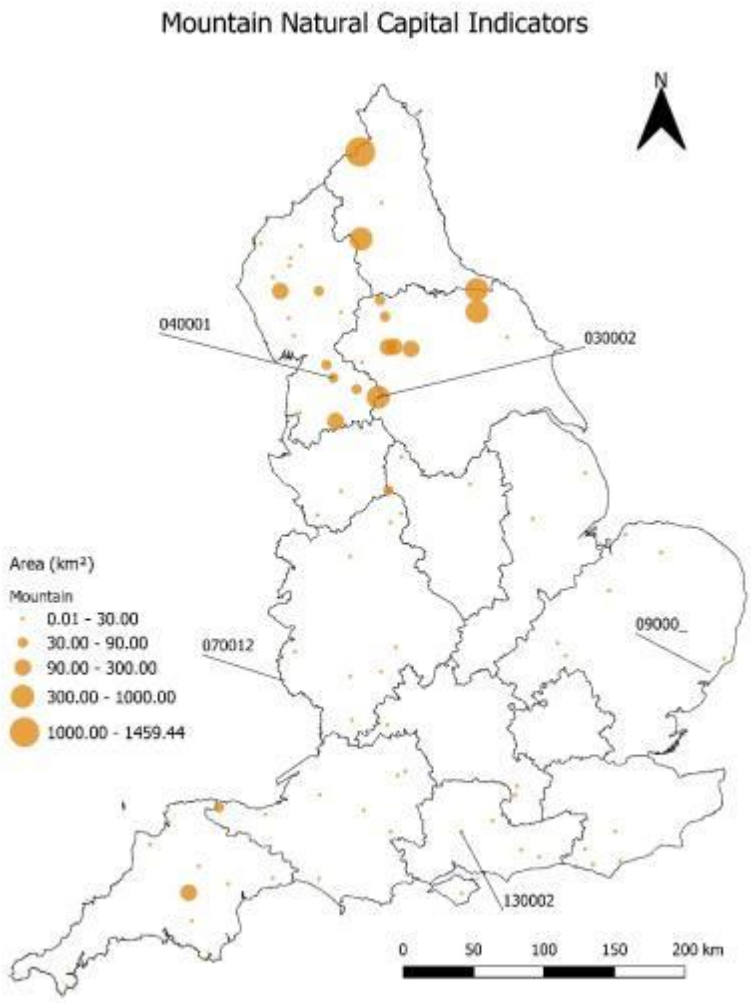


Figure 35: Area under CS options across individual Facilitation Funds which impact NCIs in the Mountain, moor and heathland habitat category

Table 35: Summary of CS option areas which impact NCIs in the Mountain, moor and heathland habitat category compared to national resource identified in the Natural Capital Atlas

		Blanket bog	Dwarf shrub heath	Woodland (above moorland line)	Sum of indicator area (km²)
National resource identified by Natural Capital atlas (km²)		2771	3168	129	6068
Resource covered by options within FF groups (%)		64.53%	58.32%	88.25%	
Resource covered by options within FF groups (km²)		1788.17	1847.56	113.84	5650.05
Resource covered by options within the top five FF groups (km²):					
Rank	**FF ID**				
1st	**10006**	479.70	481.17	1.13	1459.44
2nd	**30012**	307.38	309.08	0.50	926.59
3rd	**30004**	165.91	169.10	2.64	508.10
4th	**10008**	160.16	162.39	0.51	495.38
5th	**30002**	154.98	158.43	0.47	481.49

Figure 35 shows that most Facilitation Fund groups supporting mountain, moor, and heathland natural capital assets are located in the northern, upland areas of England, with some groups in the south west that are located within or adjacent to Exmoor and Dartmoor also covering significant areas.

Table 35 indicates that in groups containing the appropriate habitat types, CS options protecting those habitats are a popular choice, with over 50% of all national natural capital assets identified by the Natural Capital Atlas falling into this habitat category supported by appropriate agreements. This further indicates that the majority of the asset itself is located within Facilitation Fund groups.

Figure 36 reflects the pattern visible on the national map, with the two case study groups located in the north (030002 and 040001) protecting upland resources, while the remaining three groups only protect very small amounts of these habitats, if any, due to their lowland location.

Woodland (above moorland line) forms the only exception to this, and is, with small total area coverage, supported only by agreements withing Facilitation Fund group 070012 and 0130002, which are located further south than the majority of groups containing significant areas of Mountain, moor and heathland natural capital assets.

Amongst the two northern project case study groups in northern England (040001 and 030002), there appears to be a big difference in the uptake of CS options supporting NCIs within the Mountain, moor and heathland category.

Figure 37 to Figure 41 below illustrate the locations of parcels contributing to NCIs in the Mountain, moor and heathland habitat category across all five project case studies.

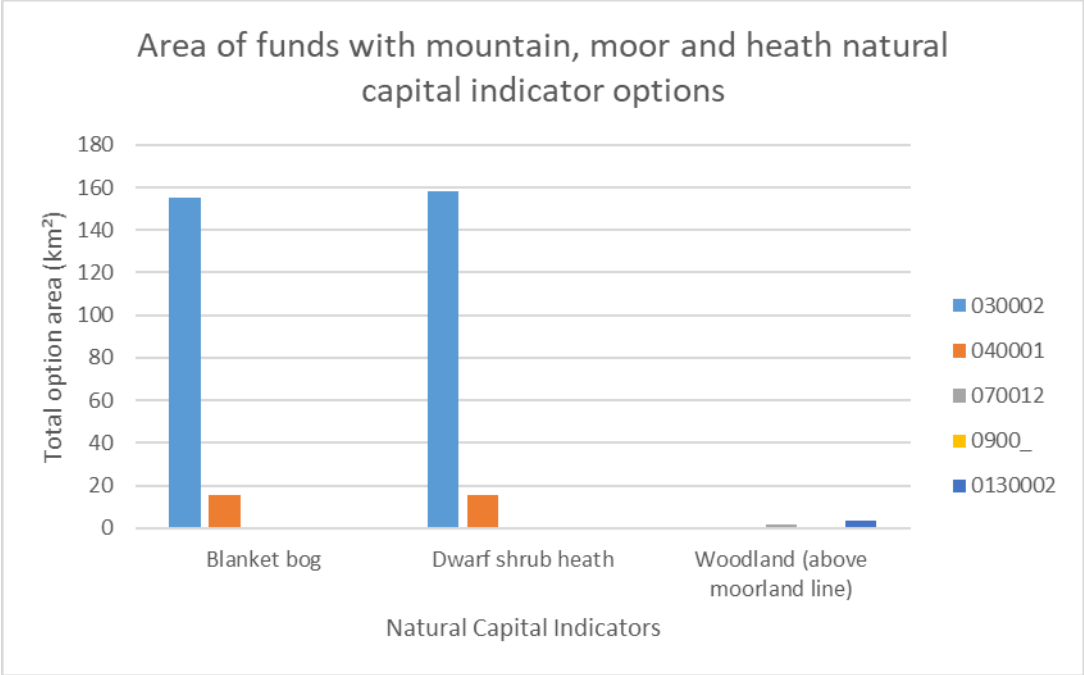


Figure 36: Area under CS options across project case studies which impact NCIs in the Mountain, moor and heathland habitat category

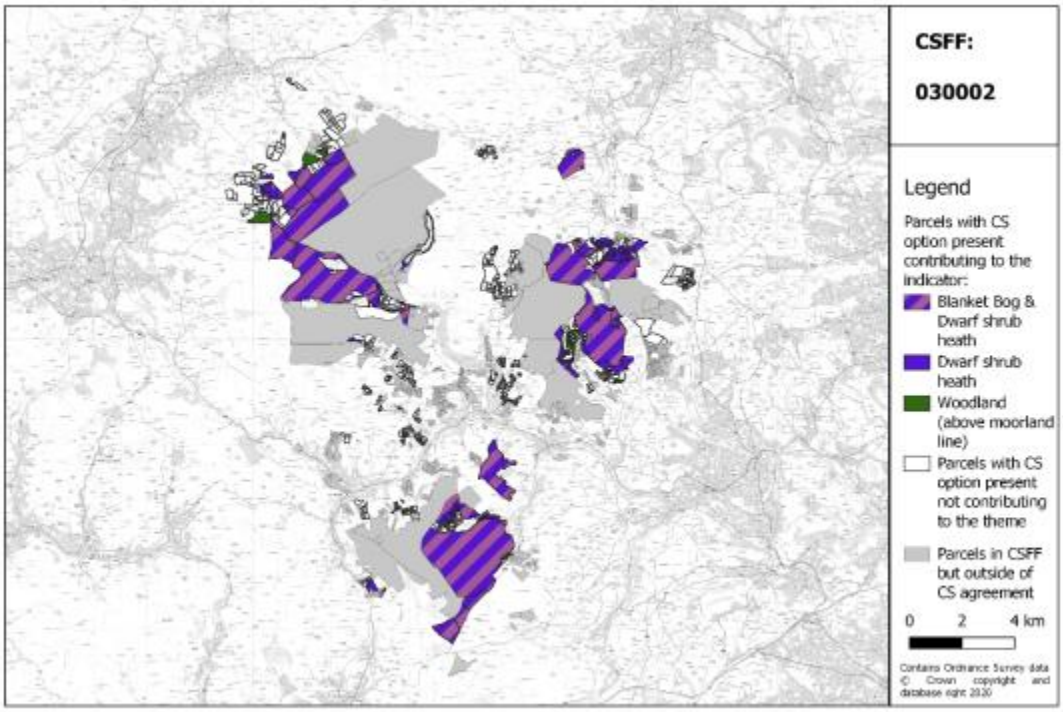


Figure 37: Parcels within CSFF group 030002 with CS options present that contribute to NCIs in the Mountain, moor and heathland habitat category

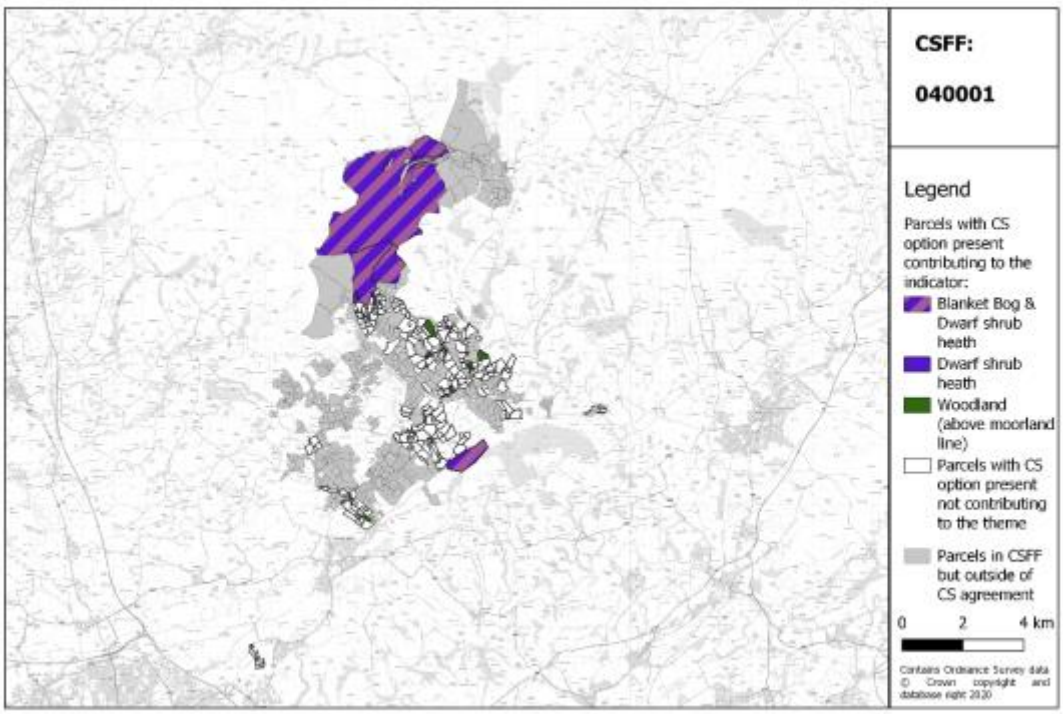


Figure 38: Parcels within CSFF group 040001 with CS options present that contribute to NCIs in the Mountain, moor and heathland habitat category

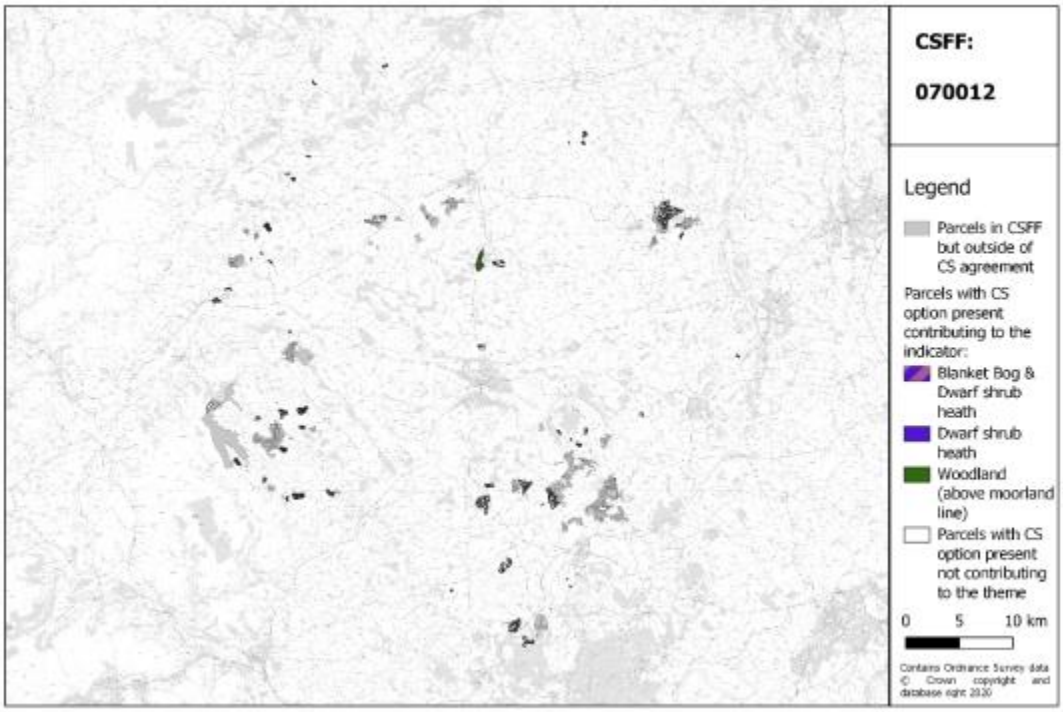


Figure 39: Parcels within CSFF group 070012 with CS options present that contribute to NCIs in the Mountain, moor and heathland habitat category

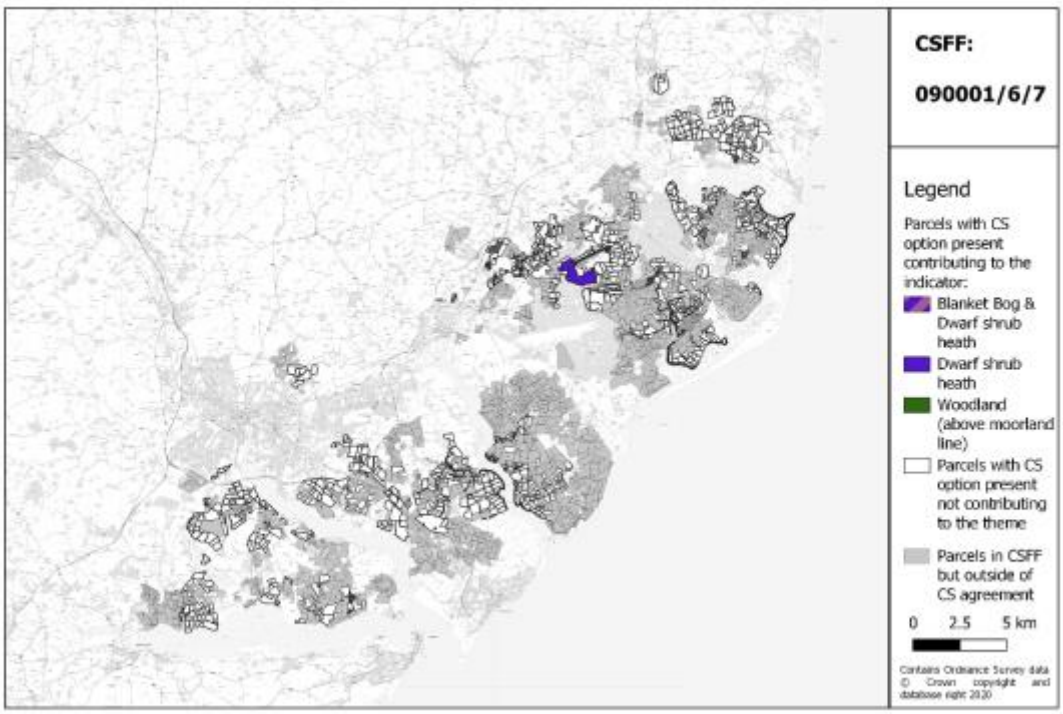


Figure 40: Parcels within CSFF groups 090001/6/7 with CS options present that contribute to NCIs in the Mountain, moor and heathland habitat category

Figure 41: Parcels within CSFF group 130002 with CS options present that contribute to NCIs in the Mountain, moor and heathland habitat category

Woodland

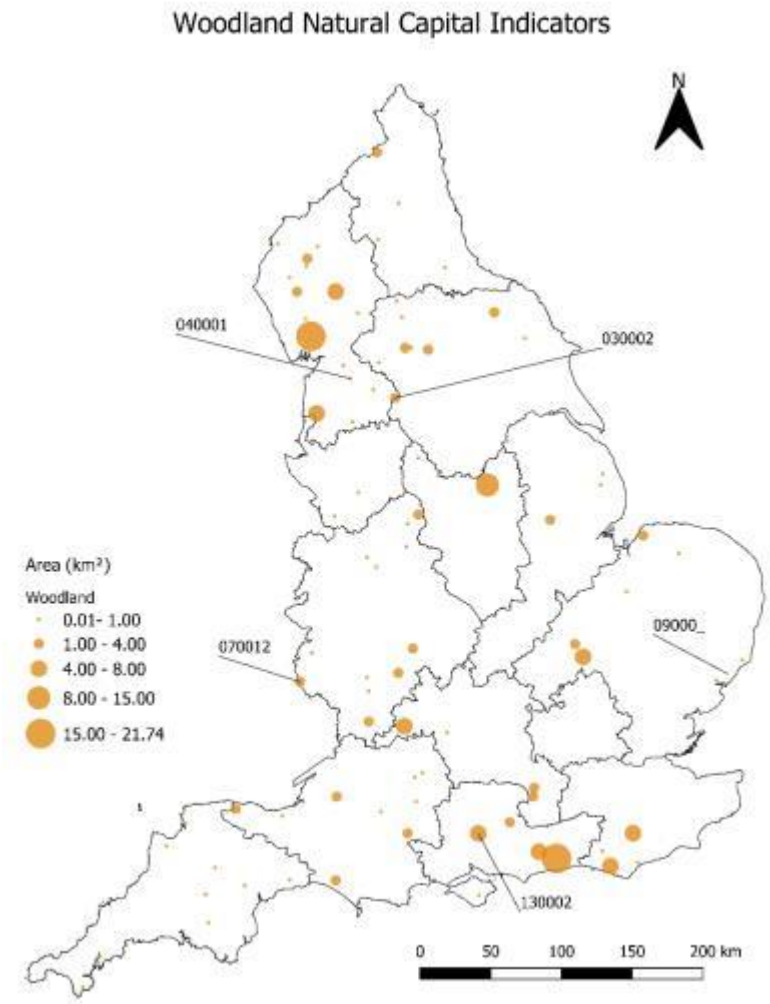


Figure 42: Area under CS options across individual Facilitation Funds which impact NCIs in the Woodland habitat category

Table 36: Summary of CS option areas which impact NCIs in the Woodland habitat category compared to national resource identified in the Natural Capital Atlas

		Broadleaved, mixed & yew woodland	Woodland Priority Habitats	Sum of indicator area (km²)
National resource identified by Natural Capital atlas (km²)		8468	7354	15822
Resource covered by options within FF groups (%)		1.49%	0.47%	
Resource covered by options within FF groups (km²)		126.18	34.76	160.93
Resource covered by options within the top five FF groups (km²):				
Rank	**FF ID**			
1st	**20001**	19.23	2.52	21.74
2nd	**140002**	15.56	0.00	15.56
3rd	**50005**	5.35	5.65	11.01
4th	**140007**	7.50	0.00	7.50
5th	**70003**	6.40	0.35	6.76

Figure 42 shows that CS options supporting NCIs within the woodland habitat category are distributed fairly evenly across England, with the south-west being one of the only regions without at least one Facilitation Fund group with a high uptake of woodland CS options.

While many Facilitation Fund groups have some degree of uptake of CS options supporting woodland assets, Table 36 shows that the overall support afforded to these types of habitats through Facilitation Funds is very small, with less than 1.5% of the asset being supported through CS options.

All 5 case study groups show some uptake of CS options supporting woodland assets. 013002 stands out as having the largest uptake of both CS options available for this habitat category, supporting twice as much area as the next highest groups.

Figure 44 to Figure 48 below illustrate the locations of parcels contributing to NCIs in the Woodland habitat category across all five project case studies.

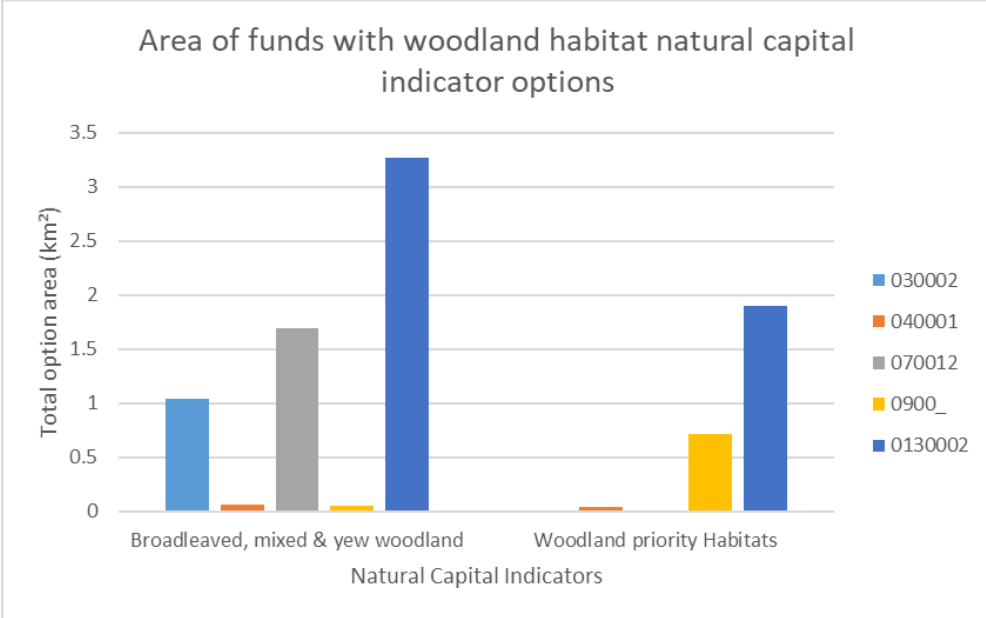


Figure 43: Area under CS options across project case studies which impact NCIs in the Woodland habitat category

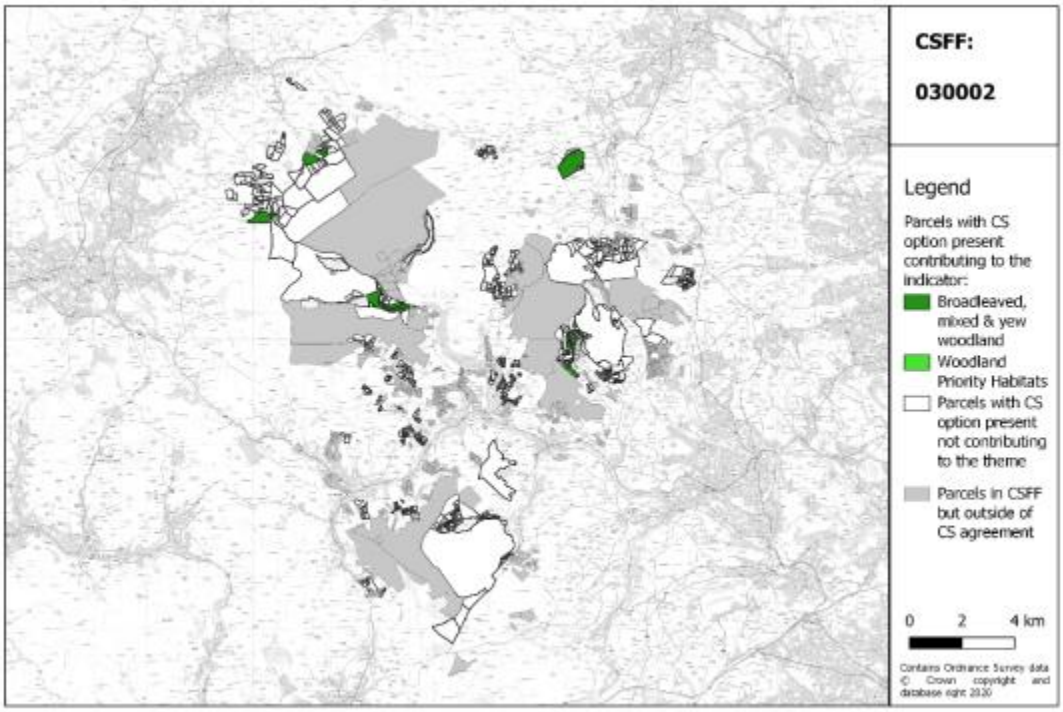


Figure 44: Parcels within CSFF group 030002 with CS options present that contribute to NCIs in the Woodland habitat category

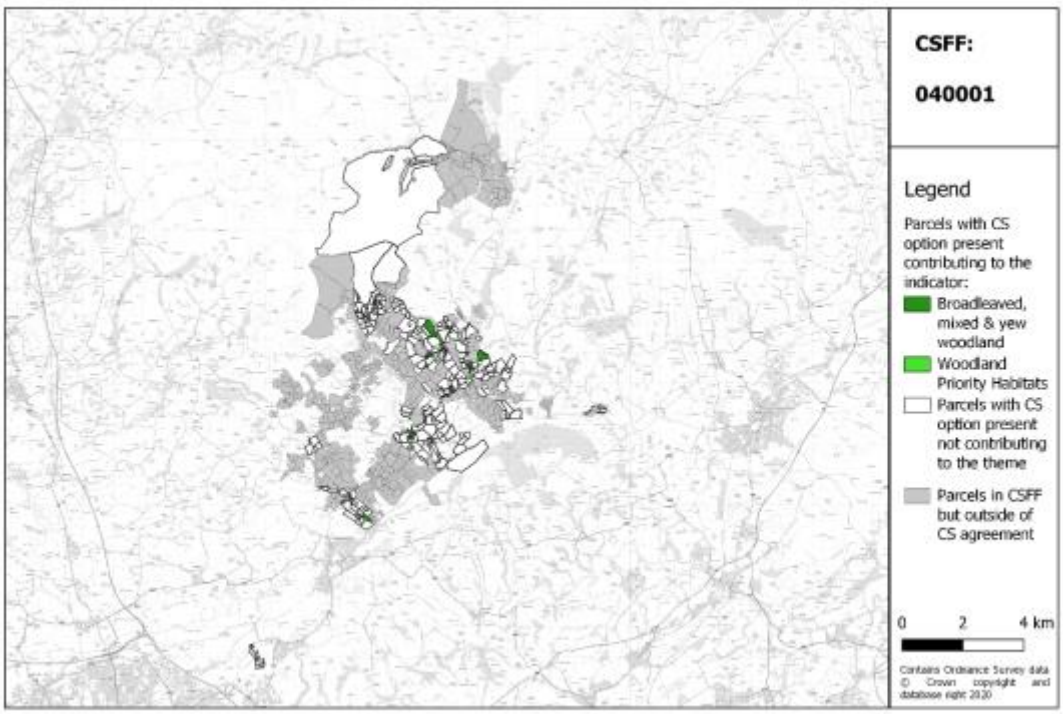


Figure 45: Parcels within CSFF group 040001 with CS options present that contribute to NCIs in the Woodland habitat category

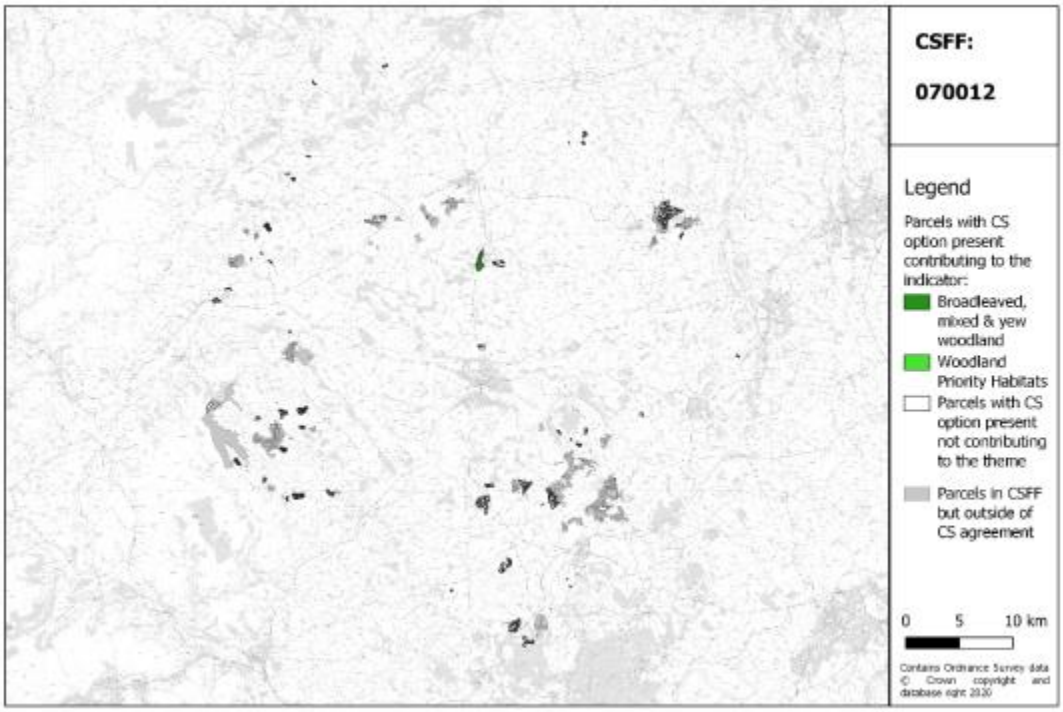


Figure 46: Parcels within CSFF group 070012 with CS options present that contribute to NCIs in the Woodland habitat category

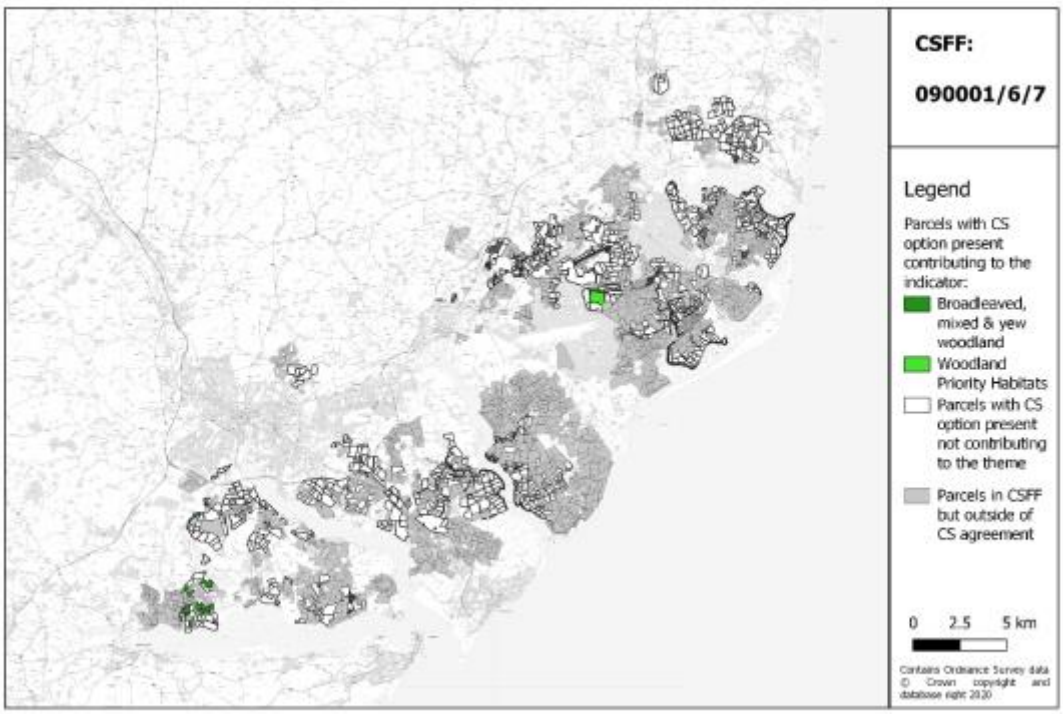


Figure 47: Parcels within CSFF groups 090001/6/7 with CS options present that contribute to NCIs in the Woodland habitat category

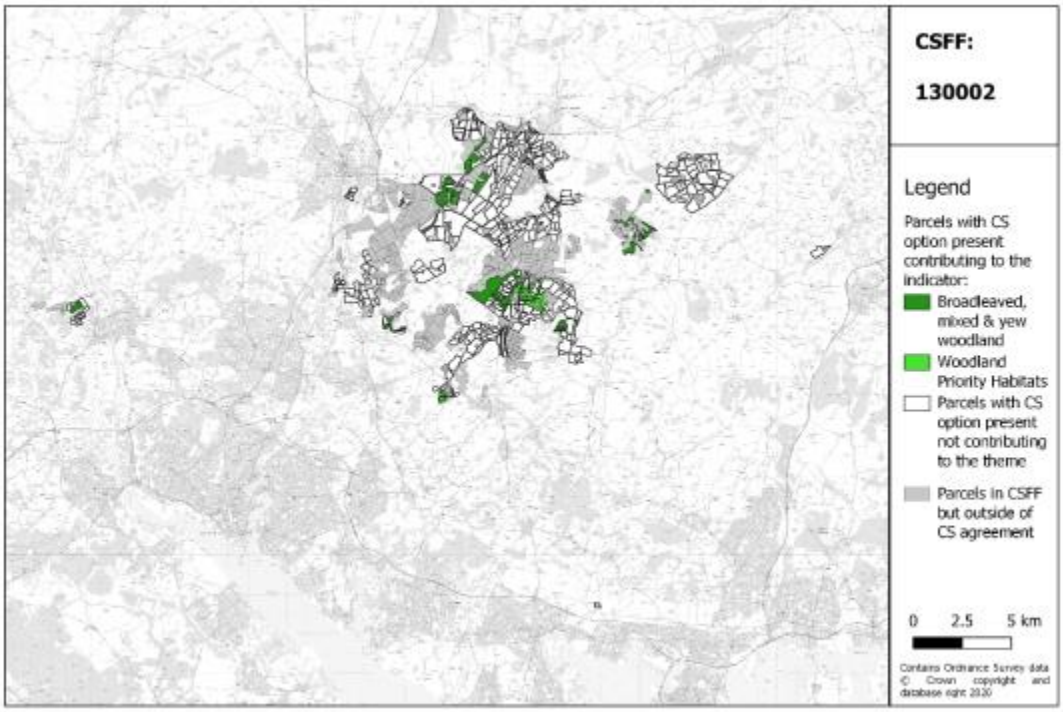


Figure 48: Parcels within CSFF group 130002 with CS options present that contribute to NCIs in the Woodland category

Coastal

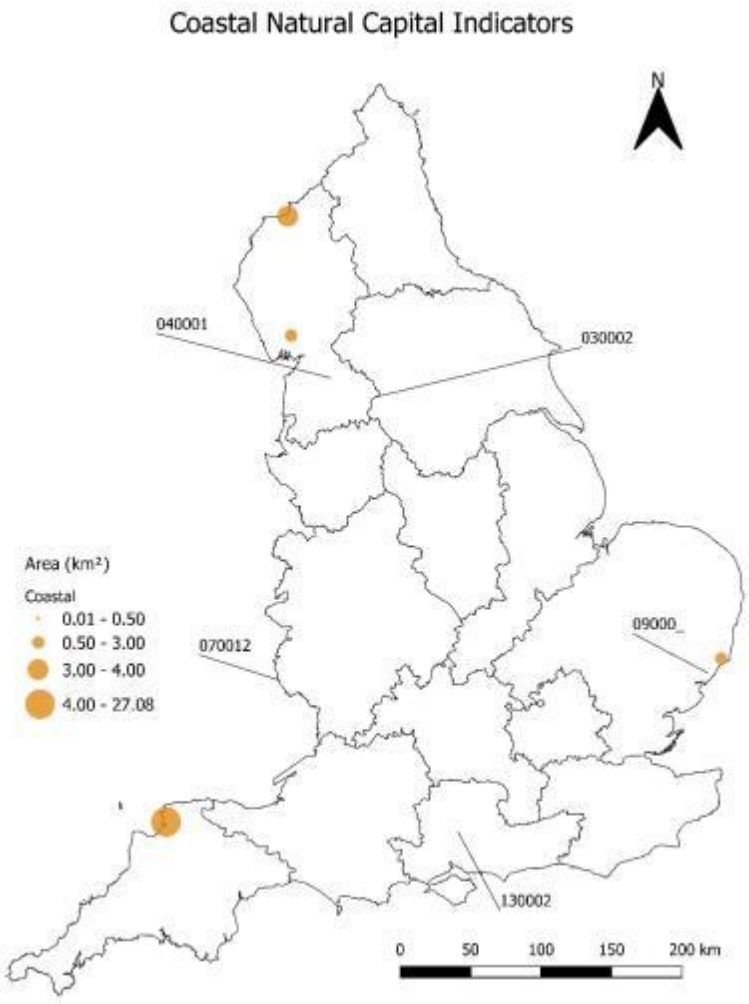


Figure 49: Area under CS options across individual Facilitation Funds which impact NCIs in the Coastal habitat category

Table 37: Summary of CS option areas which impact NCIs in the Coastal habitat category compared to national resource identified in the Natural Capital Atlas

		Salt marsh	Sand dunes	Shingle	Sum of indicator area (km²)
National resource identified by Natural Capital atlas (km²)		325	106	41	472
Resource covered by options within FF groups (%)		2.11%	12.77%	33.03%	
Resource covered by options within FF groups (km²)		6.85	13.54	13.54	33.93
Resource covered by options within the top five FF groups (km²):					
Rank	**FF ID**				
1st	**120004**	0.00	13.54	13.54	27.08
2nd	**20011**	3.60	0.00	0.00	3.60
3rd	**20001**	2.72	0.00	0.00	2.72
4th	**90001**	0.53	0.00	0.00	0.53
5th	**10003**	0.00	0.00	0.00	0.00

Figure 49 shows that uptake of CS options supporting natural capital assets in the coastal habitat category, as would be expected, only occurs amongst Facilitation Fund groups located at the coast. However, it also shows that not all groups in coastal regions are supporting coastal assets.

Table 37 shows that the amount of support afforded to coastal assets differs between habitat types, with only 2.11% of the saltmarsh resource being supported through CS agreements within Facilitation Fund groups, while 12.77% of saltmarsh and 33.03% of shingle are afforded some degree of support in this way.

Figure 50 shows the coastal cluster 0900_ is the only one of the case study Facilitation Fund groups which is supporting coastal assets, by having taken up CS options supporting the saltmarsh NCI to a total of over 0.5 km^2 of the resource.

Figure 51 below illustrates the locations of parcels contributing to NCIs in the Coastal habitat category in project case study group 0900_.

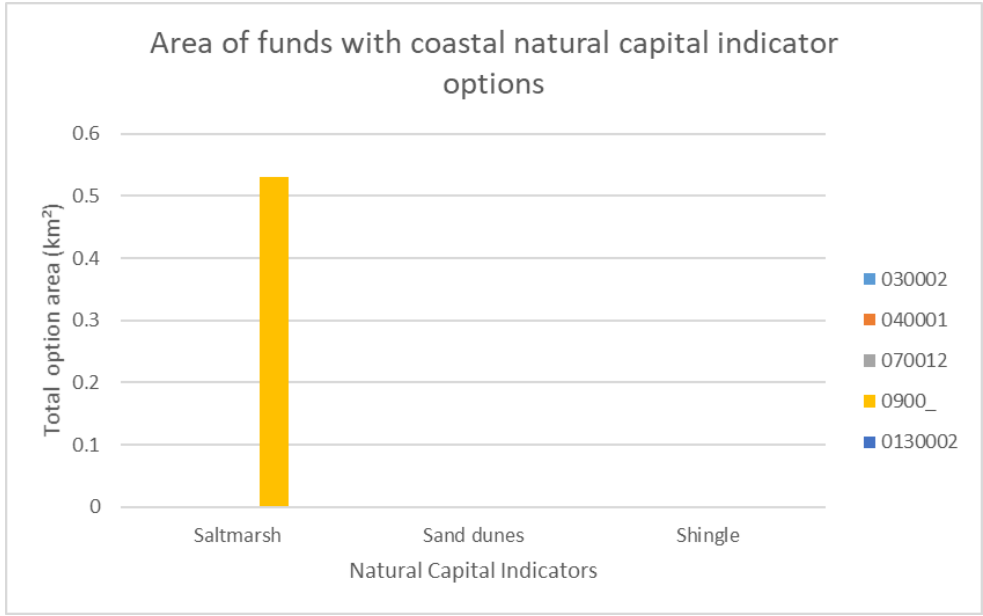


Figure 50: Area under CS options across project case studies which impact NCIs in the Coastal habitat category

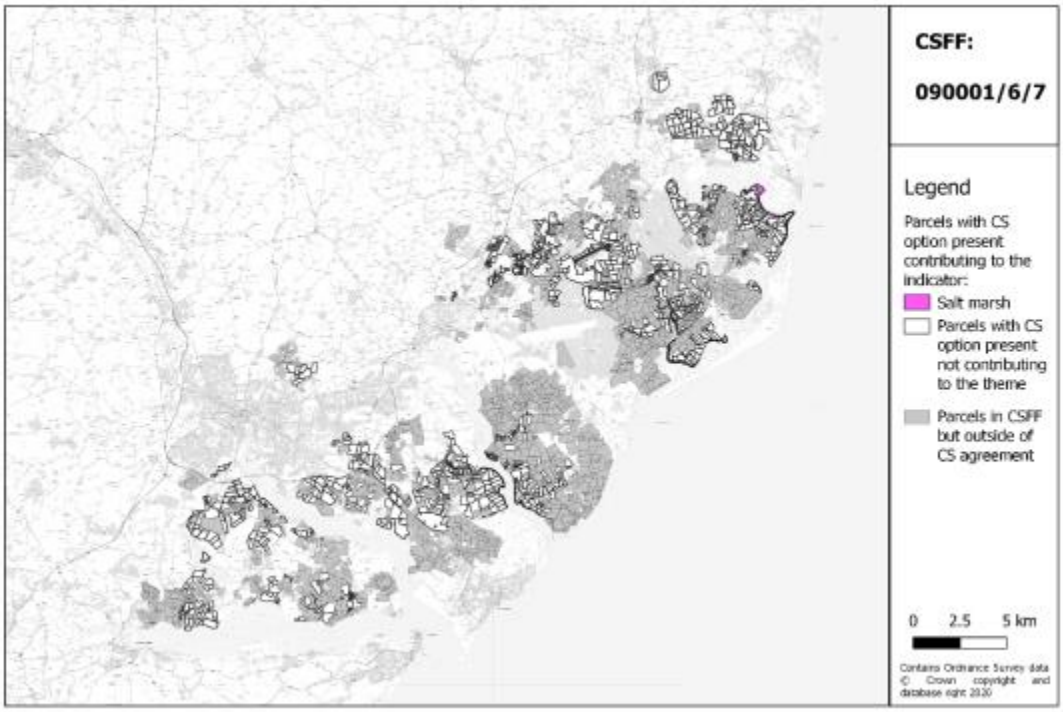


Figure 51: Parcels within CSFF group 070012 with CS options present that contribute to NCIs in the Coastal habitat category

7.3 Impact of CS agreements within Facilitation Funds on natural capital asset quality

Table 38: Asset quality themes and associated Natural Capital Indicators (NCIs) mapped for all habitat types

Cultural	Hydrology and Geomorphology	Nutrient and Chemical Status	Species Composition	Vegetation
Favourable condition of SSSIs	Naturalness of water level regime	Nutrient status of water bodies	Naturalness of biological assemblage: number of trophic levels & community composition in each level	Presence & frequency of pollinator larval & adult food plants
Designated Historic Environment Assets (World Heritage Sites, Scheduled monuments (% at risk), Historic Parks & Gardens, Listed Buildings, Conservation Area)		Soil nutrient status		Extent of permanent vegetation cover

Cultural

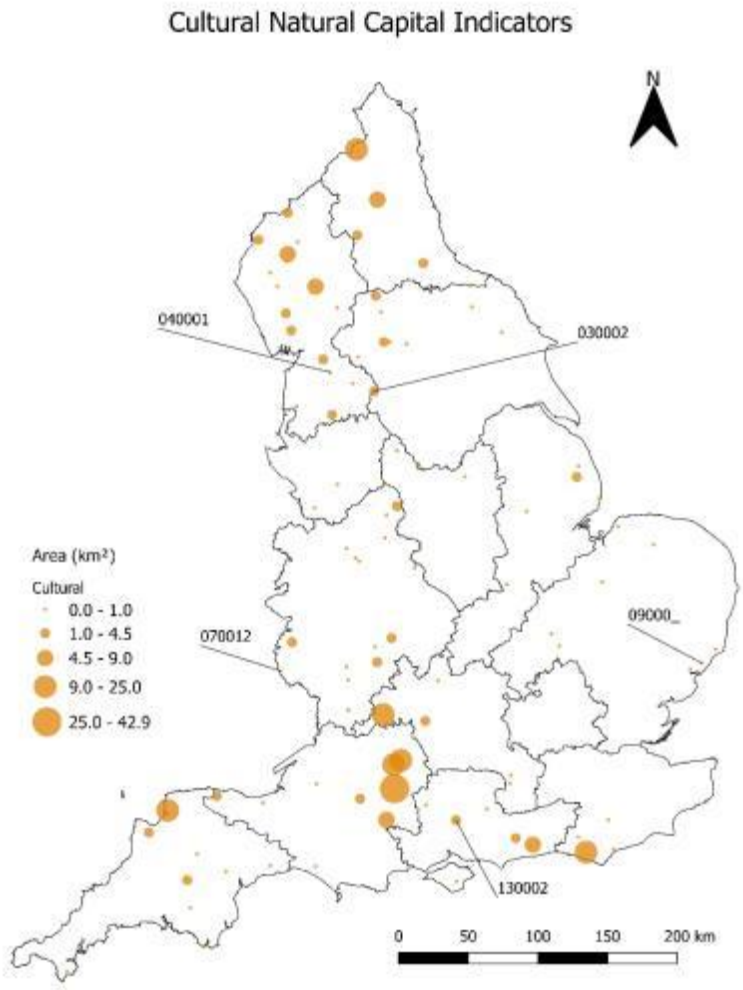


Figure 52: Area under CS options across individual Facilitation Funds which impact NCIs within the Cultural asset quality theme

Table 39: Summary of CS option within Facilitation Fund groups areas which impact NCIs in the Cultural asset quality theme

		Favourable condition of SSSIs	Designated Historic Environment Assets (World Heritage Sites, Scheduled monuments (% at risk), Historic Parks & Gardens, Listed Buildings, Conservation Area)	Sum of indicator area (km²)
Resource covered by options within FF groups (km²)		20.39	230.69	251.08
Resource covered by options within the top five FF groups (km²):				
Rank	**FF ID**			
1st	**110009**	0.00	42.94	42.94
2nd	**110006**	0.00	24.43	24.43
3rd	**140008**	0.00	18.12	18.12
4th	**110003**	0.00	14.98	14.98
5th	**070007**	0.00	13.80	13.80

Figure 52 shows that cultural natural asset indicators are supported by Facilitation Fund groups throughout England, but appear to be more concentrated in northern and southern England.

CS options within Facilitation Fund groups support significant areas of cultural assets (Table 39), indicating that there is a considerable uptake of CS options that target cultural assets within Facilitation Fund groups. It is noteworthy that the majority of area covered by CS options under the cultural asset quality theme impact on designated historic environment assets, rather than the favorable condition of SSSIs.

Figure 53 shows that, amongst the case study groups, the amount of uptake of cultural CS options reflects the number of resources in need of protection on land within Facilitation Fund groups.

Figure 54 to Figure 58 below illustrate the locations of parcels contributing to NCIs in the Cultural asset quality theme across all five project case studies.

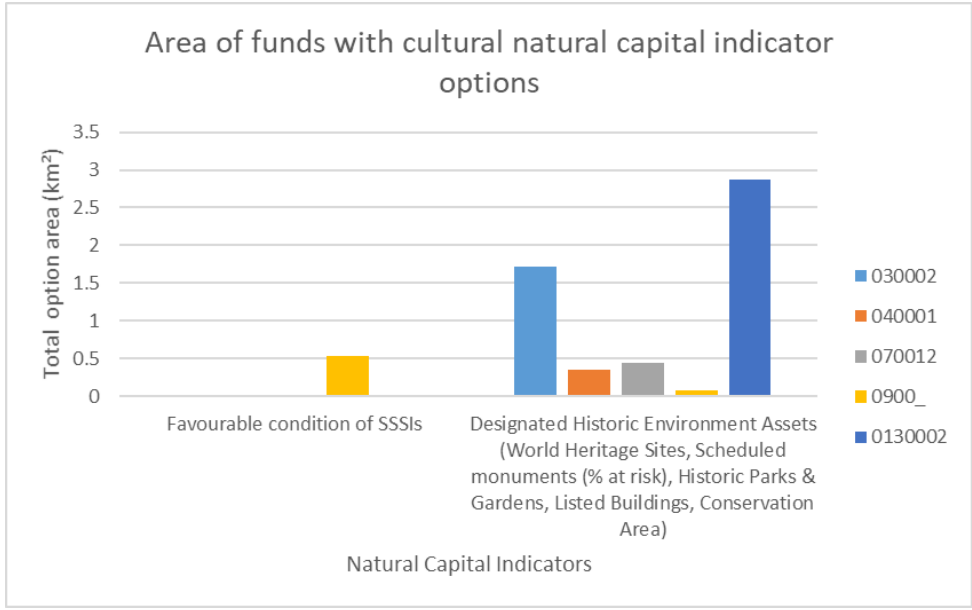


Figure 53: Area under CS options across project case studies which impact NCIs in the Cultural asset quality theme

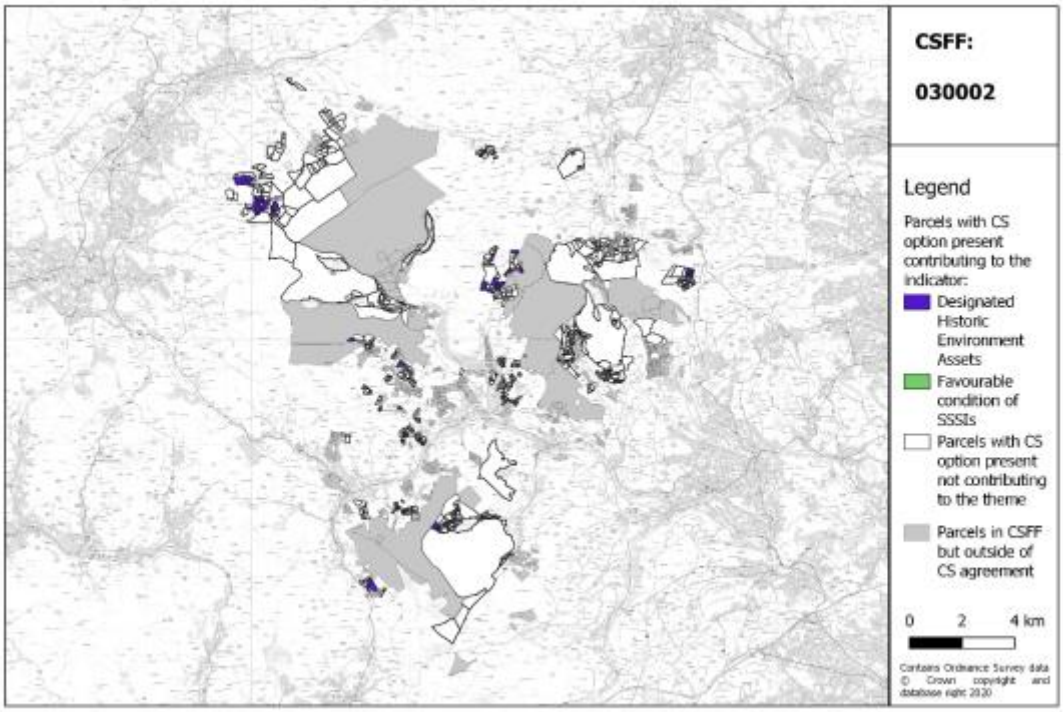


Figure 54: Parcels within CSFF group 030002 with CS options present that contribute to NCIs in the Cultural asset quality theme

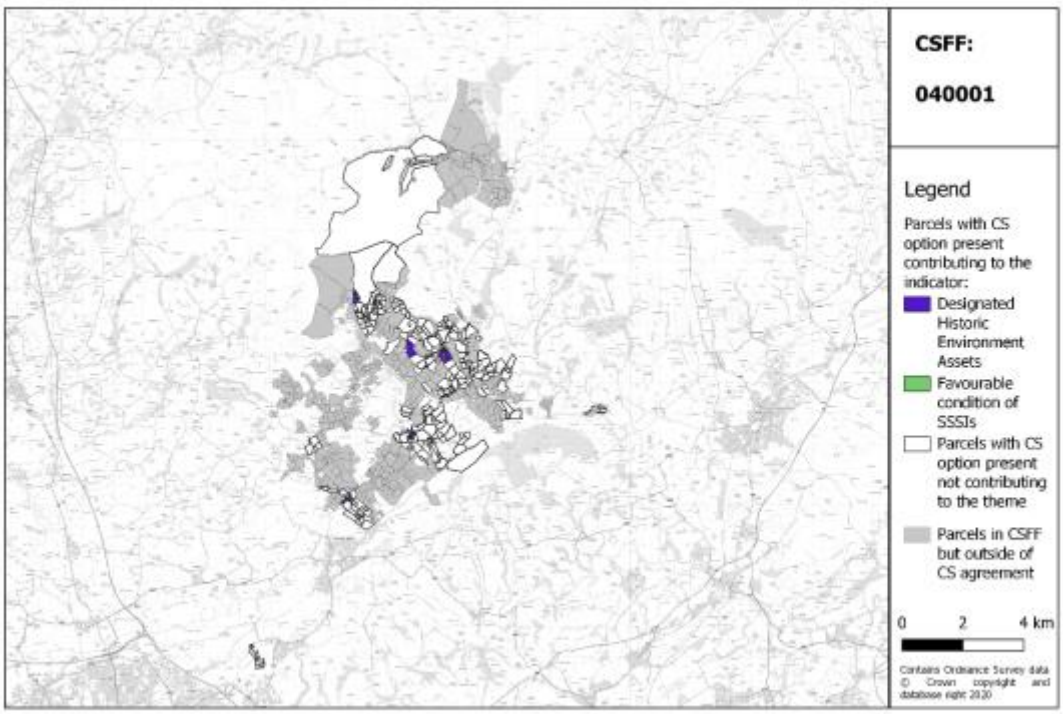


Figure 55: Parcels within CSFF group 040001 with CS options present that contribute to NCIs in the Cultural asset quality theme

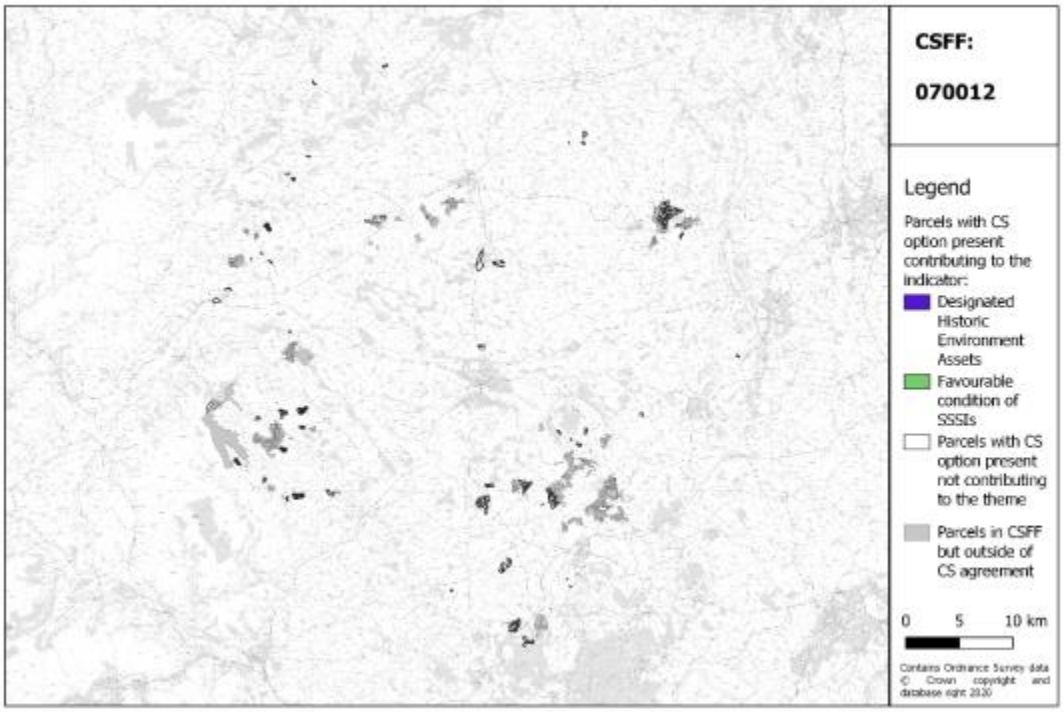


Figure 56: Parcels within CSFF group 070012 with CS options present that contribute to NCIs in the Cultural asset quality theme

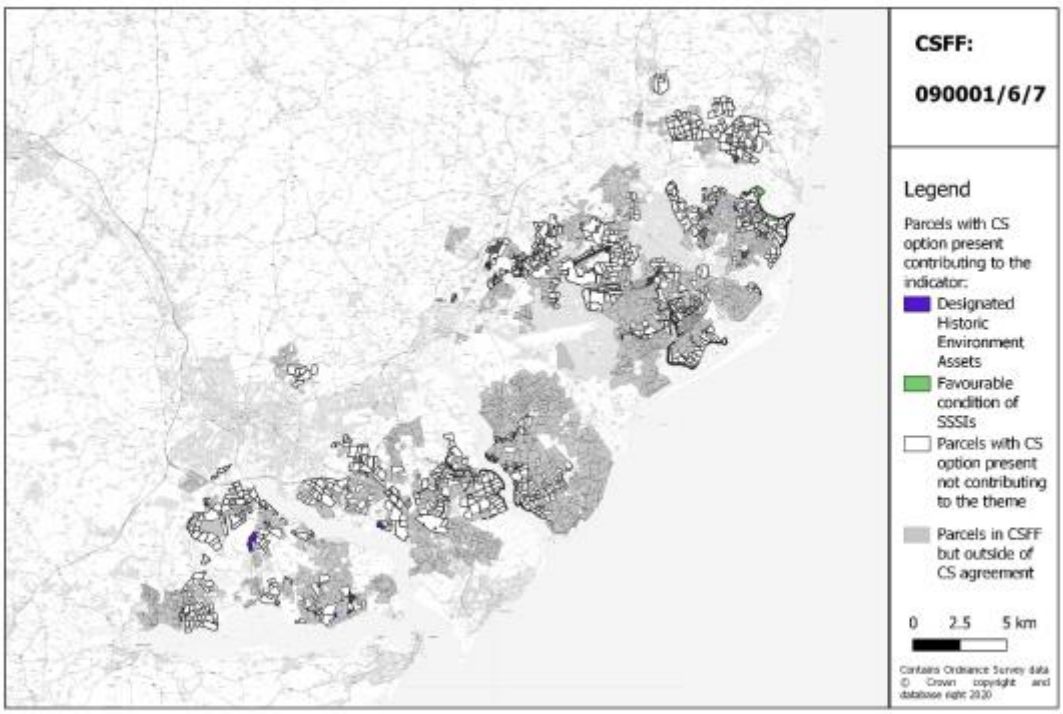


Figure 57: Parcels within CSFF groups 090001/6/7 with CS options present that contribute to NCIs in the Cultural asset quality theme

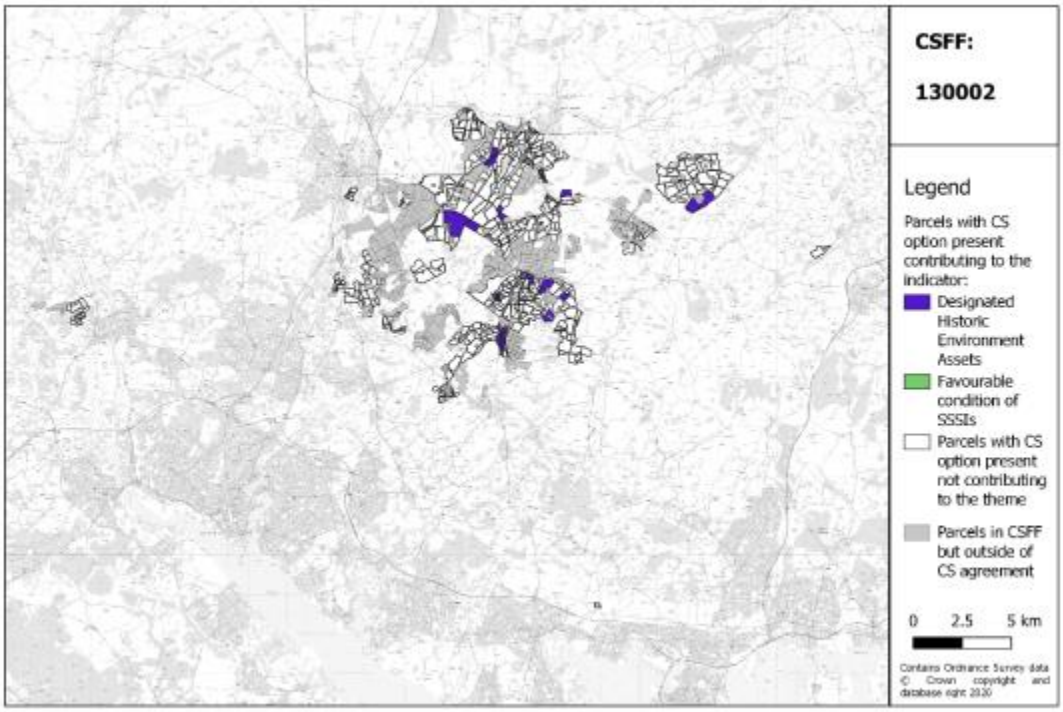


Figure 58: Parcels within CSFF group 130002 with CS options present that contribute to NCIs in the Cultural asset quality theme

Hydrology and Geomorphology

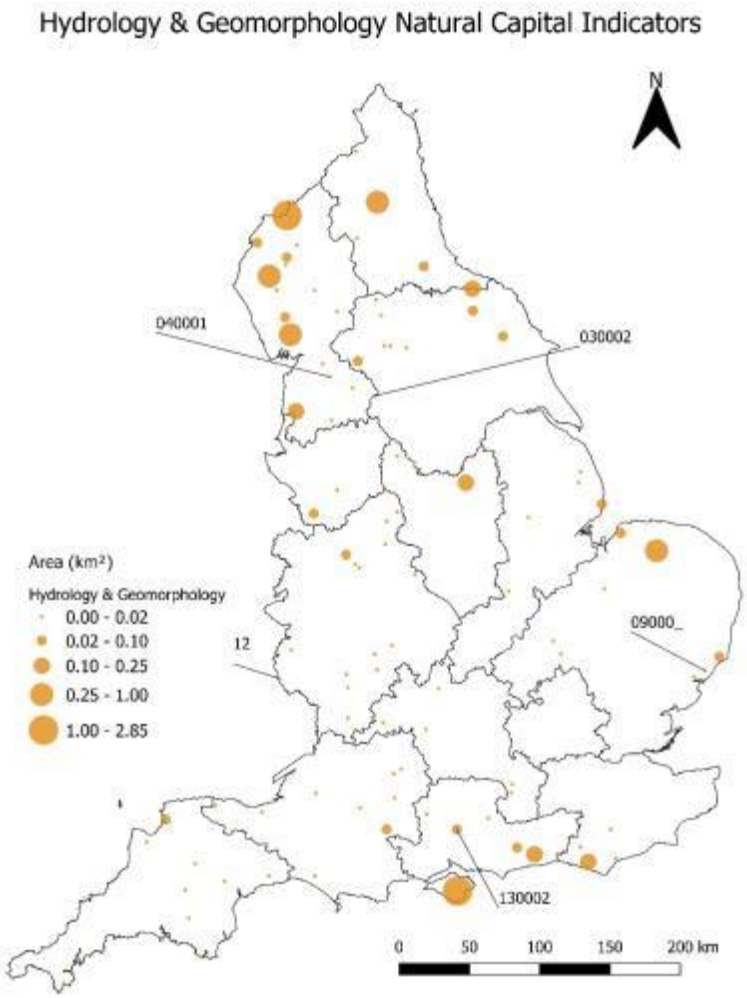


Figure 59: Area under CS options across individual Facilitation Funds which impact NCIs within the Hydrology and Geomorphology asset quality theme

Table 40: Summary of CS option within Facilitation Fund groups areas which impact NCIs in the Hydrology and Geomorphology asset quality theme

		Naturalness of water level regime	Sum of indicator area (km²)
Resource covered by options within FF groups (km²):		8.55	8.55
Resource covered by options within the top five FF groups (km²):			
Rank	**FF ID**		
1st	**20011**	2.85	2.85
2nd	**130006**	1.12	1.12
3rd	**90002**	0.96	0.96
4th	**20001**	0.91	0.91
5th	**10005**	0.77	0.77

Figure 59 shows that CS options supporting the naturalness of water level regimes within the hydrology and geomorphology asset quality theme are taken up by Facilitation Fund groups throughout England, but appear in more dense clusters in the north, reflecting the national distribution of freshwater habitats and the targeting of relevant options.

At national level, only a small area of hydrological features is covered through CS options taken up by Facilitation Fund groups, but this value will be affected by the size of hydrological features compared to large scale habitats covered in Section 5.2.

None of the case study groups have a large uptake of CS options supporting hydrological features. Group 0130002, with the largest uptake amongst the case study groups, is located in the south of England. None of the case study groups is located far enough north to fall within the cluster of Facilitation Fund groups contributing most to this natural capital indicator as shown by Figure 60.

Figure 61 to Figure 65 below illustrate the locations of parcels contributing to NCIs in the Hydrology and Geomorphology quality theme across all five project case studies.

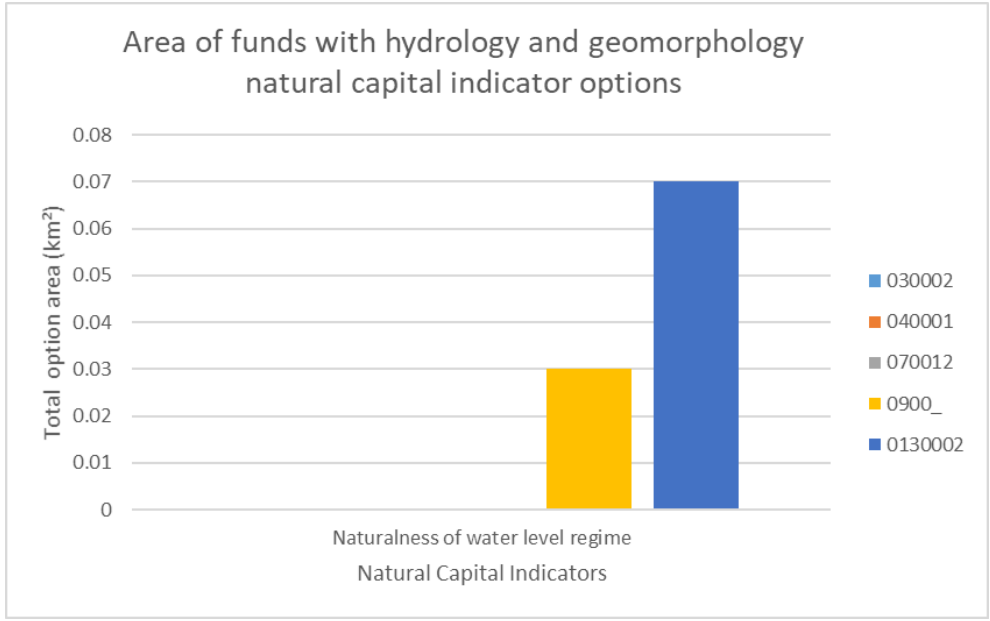


Figure 60: Area under CS options across project case studies which impact NCIs in the Hydrology and Geomorphology asset quality theme

Figure 61: Parcels within CSFF group 030002 with CS options present that contribute to NCIs in the Hydrology and Geomorphology asset quality theme

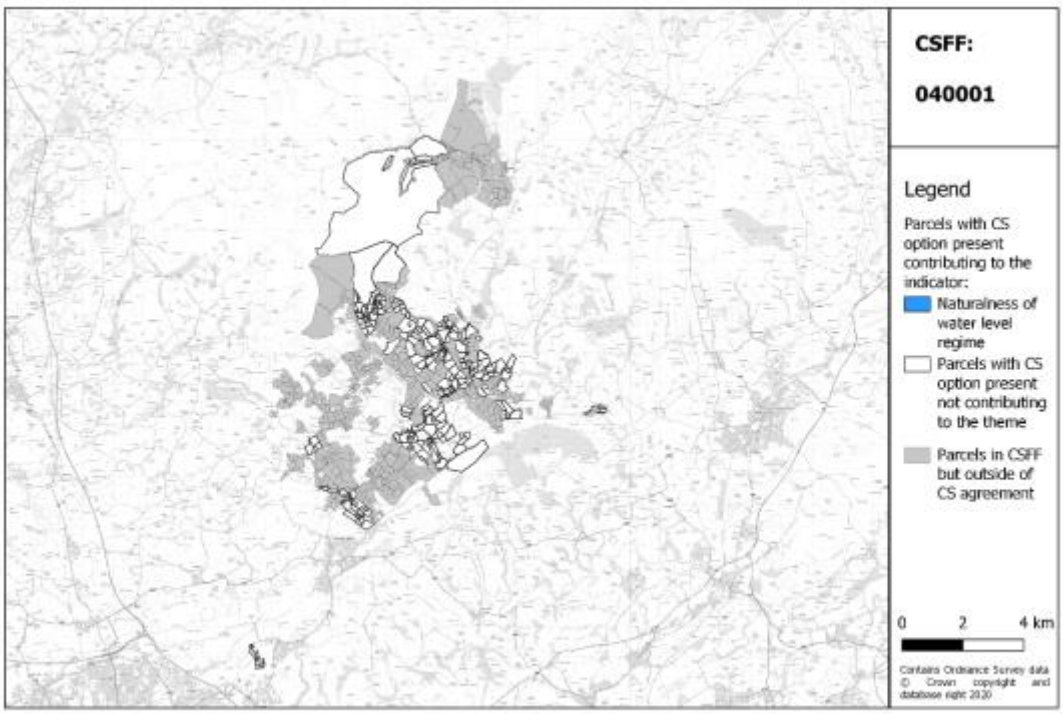


Figure 62: Parcels within CSFF group 040001 with CS options present that contribute to NCIs in the Hydrology and Geomorphology asset quality theme

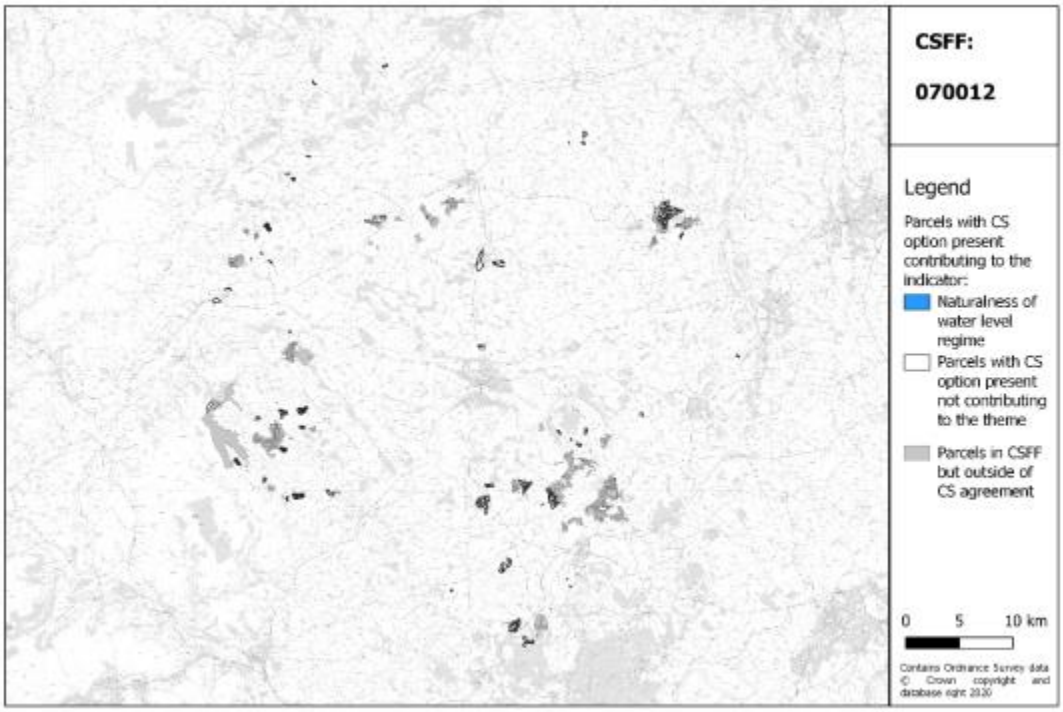


Figure 63: Parcels within CSFF group 070012 with CS options present that contribute to NCIs in the Hydrology and Geomorphology asset quality theme

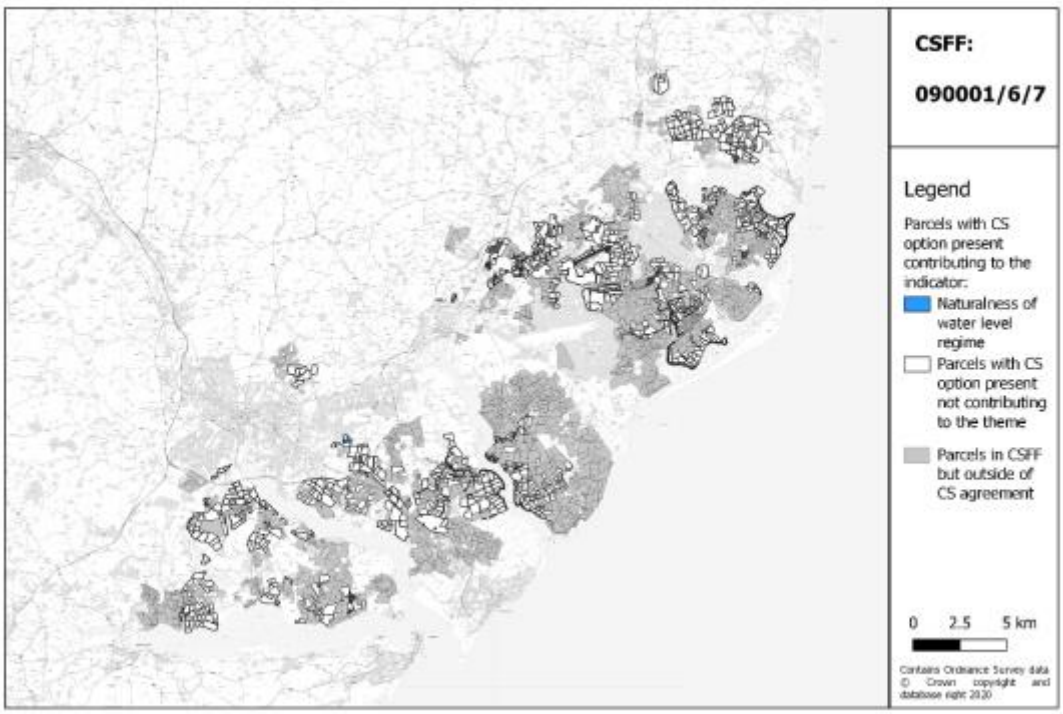


Figure 64: Parcels within CSFF groups 090001/6/7 with CS options present that contribute to NCIs in the Hydrology and Geomorphology asset quality theme

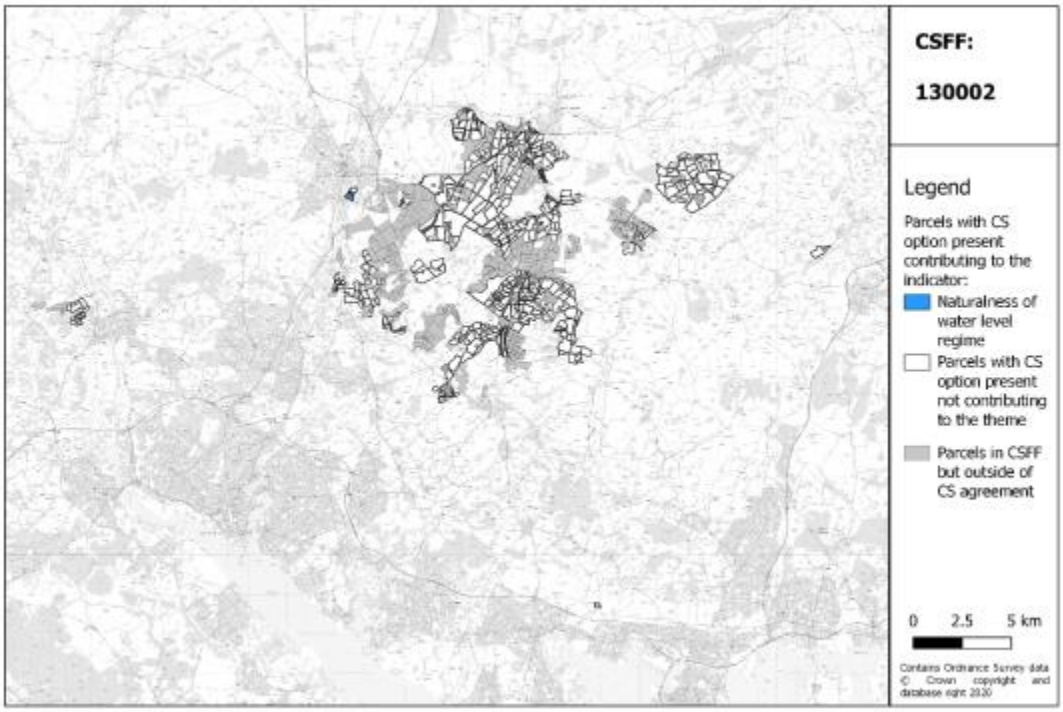


Figure 65: Parcels within CSFF group 130002 with CS options present that contribute to NCIs in the Hydrology and Geomorphology asset quality theme

Nutrient and Chemical Status

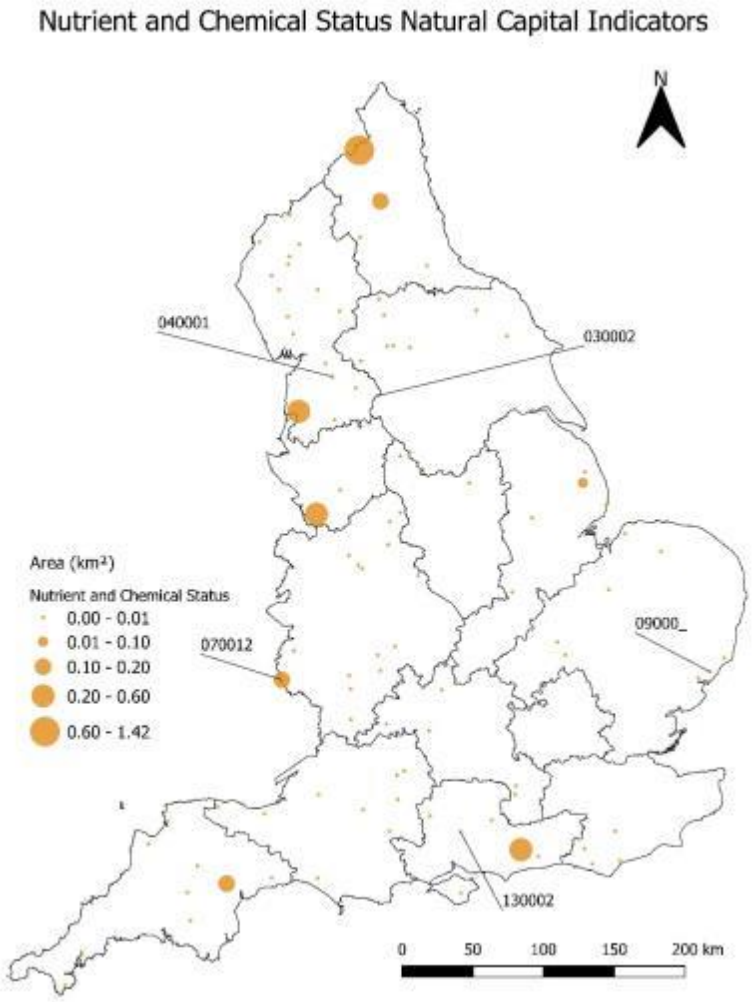


Figure 66: Area under CS options across individual Facilitation Funds which impact NCIs within the Nutrient and Chemical Status asset quality theme

Table 41: Summary of CS option within Facilitation Fund groups areas which impact NCIs in the Nutrient and Chemical Status asset quality theme

		Nutrient status of water bodies	Soil nutrient status	Sum of indicator area (km²)
Resource covered by options within FF groups (km²):		0.00	3.08	3.09
Resource covered by options within the top five FF groups (km²):				
Rank	**FF ID**			
1st	**10006**	0.00	1.41	1.41
2nd	**70003**	0.00	0.57	0.57
3rd	**140012**	0.00	0.30	0.30
4th	**40009**	0.00	0.25	0.25
5th	**70012**	0.00	0.20	0.20

Figure 66 shows that Facilitation Fund groups supporting natural capital indicators under the nutrient and chemical status asset quality theme are spread throughout England, though areas supported under this asset quality theme are generally low across all groups.

Table 41 highlights that out of the two NCIs contributing to this asset quality theme, soil nutrient status experiences a substantially higher level of support through appropriate CS options on Facilitation Fund land compared to nutrient status of water bodies, which only shows negligible areas. However, protection of the nutrient status of soil can be expected to have a knock-on effect on the water quality of water bodies.

Out of the case study groups, only 070012 is applying CS options benefiting this asset quality theme (Figure 67).

Figure 68 to Figure 72 below illustrate the locations of parcels contributing to NCIs in the Nutrient and Chemical Status asset quality theme across all five project case studies.

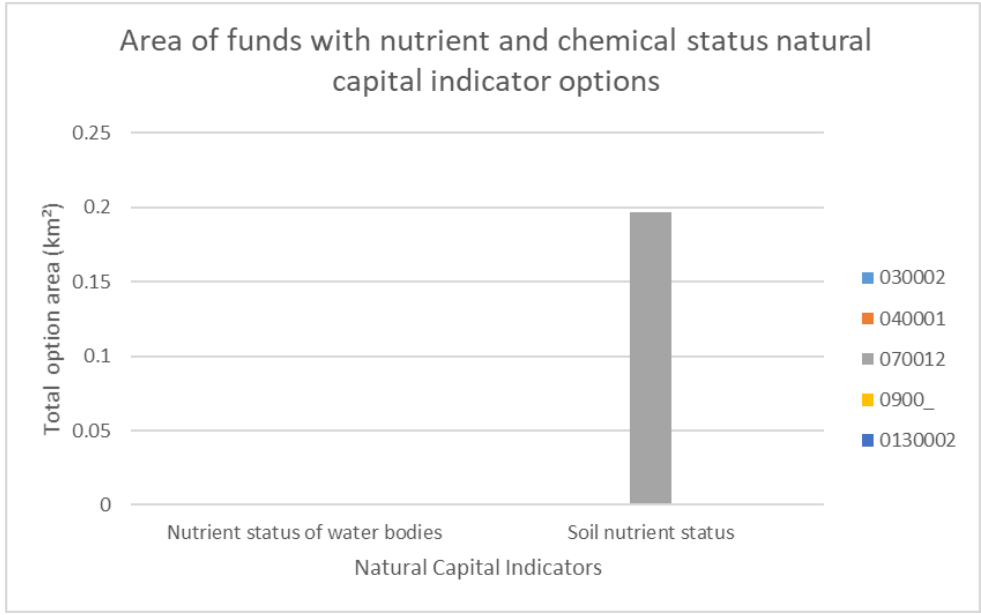


Figure 67: Area under CS options across project case studies which impact NCIs in the Nutrient and Chemical Status asset quality theme

Figure 68: Parcels within CSFF group 030002 with CS options present that contribute to NCIs in the Nutrient and Chemical Status asset quality theme

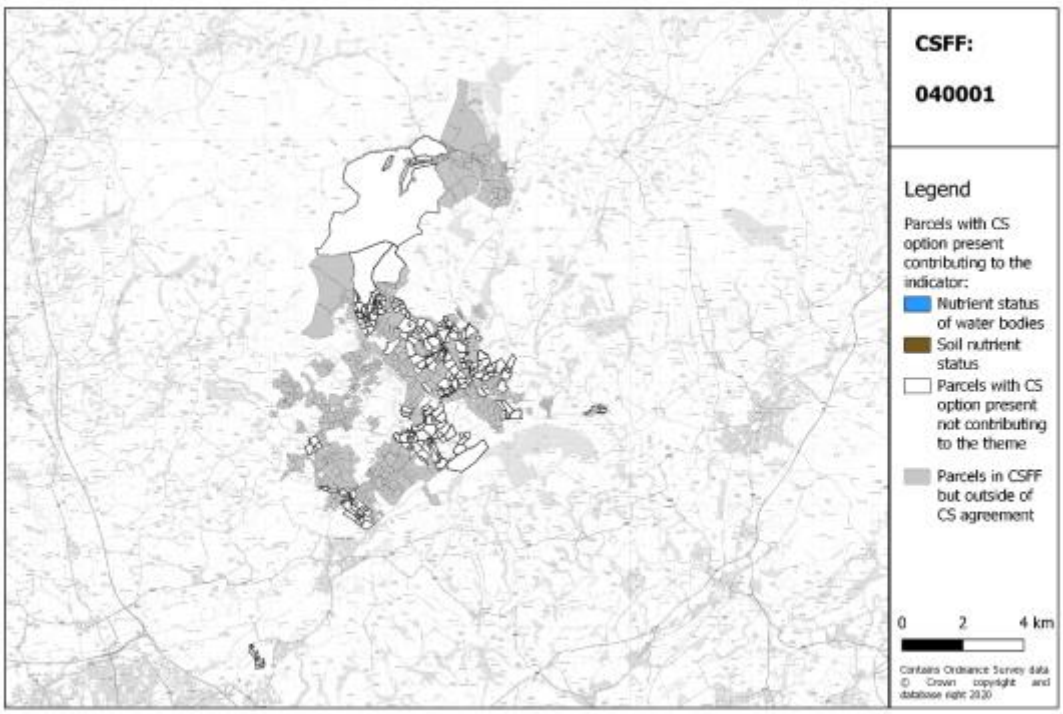


Figure 69: Parcels within CSFF group 040001 with CS options present that contribute to NCIs in the Nutrient and Chemical Status asset quality theme

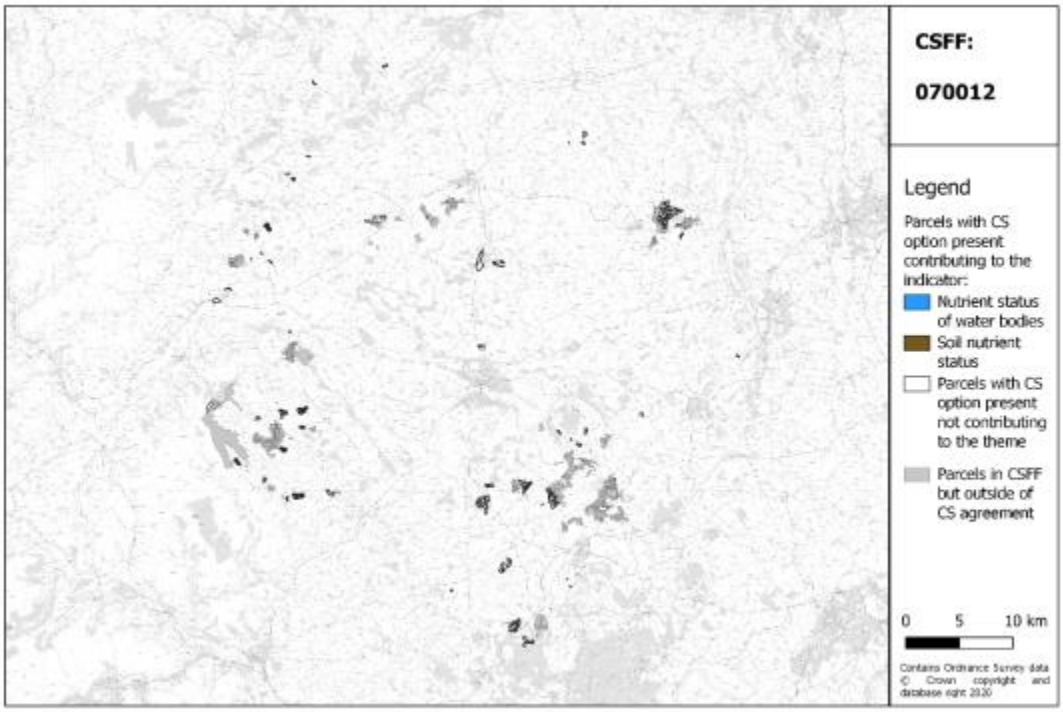


Figure 70: Parcels within CSFF group 070012 with CS options present that contribute to NCIs in the Nutrient and Chemical Status asset quality theme

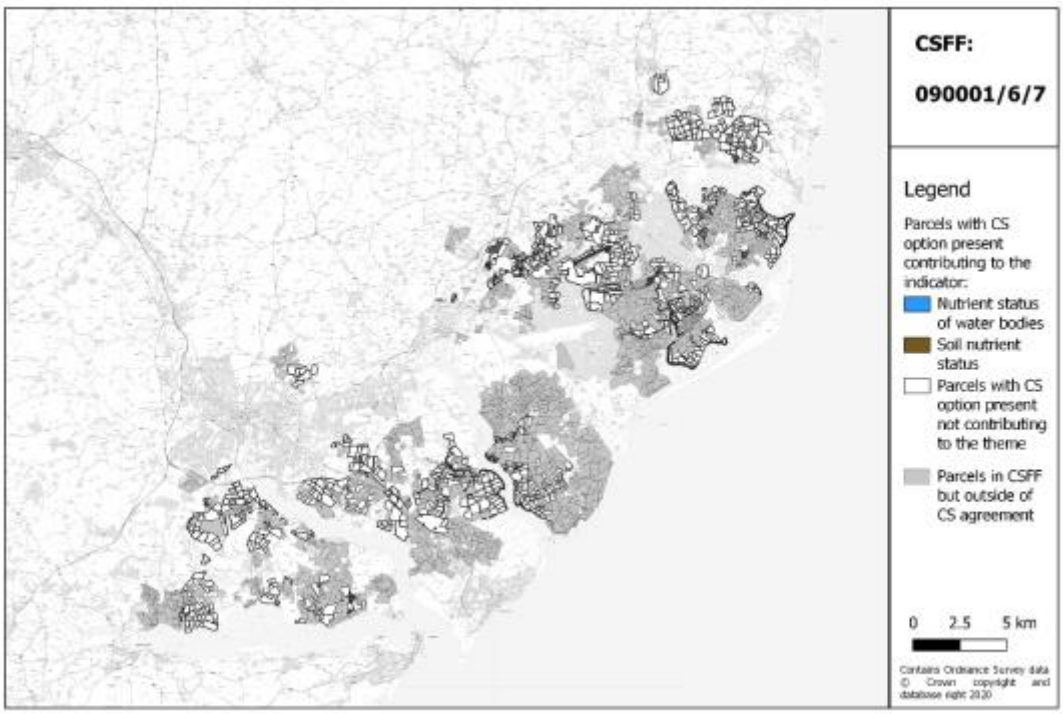


Figure 71: Parcels within CSFF groups 090001/6/7 with CS options present that contribute to NCIs in the Nutrient and Chemical Status asset quality theme

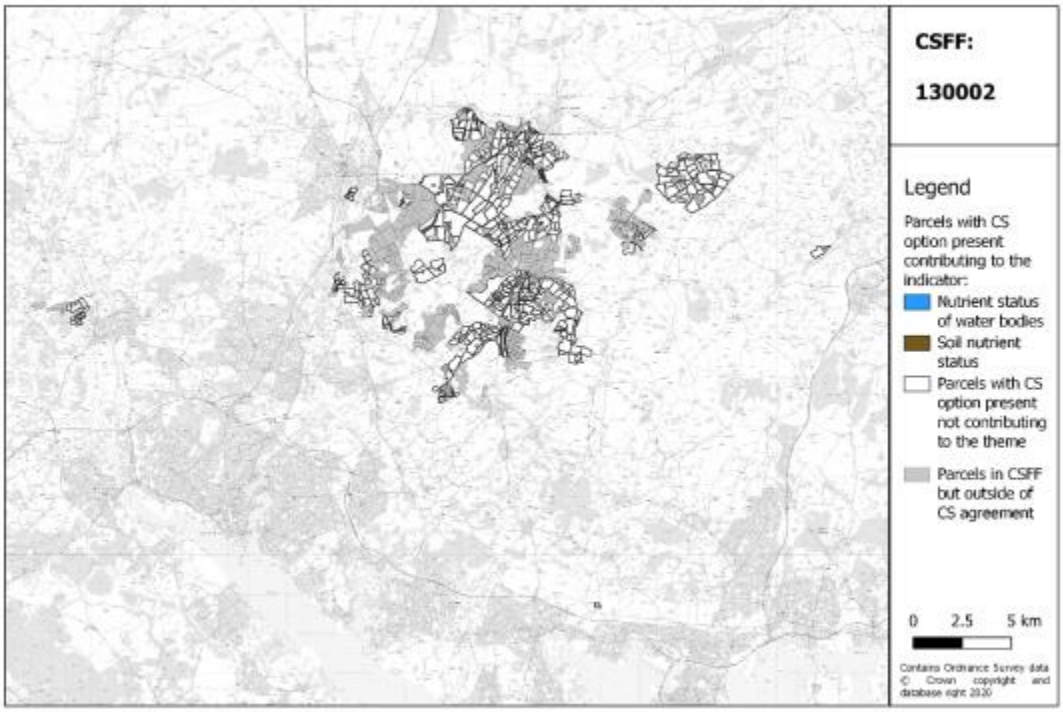


Figure 72: Parcels within CSFF group 130002 with CS options present that contribute to NCIs in the Nutrient and Chemical Status asset quality theme

Species Composition

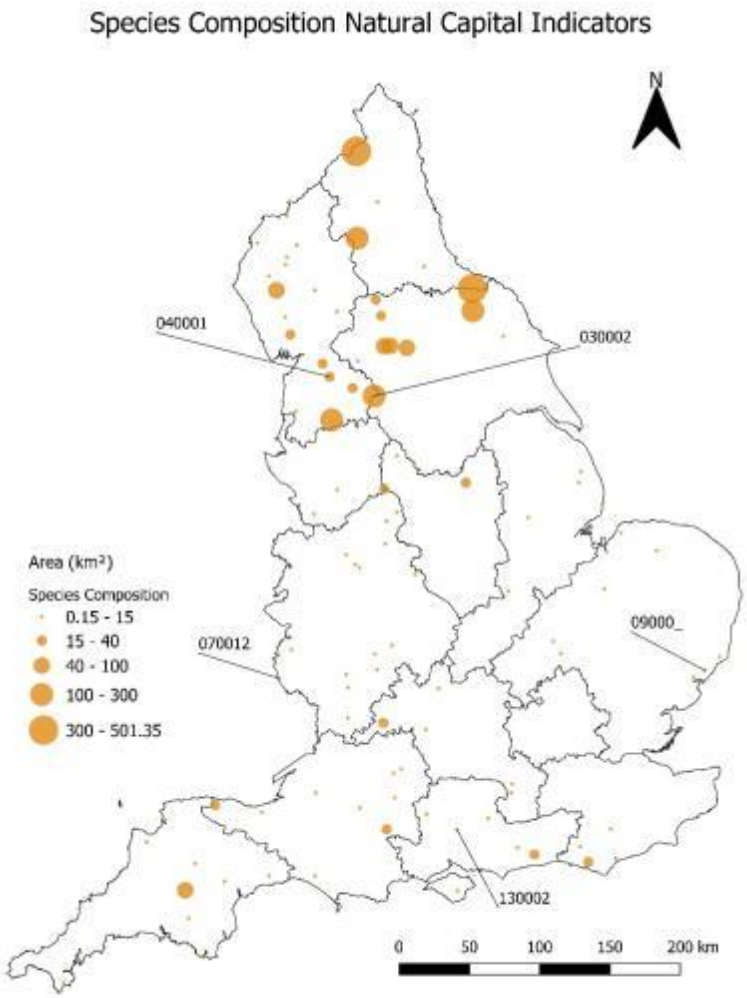


Figure 73: Area under CS options across individual Facilitation Funds which impact NCIs within the Species Composition asset quality theme

Table 42: Summary of CS option within Facilitation Fund groups areas which impact NCIs in the Species composition asset quality theme

		Naturalness of biological assemblage: number of trophic levels & community composition in each level	Sum of indicator area (km²)
Resource covered by options within FF groups (km²):		2352.45	2352.45
Resource covered by options within the top five FF groups (km²):			
Rank	**FF ID**		
1st	**10006**	501.35	501.35
2nd	**30012**	310.82	310.82
3rd	**30004**	178.84	178.84
4th	**10008**	173.91	173.91
5th	**30002**	169.41	169.41

Uptake of CS options supporting the Naturalness of biological assemblage NCI under the species composition asset quality theme is most prevalent amongst Facilitation Fund groups located in the north of England (Figure 73), potentially owing to the larger quantities of semi-natural and natural habitats present within a more predominantly open upland landscape.

Table 42 shows that the overall area of the relevant NCI supported by Facilitation Fund groups through CS options is high (over 2300 km^2).

Figure 74 shows that the uptake of CS options by area supporting this NCI is highest within Facilitation Fund group 030002, which is located towards the southern edge of the clustering of groups with a significant stake in this NCI within the north of England. The other case study located in this area, 040001, however, does not show a substantially higher area than the remaining case studies spread throughout England.

Figure 75 to Figure 79 below illustrate the locations of parcels contributing to NCIs in the Species Composition asset quality theme across all five project case studies.

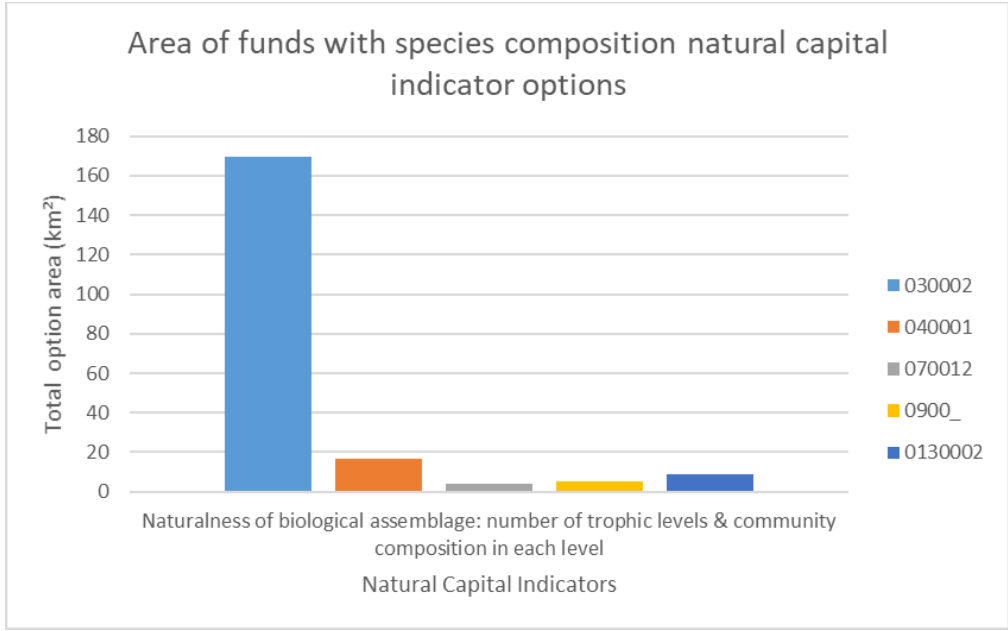


Figure 74: Area under CS options across project case studies which impact NCIs in the Species Composition asset quality theme

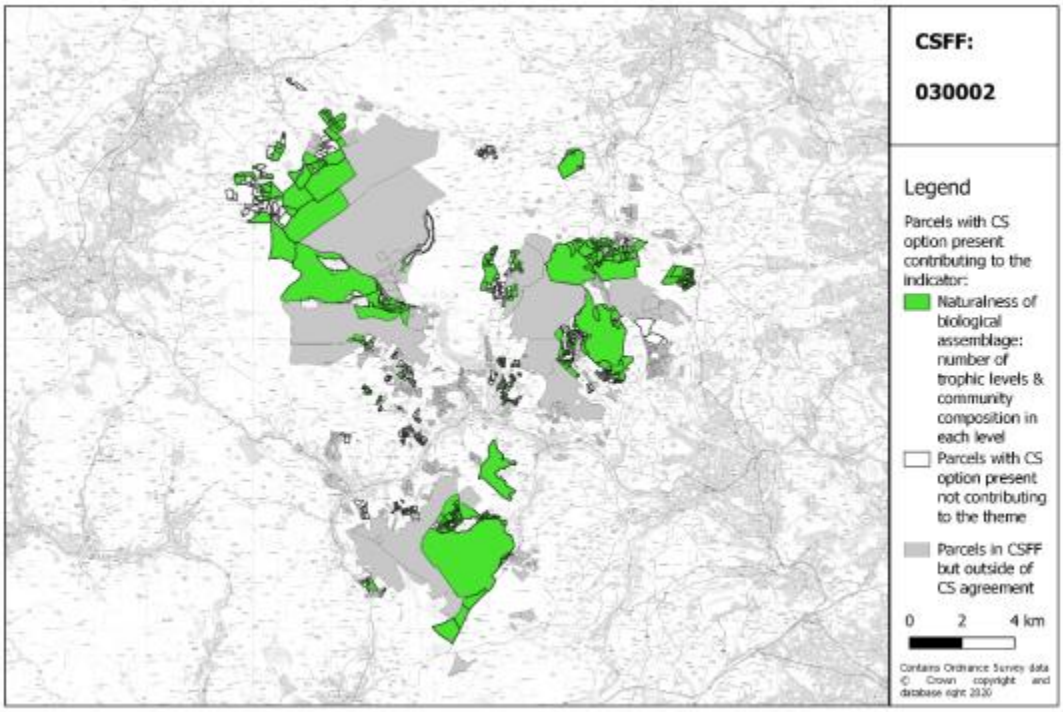


Figure 75: Parcels within CSFF group 030002 with CS options present that contribute to NCIs in the Species Composition asset quality theme

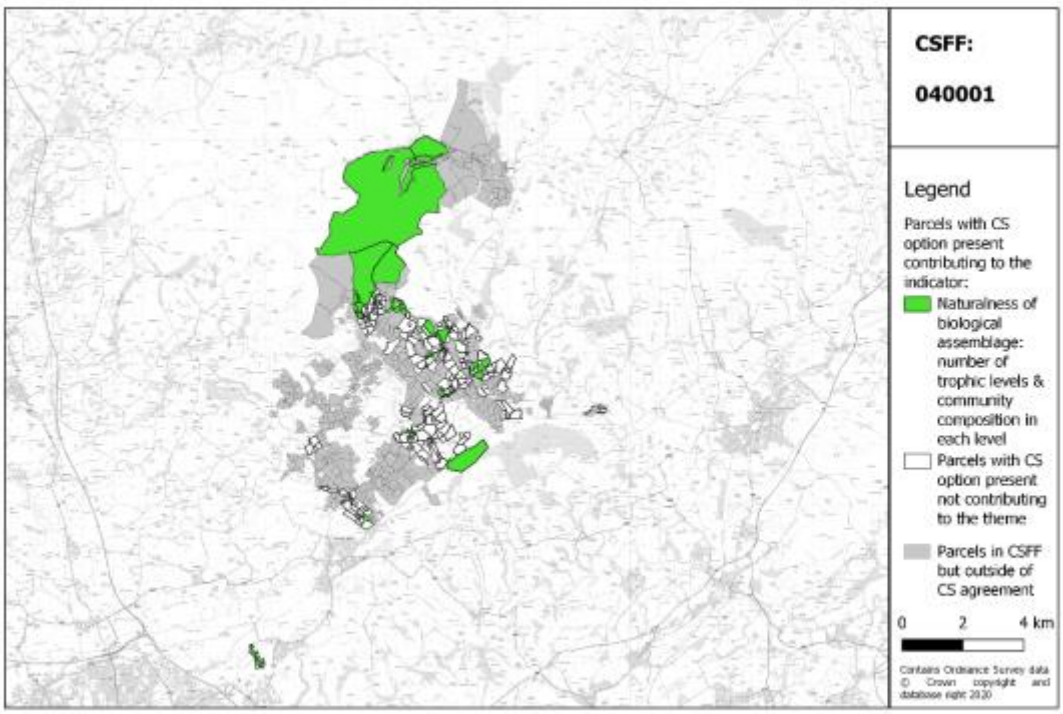


Figure 76: Parcels within CSFF group 040001 with CS options present that contribute to NCIs in the Species Composition asset quality theme

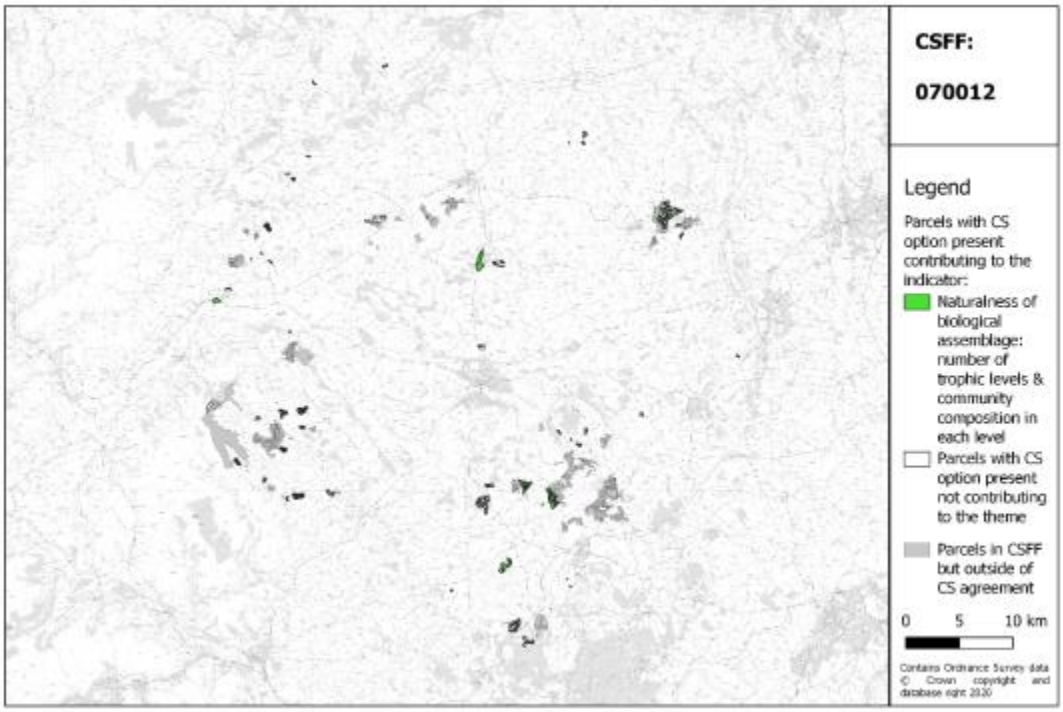


Figure 77: Parcels within CSFF group 070012 with CS options present that contribute to NCIs in the Species Composition asset quality theme

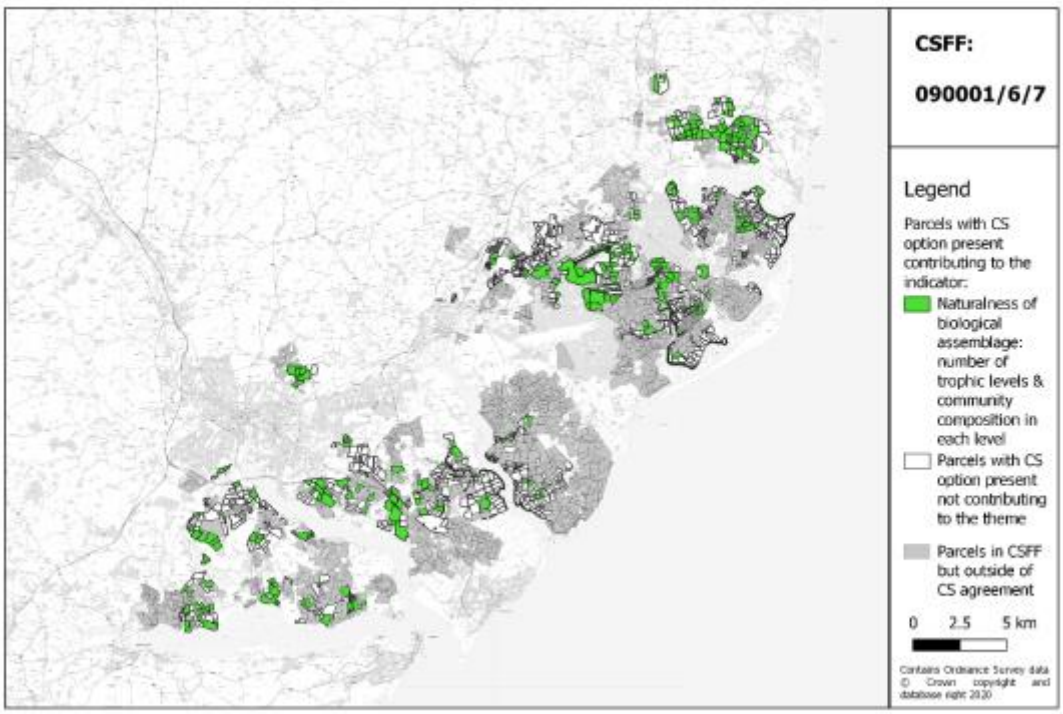


Figure 78: Parcels within CSFF groups 090001/6/7 with CS options present that contribute to NCIs in the Species Composition asset quality theme

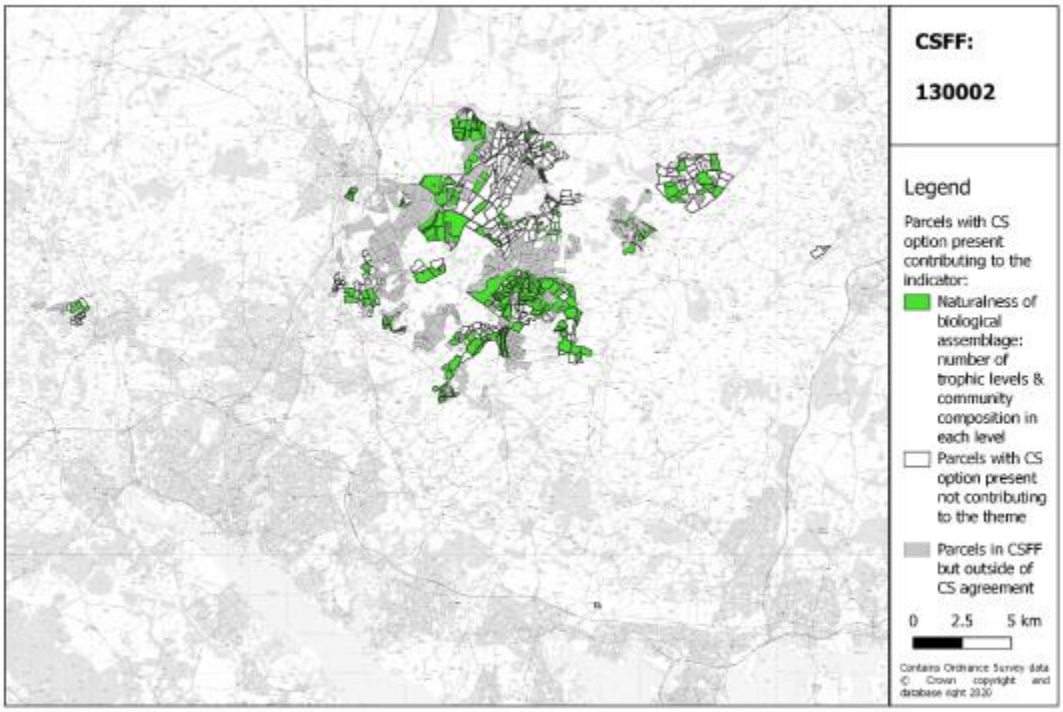


Figure 79: Parcels within CSFF group 130002 with CS options present that contribute to NCIs in the Species Composition asset quality theme

Vegetation

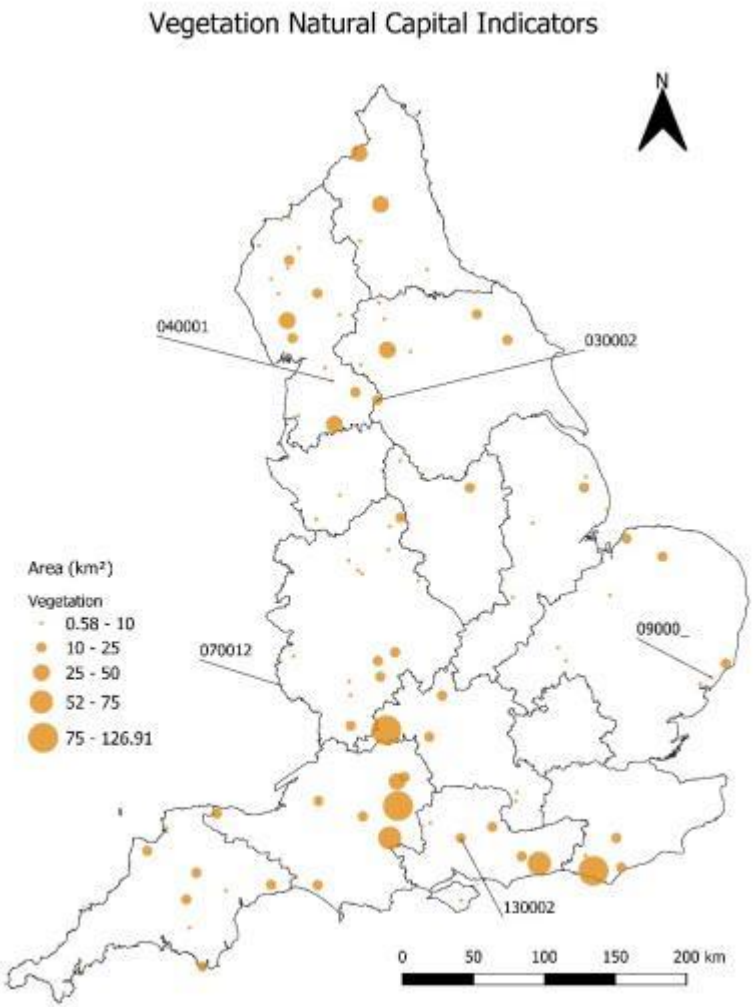


Figure 80: Area under CS options across individual Facilitation Funds which impact NCIs within the Vegetation asset quality theme

Table 43: Summary of CS option within Facilitation Fund groups areas which impact NCIs in the Vegetation asset quality theme

		Presence & frequency of pollinator larval & adult food plants	Extent of permanent vegetation cover	Sum of indicator area (km²)
Resource covered by options within FF groups (km²):		621.84	815.53	1437.38
Resource covered by options within the top five FF groups (km²):				
Rank	**FF ID**			
1st	**140008**	46.49	80.41	126.90
2nd	**70007**	42.81	34.05	76.87
3rd	**110009**	16.01	59.83	75.83
4th	**140002**	31.85	38.29	70.13
5th	**110007**	24.53	27.71	52.24

Figure 80 shows that Facilitation Fund groups with uptake of CS options contributing to NCIs under the vegetation asset quality theme exist throughout England, but cluster a little in the north and, more substantially, in southern England.

Table 43 highlights that, by area, the support provided by CS agreements within Facilitation Fund groups to the two NCIs under the vegetation asset quality theme is considerable in the area covered.

Figure 81 shows that this is one of the only cases where all of the case study groups display significant support towards the relevant NCIs under the theme, while this is slightly less pronounced within groups 040001 and 070012 compared to the other three groups.

Figure 82 to Figure 86 below illustrate the locations of parcels contributing to NCIs in the Vegetation asset quality theme across all five project case studies.

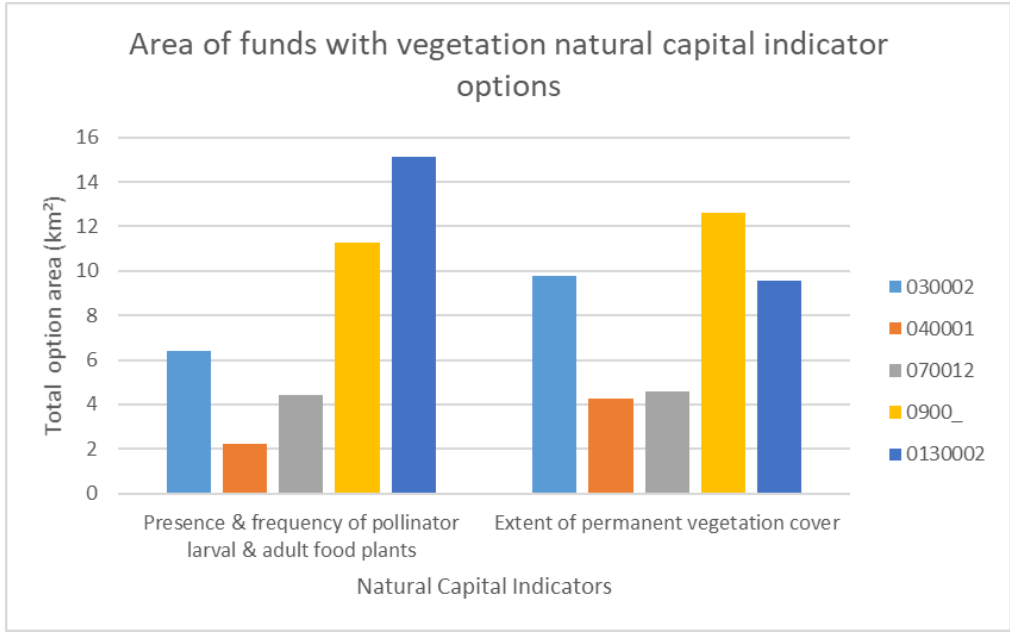


Figure 81: Area under CS options across project case studies which impact NCIs in the Vegetation asset quality theme

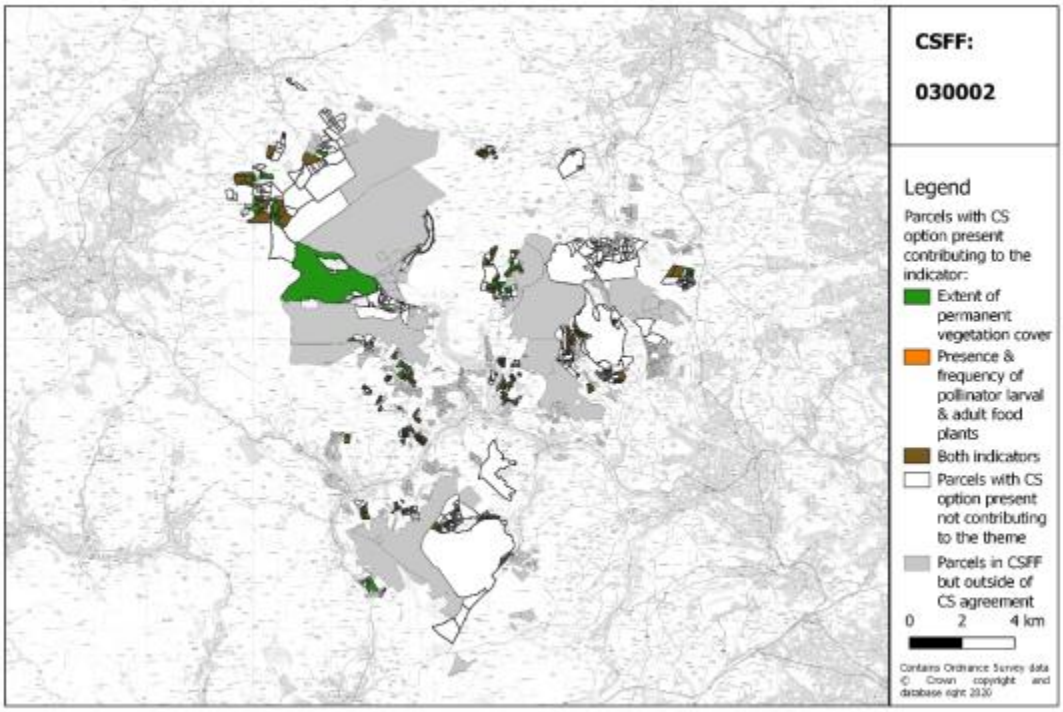


Figure 82: Parcels within CSFF group 030002 with CS options present that contribute to NCIs in the Vegetation asset quality theme

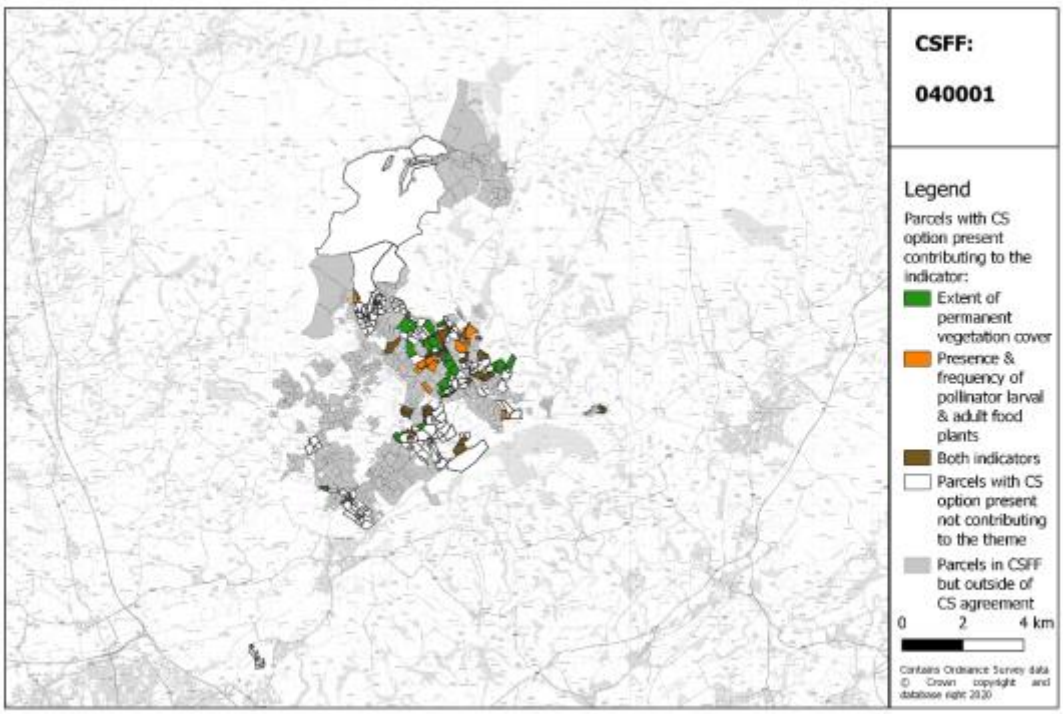


Figure 83: Parcels within CSFF group 040001 with CS options present that contribute to NCIs in the Vegetation asset quality theme

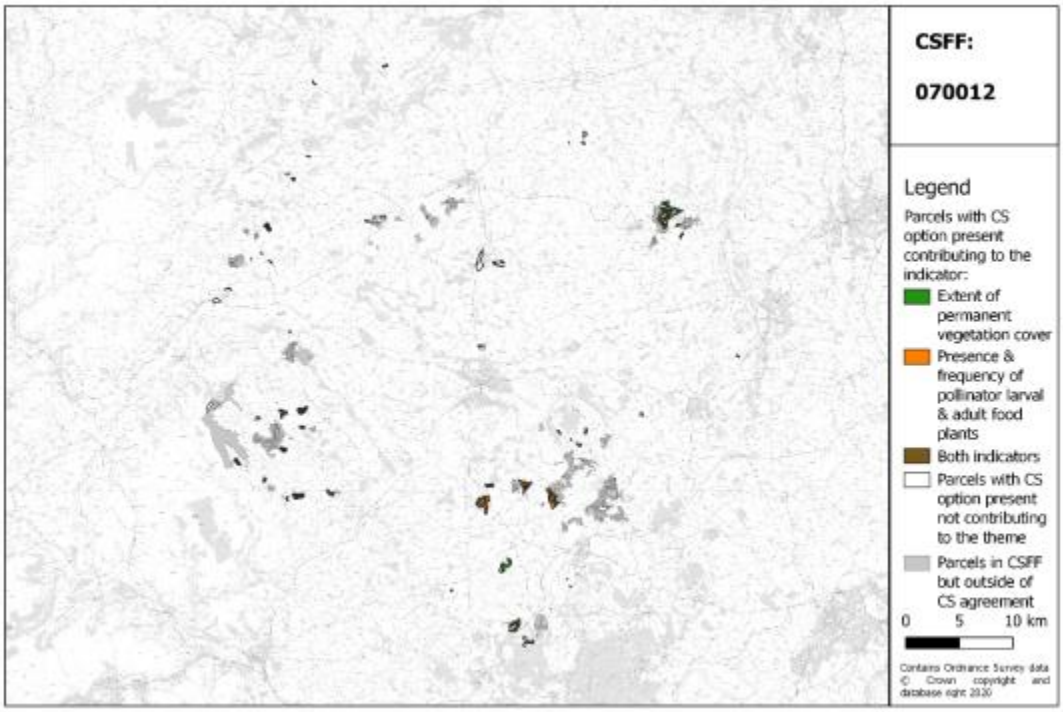


Figure 84: Parcels within CSFF group 070012 with CS options present that contribute to NCIs in the Vegetation asset quality theme

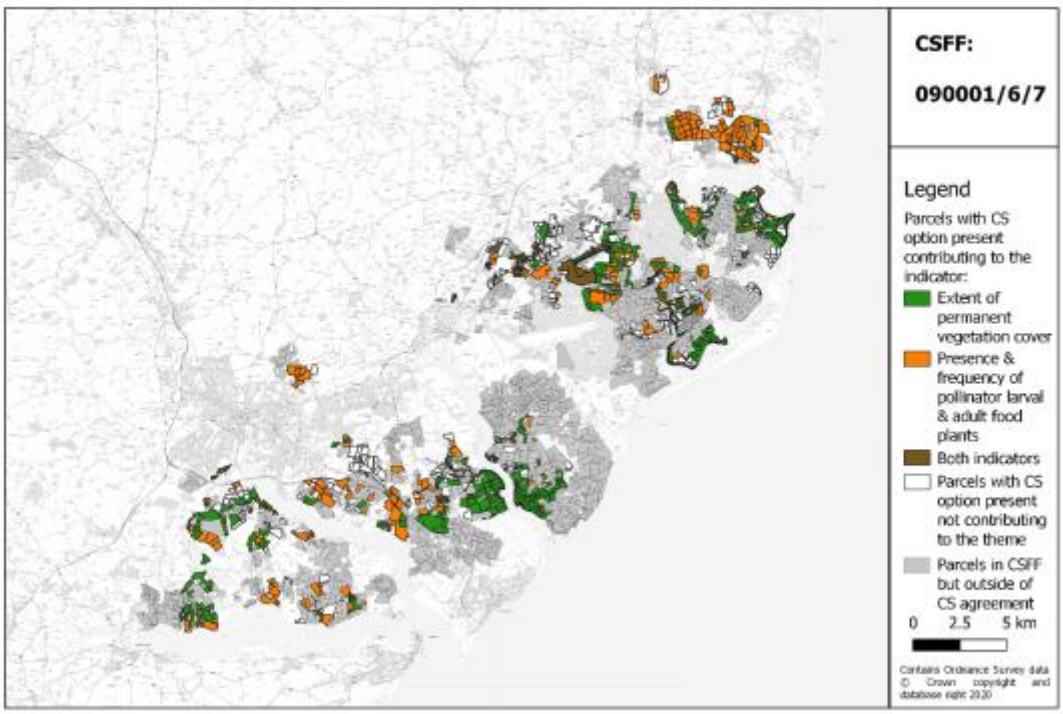


Figure 85: Parcels within CSFF groups 090001/6/7 with CS options present that contribute to NCIs in the Vegetation asset quality theme

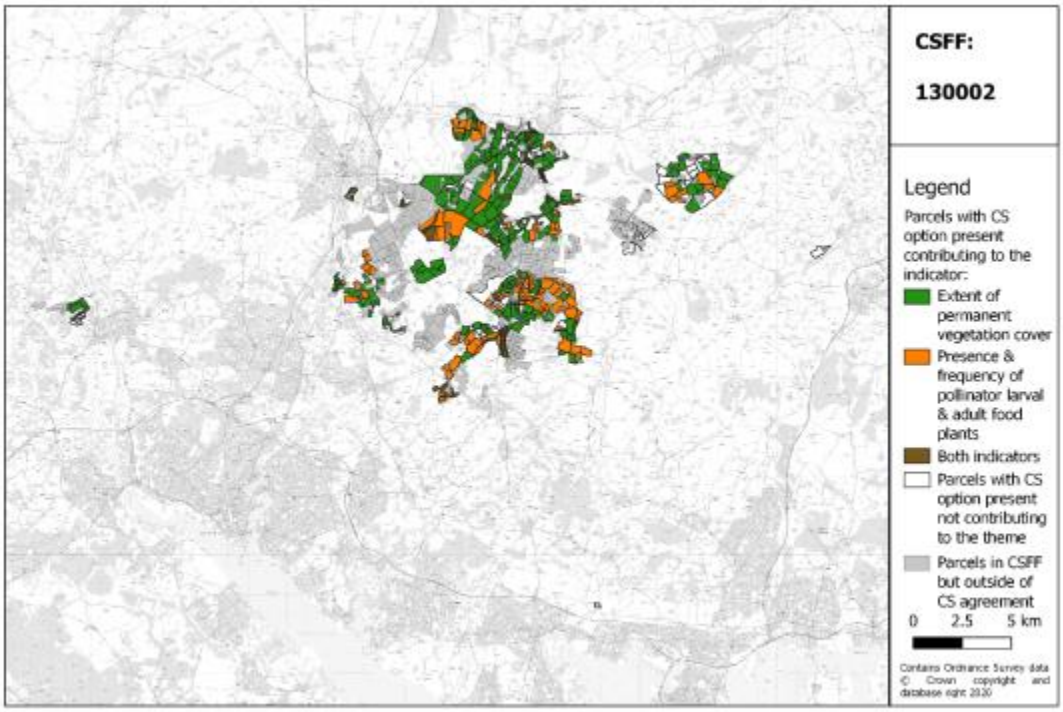


Figure 86: Parcels within CSFF group 130002 with CS options present that contribute to NCIs in the Vegetation asset quality theme

7.4 Impact of CS agreements within Facilitation Funds on natural capital asset location

Patch size, shape and edge

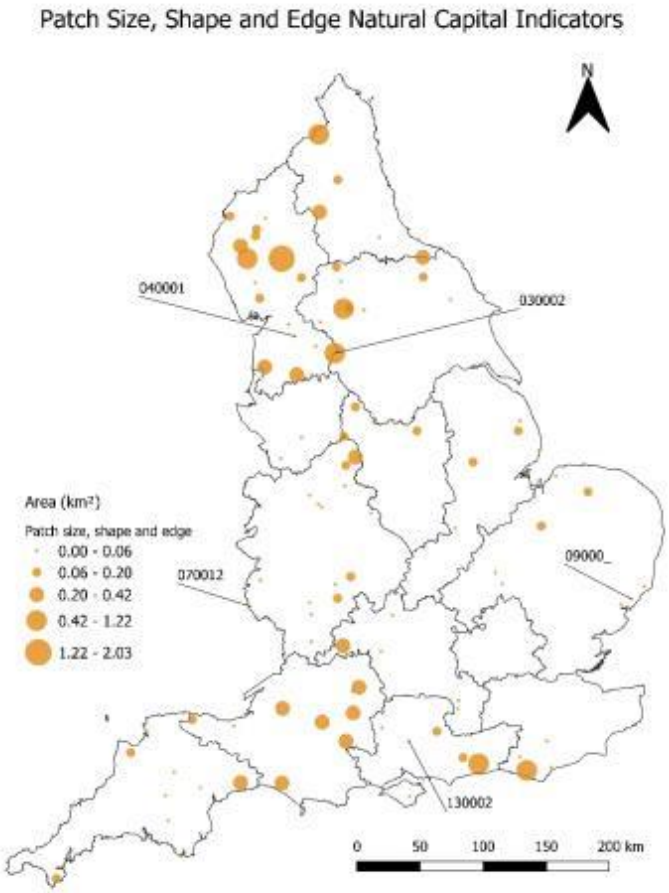


Figure 87: Area under CS options across individual Facilitation Funds which impact the Patch size, shape and edge natural capital indicator

Table 44: Summary of CS option areas which impact the Patch size, shape and edge natural capital indicator

		Patch size, shape and edge	Sum of indicator area (km²)
Resource covered by options within FF groups (km²):		15.58	15.58
Resource covered by options within the top five FF groups (km²):			
Rank	**FF ID**		
1st	**20003**	2.02	2.02
2nd	**20010**	1.22	1.22
3rd	**140008**	1.20	1.20
4th	**30009**	0.86	0.86
5th	**140002**	0.83	0.83

Facilitation Fund groups displaying uptake of CS option contributing to this NCI are spread relatively evenly throughout England. The even distribution is likely to be explained by the lack or regional differences driving the uptake of these options.

While uptake of these options appears to be fairly universal throughout Facilitation Fund groups (Figure 87), the overall area covered by them remains fairly small on an individual and national level (Table 44), indicating that there is scope to expand this to support the recovery of ecological networks.

However, within the project case studies, group 030002 supports by far the largest area supporting this NCI though the total area is still less than 1 km^2 (Figure 88).

Figure 89 to Figure 93 below illustrate the locations of parcels contributing to the Patch size, shape and edge NCI across all five project case studies.

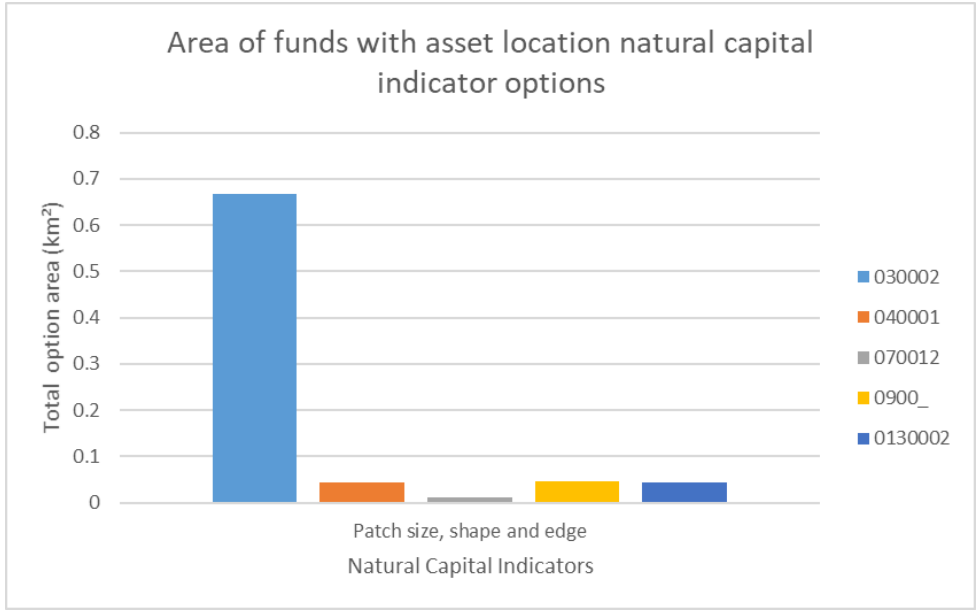


Figure 88: Area under CS options across project case studies which impact Patch size, shape and edge natural capital indicator

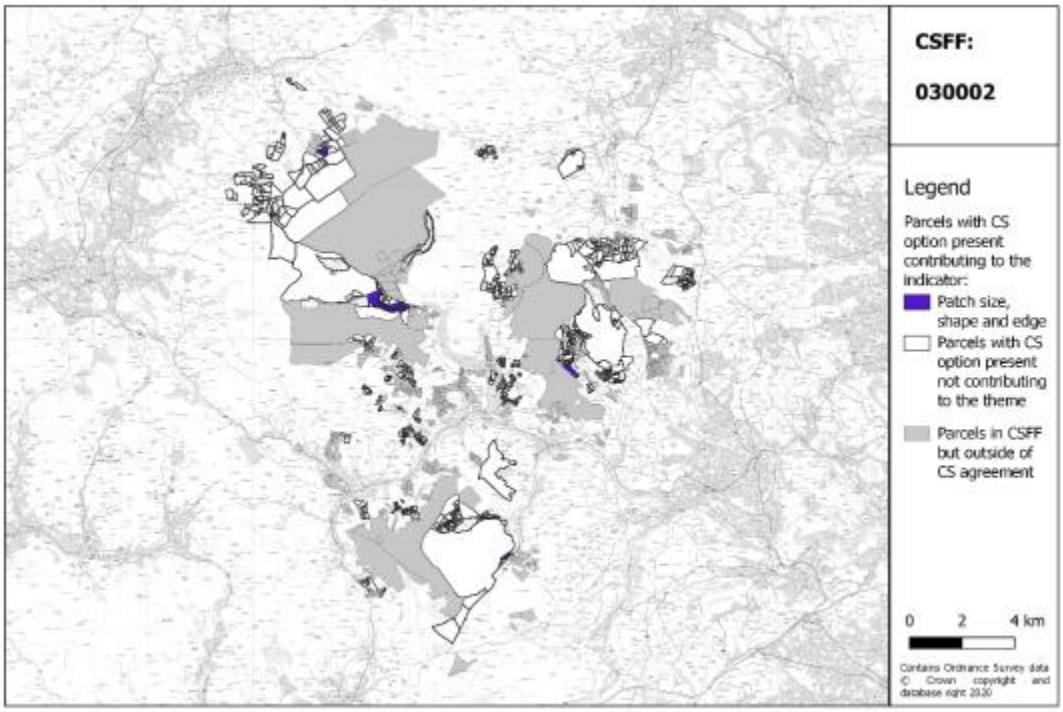


Figure 89: Parcels within CSFF group 030002 with CS options present that contribute to the Patch size, shape and edge NCI

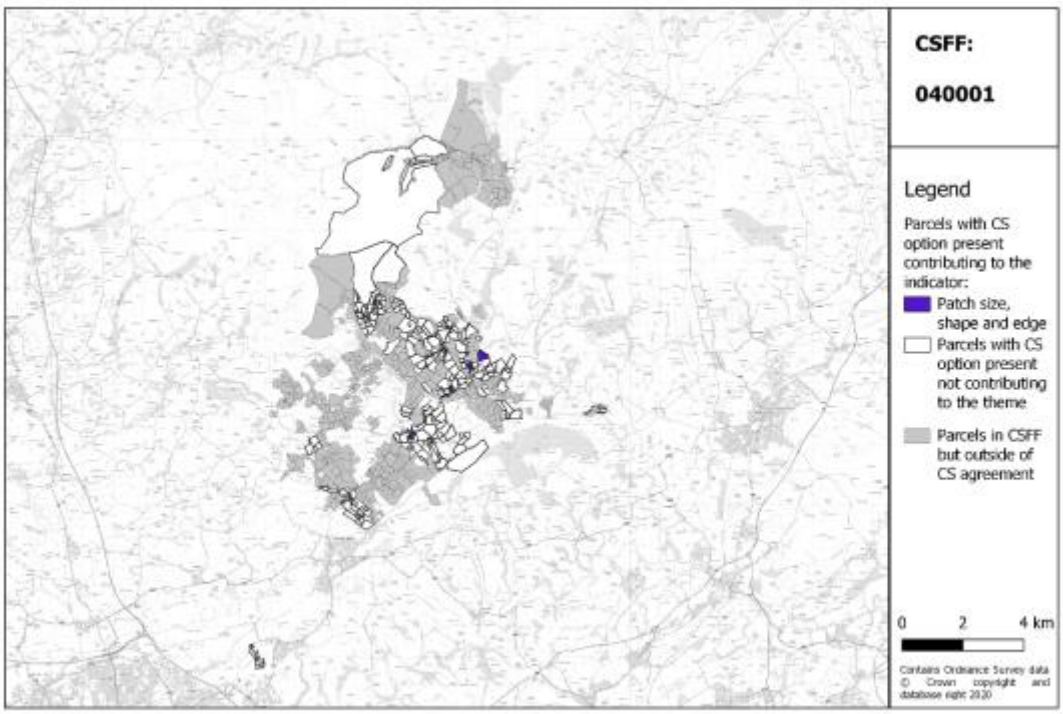


Figure 90: Parcels within CSFF group 040001 with CS options present that contribute to the Patch size, shape and edge NCI

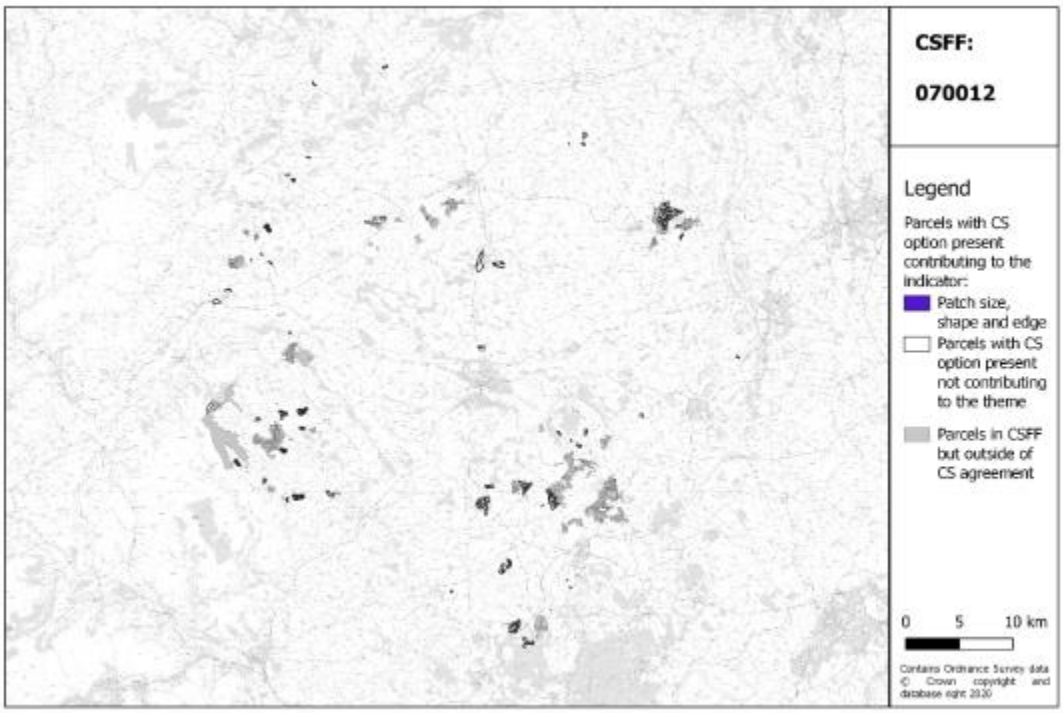


Figure 91: Parcels within CSFF group 070012 with CS options present that contribute to the Patch size, shape and edge NCI

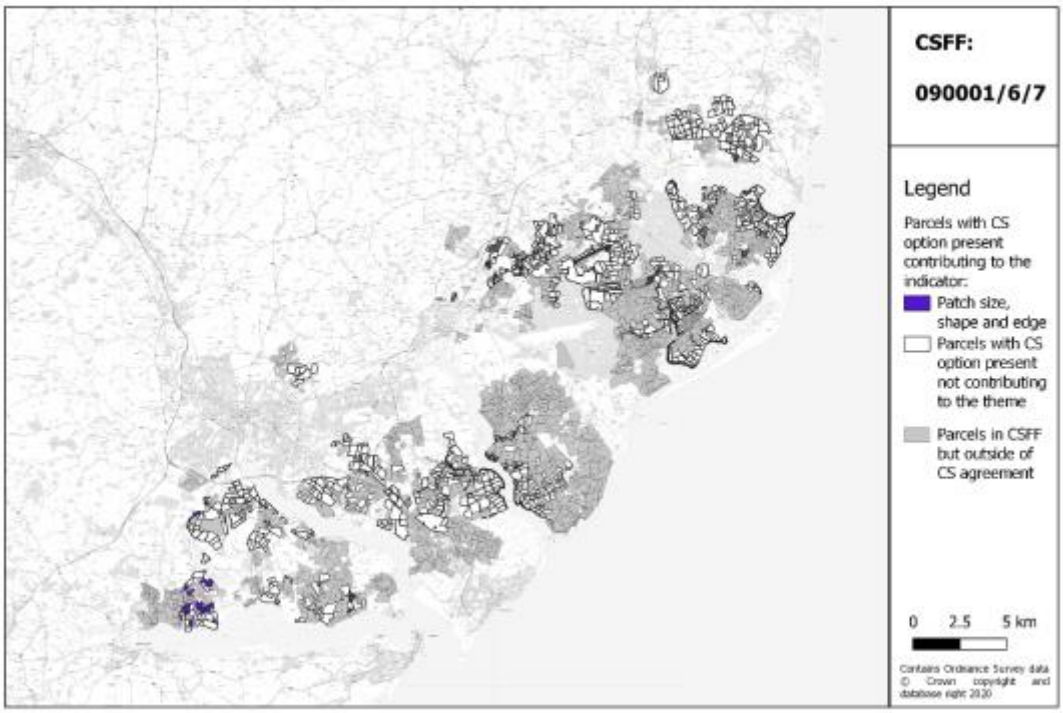


Figure 92: Parcels within CSFF groups 090001/6/7 with CS options present that contribute to the Patch size, shape and edge NCI

Figure 93: Parcels within CSFF group 130002 with CS options present that contribute to the Patch size, shape and edge NCI

7.5 Conclusions

Wigley et al. (2020) undertook a first in-depth assessment of the distribution and condition of valuable natural assets throughout England. Using a range of NCIs, the natural capital atlas details the state of natural capital within England. However, the national scale data presented in the atlas is not sufficiently spatially detailed to allow a derived summary of assets present at the individual Facilitation Fund group scale and to collate the many datasets required to perform such an inventory for the current 98 groups was beyond the scope of this project.

This report therefore provides an assessment of the level of potential positive impact of management activities under CS agreements/options within Facilitation Fund groups on natural capital assets present, both for individual Facilitation Fund groups and at a national scale. Management actions under CS agreements may impact quantity, quality or spatial location aspects of national capital and can maintain, enhance or create national capital.

CS options deliver multiple natural capital benefits but there remains a lack of robust metrics and valuation typologies to value many of these benefits, especially the many aspects of biodiversity addressed by the CS scheme (Breyer et al., 2019).

As outlined in Section 7.1 only the contribution to natural capital established through the link between a selected range of CS options and NCIs (Lusardi et al., 2018) has been taken into account in this project. Individual fund members as well as funds as a whole are very likely contributing considerably further to the maintenance and enhancement of natural capital outside of these limitations but no data are currently available to evidence this.

Sections 7.2– 7.4 detail this contribution within Facilitation Fund groups to the maintenance, enhancement and creation of natural capital through the application of CS option and their impact on individual natural capital indicators under the various habitat categories and indicator themes defined within the quantity, quality and spatial location aspects of natural capital.

Section 7.2 further contains comparisons of the areas covered by appropriate CS options within Facilitation Fund groups and the respective national quantity assets identified by Wigley et al. (2020), demonstrating the proportions of national assets under the various broad habitat categories that are protected and supported within CS agreements on holdings of Facilitation Fund group members.

The Facilitation Fund groups are without question positively contributing to maintaining, enhancing and creating natural capital. The primary mechanism for this is the presence of CS agreements, putting in place management actions that impact positively on natural capital assets, whether they relate to asset quantity, quality or spatial location and hence the recovery of ecological networks.

Appropriate option placement within agreements that aligns with both strategic aims and identified land management issues will optimise natural capital benefits derived from positive management under the CS scheme. Both the phase 2 evaluation (Jones et al., 2019) of the Facilitation Funds and the detailed case study assessment in section 7 of this report found good evidence that, where land managers had active options on their land, overall there is good alignment between group priorities, identified land management issues and option choice within Facilitation Fund groups, and phase 2 of the evaluation further shows that this was often enhanced compared to agreements outside of Facilitation Fund groups. This indicates that the Facilitation Fund approach has an additional positive effect on natural

capital within England, beyond that which would be achieved by individual holdings in isolation.

The most straightforward way to achieve a further net increase or enhancement of natural capital assets within the Facilitation Fund groups would therefore be to increase the number of agri-environment agreements in place, either under the current CS scheme or under ELMS going forward. The support network provided by the Facilitation Fund groups through the facilitator, providing access to guidance, advice and training for landholders as well as a liaison to Natural England strategic policy aims and a peer support group is well set up to achieve this.

Outside of the presence of CS agreements within Facilitation Funds it is highly likely that members already further contribute to the various aspects of natural capital but there is no data available to measure this, though overall contribution is currently likely to be considerably underestimated. Examples of these are the contributions achieved by CSFF groups through additional resources as detailed in Section 6.

Individual Facilitation Fund groups are very varied in nature as a result of the size of the group, business types present amongst members, and the uptake of CS agreements within groups. Additionally, their regional location within England determines the presence of common habitats and natural resources contributing to natural capital asset stocks, local land management priorities and also specific option uptake. There is a good geographical spread of groups across England. Groups are diverse with some being farmer led, some led by NGOs/land agents, and some within National Parks/AONBs.

A key question for the application of NCIs to Facilitation Funds was how different types of group working or partnership approaches affect the choice of CS options and the resultant delivery of natural capital outcomes.

Whilst the diverse group characteristics described above will influence the natural capital benefits that are achieved by individual groups, it is not currently possible to determine the causality of these diverse group characteristics as to their level of impact.

As demonstrated above, there are pronounced differences between the individual Facilitation Fund groups and their contribution to the many different aspects of national capital but this is predominantly a result of the different underlying landscapes and presence or absence of specific habitats, which primarily determine individual option uptake locally and the area under CS agreement within each group.

The interviews with individual facilitators (Section 5.3) undertaken as part of this project found some evidence of awareness of natural capital by selected facilitators but this was not widespread and strongly dependent on the individual's background and knowledge.

Section 5.4 identified training events on natural capital amongst those most popular by group members, indicating a willingness to increase capacity to engage and deliver under a national capital approach.

7.6 Suggestions going forward

Suggested next steps to further develop and optimise the benefits of a natural capital approach within Facilitation Fund groups integrated within agri-environment schemes are as follows:

- Increase the proportion of Facilitation Fund members that enter agri-environment agreements either under CS or ELMS going forward to maximise positive land management that maintains, enhances and creates national capital assets.
- Identify and record other local actions that increase natural capital and develop a way to measure this.
- Individual Facilitation Fund groups do not currently measure natural capital asset stocks per se. It would be very useful to create a baseline for each holding within the groups to contribute to national assessments of natural capital and to develop a starting point upon which to build a comprehensive natural capital evidence base to support decision making.
- Initial asset condition has a considerable effect on the uplift of benefit and value through the application of appropriate management options and should be included in any baseline assessment of asset stocks.
- The spatial configuration of assets in the landscape and relative to other features plays a very large part in how many ecosystem services are delivered, and therefore their contribution to overall natural capital asset stocks. Collecting spatial detail on the location and landscape context of actions/outcomes would contribute to the ability to accurately assess levels of natural capital and the status of ecological networks.
- Such an assessment could be integrated in the creation of farm environment plans or similar mapping efforts when holdings enter AES agreements. Data used in the collation of the natural capital atlas could be re-examined to establish if it is of a suitable scale/granularity to allow an assessment of individual assets at the holding or Facilitation Fund group scale.
- Good knowledge of baseline natural capital assets present and management actions already in place that support these would enable the integration of a natural capital approach as part of future schemes and enable a focus on preserving and enhancing the assets that provide multiple services and benefits.

8. Apply and update the monitoring framework across all groups

This section of the report sets out the approach to the requirements of Task 1, To apply and update the monitoring framework across all groups.

This task builds on the work undertaken for the Phase 2 evaluation. The Phase 2 report aimed to evaluate the success of the CSFF by developing an Evaluation Framework which enables monitoring of both quantitative and social capital outcomes. Specifically, it aimed to review and test the proposed framework and its indicators; analyse AES option uptake regarding alignment with CS priorities, water quality and flood risk and biodiversity; explore the socio-economic impacts of the fund; and develop case studies that will provide greater detail.

8.1 Scope of the work

Task 1 required the receipt and organising of existing data for 98 farm facilitation groups and to identify any evidence gaps based on the monitoring and evaluation framework provided. The intention was to identify and obtain the required information to fill any data gaps. The data for review was intended to include all new updates from January 2019 as applied to the existing 98 groups.

There was an intention to analyse data from the approximate 40 new groups joining the scheme in January 2020; however, it became clear in early 2020 that the Rural Payments Agency were not able to provide the data for the 40 new groups within the project timeframe.

This stage of the work has been defined by the management and organisation of data provided, the data quality and availability.

The first stage in completing Task 1 centred around the review of the evaluation framework provided. The evaluation framework was provided at tender stage to inform the project methodology. In January 2020 the information from the Phase 2 evaluation (undertaken in 2019), and additional commentary on the evaluation framework from this stage of work became available. This included observations on data availability and the scope of the evaluation framework. Further detail is provided in relation to the commentary on the evaluation framework in Section 8.4.

Following project appointment, it became apparent that there were significant issues with data collection and management processes, and data availability. Due to the data limitations the review of the evaluation framework became a more significant element of the project task than the analysis of the data.

Task 1 required addressing the following questions:

- Can the framework be applied to all/new groups?
- Which methods of delivery work well and which do not work so well?
- Can links be made between facilitation and outcomes/priorities?
- What are the limitations of the framework i.e. what can we not be sure of/what is not captured (questions around causality and reliability)?

In relation to the questions above, the revised framework is intended to be applicable to all groups. No data was available on the new groups within the project timeframe; thus, it was not possible to identify the applicability of the framework to new groups and the data associated with them. However, the key challenge for the revised framework is that it is reliant

on accurate and consistent data collection. The revised evaluation framework also identifies where the indicators are reliant on qualitative data collection through case studies and suggests amendments to existing data gathering mechanisms to allow this data to be collected in the future.

The second question, 'Which methods of delivery work well and not so well?' has been superseded by the data challenges and revisions to the framework and remains to be addressed through future cycles of monitoring and evaluation.

The third question 'Can links be made between facilitation and outcomes/priorities?' has been informed by data analysis. The majority of training and events are identified as reflecting group priorities. There is some indication that the average number of CS options per group member is slightly lower for larger groups. The alignment of group training and CS options is generally good, with greater alignment identified for larger groups (> 51 members).

The final question around the limitations of the framework is addressed by the revised framework itself, which sought to remove indicators without data to support them and to identify indicators where qualitative information should be collected.

Section 8.3 explores these questions in detail.

8.2 Data issues

Data issues were identified for the Phase 2 evaluation and were also relevant for the Phase 3 evaluation. Issues identified at Phase 2 are included for context, and this is followed by a summary of the issues at Phase 3.

Phase 2

The Phase 2 evaluation identified and recorded the following data issues/gaps:

- Data gaps relating to facilitator, events and group priorities. Specifically, a change of the facilitator is not always recorded. Group priorities were also difficult to determine because groups often included all priorities on their application forms. As a result, it is also difficult to determine whether a group has achieved an outcome.
- The report identified discrepancy in relation to events data collection. There was no clear definition of what an event is and therefore it had different meanings to each facilitator. Moreover, there were differences in how the numbers of attendees were recorded. Some facilitators would record the total number of people that attended an event, that would include both group members and the general public. Others would only include the group members in their calculations.
- It would be beneficial if all groups followed a more consistent format of reporting.
- There are some wider data issues, which include defining the boundaries of CSFF areas and dealing with multiple group objectives;
- The Phase 2 report has been useful in highlighting a number of data capture issues as well as suggesting potential methods to address them in monitoring and evaluation in the future. The report makes a range of suggestions for the future in terms of general data collection and the utilisation of the framework by stating that:

- It may be too early to be able to assess the scale of demand or the make-up of groups;
- Activities funded by CSFF seem to be well-targeted, however, it is an early stage; hence it is difficult to prove any outcomes;
- Many of the anticipated environmental outcomes will take time to realise; hence, intermediate indicators should to be used to judge current progress and direction of travel towards ultimate outcomes;
- To distinguish the effect of the CSFF from other influences, some form of counterfactual analysis is desirable;
- Evaluation needs to be efficient and proportionate;
- In terms of suggestions going forward, considering that boundaries are not always clear, it may be helpful to retain the distinction between inputs and activities (funding and facilitator expertise are inputs, but support and training are activities);
- This evaluation framework does not really enable exploration of the conditionality of causal linkages upon local circumstances (i.e. the speed and effectiveness with which facilitated group forms and delivers change may very across groups because of varying degrees of prior familiarity between group members) leading to differences in observed outputs and results from apparently similar inputs;
- The assumed link between inputs to outputs hugely depends upon the presence of inputs but also their quality in terms of the appropriateness of training events and conduct of group meetings;
- There is not much consideration given to the likely required duration of support or the likelihood of groups becoming self-sustaining or requiring ongoing support
- Whilst impact indicators are of ultimate interest, attention must be given to more immediately available measures of inputs, outputs and results because time lags mean that CSFF has not been in place for long enough to yield long-term positive environmental changes;
- Future research should investigate the inter-relationship between woodland targeting priorities to further explore the level of spatial and option overlap as these options are chose by only 50 – 75% of members, and improve on the analysis of designated sites targeting. It may be achieved by utilising SSSI or NIA priority along with the priority habitat target layers to confirm that the appropriate option for the habitat is present;
- Finally, the high-level analysis indicates that CSFF agreements tend to be more diverse with a greater mix of options than agreements outside of Facilitation Fund groups.

Phase 3 data issues

Key to the data issues is ownership and access. The Rural Payments Agency own the data and all relevant data needs to be collated in an appropriate format and shared with Natural England in a timely manner to inform monitoring and evaluation. The data is based on the Master Spreadsheet (currently named Master SBI) which is a source document that collates the details of each group, details its members and time/quarter of

joining, budget/spend, agreement start and finish date, actual holding of group member (requires SBI with name/associates names and contract ID) and up to date CS/AES Agreement detail. Delays in provision of CS/AES data from RPA have limited the extent of analysis possible during this phase to inform the M&E to its full possible extent.

The following issues were identified with the final dataset provided for Phase 3 to form the basis of analysis for 2019 data:

- The combined data is sourced from at least three different datasets, each dataset uses different headings for the same attributes. It would be useful to use consistent vocabulary throughout all data collection for clarity.
- Group member names are not consistently recorded in different data sources. This required cross checking of group members with their contract ID. It would be helpful if group member names were recorded in a consistent format.
- Contract ID number is not consistently recorded in the same format in the data sources. This can only be clarified by cross checking with the organization name; however, this process is very time consuming. It would be helpful if contract ID is recorded in a consistent format.
- The dataset does not include information on when an individual joined a group. Some of the information can be compared against the Master SBI dataset; however, not all information about members is up-to-date. Due to the inconsistency of the datasets it would be problematic to use software to perform this cross-checking task, as there may potentially be a significant number of errors. This task demanded manual checking which is very time consuming. Data should be collected in the recording period of when each member joins a group.
- Data in the Master Spreadsheet needs to be updated each quarter to account for new group members, actual quarterly spend, any increase in budget, and any other modification/amendments through the lifetime of the agreement.
- Difficulties of identifying actual group member holding from SBI alone hinders locating actual holding of group member. SBI and holding reference of group member required.
- There are differences between what information has been recorded by previous datasets and the current dataset. Additionally, the attributes have changed over time and there is no clarity on these changes. This presents challenges to interpreting the available data which could lead to biased results. Changes in data collection should be recorded and made available to inform future analysis.
- The Phase 2 report was unable to set a baseline for many of the indicators from the evaluation framework. The Phase 3 report could not establish a baseline for comparison of analysis due to the lack of data. A clear baseline, with clearly defined parameters should be established for future monitoring.

8.3 Evolution of the evaluation framework

This section of the report outlines the evolution of the evaluation framework, reflecting discussions on the scope and interpretation of the evaluation framework.

What is a successful CSFF group?

A recurring theme from the evolution of the evaluation framework was the requirement for the evaluation to identify correlations between the indicator variables and 'success' of the group. This led to the need to define what success looks like for evaluation going forward. This was identified as reflecting the baseline for indicator CON_01, uptake of CS options and alignment with group priorities:

- whether the investment in facilitation has delivered the anticipated outcomes of more effective delivery of CS with more spatial coherence at the landscape scale;
- whether up-skilling of group members and combined cooperation over several land holdings has led to additional delivery compared to what can be achieved at the holding scale; and
- whether the benefits from supporting groups of farmers / land managers to cooperate at landscape scale justifies the additional costs of facilitation.

The following paragraphs outline the scope, data requirements and data issues, Phase 2 findings and recommended approach to analysis for each indicator. The indicators that are recommended for inclusion for future monitoring are listed below. This is followed by a summary of indicators which require future survey or case study work. The final list is of indicators which have been removed from the monitoring framework due to overlap with existing indicators.

Indicator CON_01: Alignment of CS and ES options with CSFF group priorities

The original scope of this indicator was to gather information on the baseline CS and ES agreement profile for group members at group formation. Understanding existing CS and ES agreements provides a baseline against which option choice following group formation is aligned to the group priorities.

This requires data to be gathered on CS and ES held by members at group formation (to provide a baseline) and a comparison of the alignment with the group priorities. Group priorities should be informed by the NCA priorities.

Following the establishment of a baseline, CS options can be compared to group priorities at any subsequent time after group formation. The difference between the baseline alignment of options and the subsequent alignment of options should demonstrate the effectiveness of the group.

A key issue for this approach is that group priorities are very broad and by default all options are likely to align. Investigation of the role of the Countryside Stewardship Targeting and Scoring data was identified as a way to provide more detail for this analysis. Targeting information is available as spatial data through magic.gov.uk. This identifies if a priority for an area is high, medium or low. Alignment of option uptake with targeting information will demonstrate effectiveness of the group.

Data required and data issues

Data is not available on the option choice within the historic CS and ES agreements, only on the existence of agreements. This means that it is not possible to establish the baseline of

option choice at group formation. Option choice data is available for the options taken by group members going forward. This indicator is therefore testing the alignment of the new CS options with the group priorities.

It was not possible to explore spatial data on targeting and spatial data on options during this phase of analysis due to the data issues with the 2019 dataset.

Summary of Phase 2 findings

The report concluded that the uptake of AES options seems high, but that it could potentially be higher. One explanation suggested it was the complexity of CS that was discouraging for some. Limitations to the landscape-scale implementation of AES in relation to group priorities were also highlighted.

Approach to analysis for Phase 3 and Phase 3 findings (and data limitations)

The analysis of the data from 2019 (limited new data which does not represent the full period) indicate that there were 27 new group members joining CSFF groups. On average that is 0.27 members per group. Only 10 out of 27 new group members had CS options in place before joining the group. In total, the 10 new group members have had 743 CS options, however the distribution of the options taken up by the members varied significantly from as little as 4 to as much as 125 per member. The majority of the CS options will expire in 2022 with an exception of one that lasts until 2026.

In 2019, there were 6,546 new CS options taken either by old and/or new group members. The agreements are for a duration of 5 or 10 years.

Data limitations

Due to the structure of the current data, it is unclear if it includes information on what CS options new group members had in place before joining. It was not possible to analyse the type of option and alignment to group priorities.

Recommended Methodology for future monitoring of CON_01 and data required

A master list of all CS options and their relationship to each priority is required. Some options relate to several priorities e.g. an option may contribute to both water management and biodiversity priorities. Targeting potentially offers a greater opportunity to relate CS options to priorities in a geographic area. This would require matching the spatial distribution of options against the data on targeting using the existing spatial datasets (targeting data on magic.gov.uk).

Suggestions

- Establish the data to link a target to a specific, relevant CS option;
- Establish the data to link a group priority to a CS option;
- Collect consistent data on all group member CS options;
- Analyse option alignment with targets/group priorities to establish baseline for the group;
- Repeat the exercise at periodic or yearly intervals.

Indicator CON_02: Alignment between group priorities, training and activities

The original scope of this indicator was to review alignment between group priorities, training and activities or events. Positive alignment will demonstrate the effectiveness of the group. It is also important to consider the overall relationship of training and events for example, how specific topics relate to the wider group priorities. It was noted that some training and events are very specific and it is therefore important to relate these to the broader priorities.

Data required and data issues

Data is required on the occurrence and topics of training, activities and events undertaken by the group. This is recorded by facilitators and included in annual reports. The topics of training, activities and events need to be linked to group priority topic areas.

Recommendation

Facilitators should be given guidance on what to record as an event and be asked to record the group priority to which the training relates in their annual reporting. This can then be collated in the data for all groups. This should be collated on an annual basis following submission of annual reports.

Summary of Phase 2 findings

Phase 2 gathered information on the types and formats of events but not the topics.

Approach to analysis for Phase 3 and Phase 3 findings (and data limitations)

Data on training and activities for the additional period to end of 2019 for the Phase 3 analysis was not available.

Recommended Methodology for future monitoring of CON_01 and Data required

Data on group training, activities and events needs to be collected to provide a master list of all activities undertaken against each priority. Facilitators should be told what to record as an event/training. Training events should be categorised by topic to facilitate future data collection and analysis.

Analysis for each group should compare a percentage of the total number of events by topic for each priority. Training, events and activities for a particular group may be focused on a particular topic or more evenly distributed. This may reflect the knowledge and experience of the group and a group of themed activities in one year may be replaced by another theme subsequently.

Future case study analysis would allow exploration of the reasons behind a group focus on different topics.

Indicator IN_01: Group funding

This indicator was originally intended to identify whether the funding the group receives is proportionate to the outputs or results. Information on group funding is routinely recorded. Assessment of proportionality to outputs or results would be based on very detailed group information potentially at a case study scale, and it was agreed that this should not be pursued as part of the Phase 3 evaluation.

It was subsequently identified that this indicator could explore attendance at events, in order to establish the reach of the training and events being held, and to measure if this is proportionate to group funding.

Challenges with current data collection (also noted at Phase 2 evaluation) include that current data on attendance at events only records the total number of attendees and does not specify whether these are members or non-members. This is further complicated by the possibility of a group member sending a family member in their place.

Data required and data issues

- Data on funding per group and group membership is recorded in 'Master SBI';
- Data is required on attendance at events and differentiation between member and non-member attendance.

Recommendation

Attendance sheets at events should record both members and non-members, and this should be reported by facilitators in their annual reports.

Summary of Phase 2 findings

Funding per member tended to be greater for smaller groups (c. <15-20 members). This suggests that larger groups are more cost effective, however outcomes relating to agreement-level activity may be better for smaller groups. For example, feedback from the facilitator survey indicated that training was considered more effective when engaging smaller groups.

This raises the question of whether larger groups simply benefit from economies of scale e.g. more members per training session, and whether the measure of 'success' should be alignment of outcomes with priorities.

Recommended Methodology for future monitoring of IN_01 and data required

Future monitoring of this indicator should measure group funding per member against member attendance figures at events. This is based on the premise that event attendance results in better outcomes for the group.

Suggestions

- Continue to record funding per group and total group membership to allow calculation of funding per member.
- Calculate group funding cost per member per event. This can be calculated by dividing the number of members attending events over a year by the funding per member.

Indicator IN_02: Facilitator expertise

This indicator was intended to identify how the group facilitator expertise influences the group activities and outputs. This can be measured through how the facilitator expertise influences training events and activities held for group, and ultimately option uptake.

Data required and data issues

A key issue for this indicator is that facilitator expertise is recorded as open text and is not categorised by priorities. Therefore, extracting information on facilitator expertise would require detailed analysis of each application form in order to collate the required data.

A second issue is that group facilitators change over time and this may influence group activities. Data on facilitator expertise is recorded on the group application form, and data may not be updated with the new facilitator expertise. A facilitator with different experience could change the focus of activities within a group. It is also acknowledged that group facilitators will draw in skills from external sources as required, to supplement their own skill set.

Summary of Phase 2 findings

The report concluded that most facilitators had considerable experience in high level elements of the role; however, they demonstrate less expertise in specific environmental objectives.

The proportion of facilitators with at least some experience of each objective broadly matched the proportion of groups with those objectives as stated priorities except for water management, where 18% of facilitators had no relevant experience, whereas 92% of groups had specific outcomes around water management. However, there is scope for external input from other organisations on this topic.

Recommended Methodology for future monitoring of IN_02

This indicator requires the data from analysis for CON_01 which provides analysis of option choice data, and their relationship to group priorities and targeting. This data will illustrate the level of option uptake against each group priority.

For this indicator the next step is to collect and organise data on facilitator expertise, categorised against the group priorities. Once this data is available in this format, this can be used to analyse the correlation between option uptake, priorities and facilitator expertise.

Suggestions

- Amend the application form to capture data on facilitator expertise by category related to the priorities, and not just a list of their expertise. This information currently requires interpretation before it can be collated and any analysis can be undertaken.
- Record changes in facilitator and their expertise on an annual basis. This provides a new baseline for future analysis for the group.

Indicator AC_03: Partnership working

This indicator is intended to identify the range, number and relevance of other organisations involved in a group, and secondly how these have affected the success of the group.

Data required and data issues

This indicator is dependent on the collection of information on partnership working. It was anticipated that this data would be captured in group reports, application forms and through case study work. Application forms include a yes/no question on whether the application is being made in partnership with others, and includes space for open text for the details of the partnership.

- This data needs to be recorded as categories on application forms to allow analysis.

Summary of Phase 2 findings

The Phase 2 report does not analyse partnership working. The Phase 2 report noted that the online survey included a key question on maintaining links with other organisations/initiatives (e.g. Catchment Partnerships, NIAs, National Parks, AONBs), but no analysis is provided.
The Phase 2 report referred to the role external organisations, such as Natural England, SAC, CLA, and RSPB in attending group meetings and workshops and influencing option uptake, but not in terms of partnership working.

Summary of Phase 2 suggestions for the indicator

Routine reporting will record if events or joint working have occurred, but not necessarily the detail of what took place. Further feedback would be required from group members. Case studies are more likely to deliver this information in the short-term.

Recommended Methodology for future monitoring of AC_03

Monitoring of this indicator can be taken forward by case study analysis. Alternatively, this can be taken forward through changes to the application form to allow routine collection of data on partnership working. Case study analysis could be based on facilitator survey in combination with analysis of application forms and annual reports.

Indicator OU_01a: Group agreements/group type

This indicator was originally intended to record the existence of a group agreement in order to understand how group operation and processes affect the success of the group (success being measured in terms of recruitment and environmental benefits. The application process requires a group agreement; therefore the existence of a group agreement does not provide any additional information on the group.

The Phase 2 report undertook case study analysis in order to cover issues related to group type.

Data required and data issues

The '*data collection template*' includes information on the type of current facilitator organisation. However, there was a lack of clarity on the range of time this data set represented, and whether it included additional data for 2019. Not all group information on training and events was up to date in this dataset and the most recent facilitator change was only recorded as February 2019. Therefore, it was not possible to be sure that this dataset provided any information additional to the Phase 2 analysis. There was also a lack of consistent recording of facilitator type in the spreadsheet. This was recorded through free text, and did not employ the more consistent option of offering a choice of defined categories from a list.

Summary of Phase 2 findings

The Phase 2 report noted that group agreements often did not include much detail. They are a requirement at application and include a conflict resolution section. The conclusions for the indicator noted that existence of a Group Agreement is a simple indicator, but judging success will require additional information.

The Phase 2 report facilitator survey and interviews included findings on group type. This included findings that farm led and bottom up approaches to groups had social benefits for group members.

Recommended Methodology for future monitoring of OU_01a

In order to identify how group type influences the success of a group (unless undertaking case study analysis) the following changes to data recording and collection are required:

- The application form should record facilitator type using defined categories on the application form (free text can also be included for any additional information). This will allow consistent recording of this data for future analysis.
- As required for other indicators, the definition of 'success' of a group needs to be agreed. Group type can then be correlated against relative success.

Indicator OU_02: Growth in membership

This indicator looks at growth in membership over time. Group membership is recorded in the 'Master SBI' and is populated from annual reports.

As outlined in the Phase 2 report findings, it is likely that there is a maximum beneficial group size. This could be tested by measuring group size against the 'success' of a group.

Data required and data issues

The data in the Master SBI did not include the full 2019 data, thus it does not illustrate the most up to date data on group membership. Therefore, the Phase 3 analysis was not able to add any information on this indicator due to lack of additional data.

Summary of Phase 2 findings

It was suggested that mean group size has increased from 19 to 27 over the course of the FF existence. Groups which had been in the FF longest experienced the most significant increase in the group member numbers. Generally, small groups at formation experienced more significant increases in members, whilst the opposite happened to groups which were larger at their formation. The Phase 2 report findings have also suggested that most groups did not exceed 40 members which is probably associated with the FF model and its aims to develop collaboration, and that larger groups may be more likely to lose the ability to foster relationships between members.

Recommended Methodology for future monitoring of OU_02

As outlined in relation to other indicators, it is necessary to define a measure of group 'success' against which other variables such as growth in membership can be measured.

Suggestions

- Ensure up to date data on changes in membership are recorded and collected.
- Define a measure of 'success' against which growth in membership can be measured.

Indicator OU_03: Endorsed agreements/quantity of option uptake

The original metric for this indicator was the endorsement of applications and their success. Endorsement is a requirement to access certain options.

Data required and data issues

Data is no longer routinely collected on endorsement or support for applications, and data was collected through Phase 2 as part of the facilitator survey.

Data on the quantity (hectare, number or length) related to option uptake for 2019 was collated (with data limitations). It has not been possible to analyse this data in the project timescales to date.

Summary of Phase 2 findings

In relation to endorsement, Phase 2 found that a third of groups (34%) reported that most members were helped through the provision of endorsement.

The Phase 2 report also examined facilitator support to group members with CS applications. This found that the majority (54%) of groups did not provide extensive input into CS applications, 15% reported providing extensive input into CS applications for most members and 31% reported extensive input in CS applications to some of their group members.

The online survey respondents were also asked to provide details on how they helped CS applications. The most common response received from facilitators for this question was that there were more CS applications submitted due to the support that group members received through being part of a group.

Recommended Methodology for future monitoring of OU_03

This indicator should be taken forward to measure the quantity, area or length of option deployment. This information can be collated for each group which would provide figures for each option. This would require baseline data to be collected for each group to allow future comparison of change. This would demonstrate which options were experiencing different levels of growth in a group area. Case study analysis could explore the reasons for this.

Suggestions

- Collate baseline data on metric associated with option uptake for each group;
- Measure change over time by comparison with data at periodic yearly intervals.

Indicator OU_04: Training and advice delivered

This indicator aims to collect information on the type of training and advice delivered, the number of events delivered and the attendance levels.

Data required and data issues

Data is required on the type of event and attendance. The 'Data collection template' includes data from each claim quarter on number, type, topic and attendance at events.

Data issues include:

- The data on events is not up to date, and the majority of groups include limited data beyond the first or second year of the group.
- The data is not organised to allow analysis of topics covered at events. This is recorded as free text and does not utilise categories and drop-down boxes.
- In records of event attendance, there is no distinction between attendees who are members of the group, and those who are non-members.

Summary of Phase 2 findings

The most common types of training events were: field trips, indoor workshops/talks and general group meetings. As outlined previously, the topic of training events was not analysed at Phase 2.

Recommended Methodology for future monitoring of OU_04

More detailed analysis of this indicator would require feedback from attendees on whether they have gained any knowledge from the training, which could be recorded through case study work.

- Facilitators should be asked to record attendance at events in terms of group members and non-members;
- Facilitators should be asked to tabulate information on group events and to record the topics of events by defined categories. Categories for event topics should be defined by review and testing of existing data in 'Data collection template'. This would facilitate future information gathering and analysis;
- Data relating to events should be collated annually.

Indicator IM_01: Environmental outcomes

Following on from Phase 2 the RS_01 indicator was re-framed to compare option uptake and alignment in FF and non-FF areas; however, these overlap with the original scope of IM_01 which was to look at the enhanced environmental outcomes of CS options and other activities in facilitated and non-facilitated areas.

Data requirements and data issues

Due the delays with receiving the 2019 data, analysis was not undertaken for Phase 3.

In terms of data requirements comparable non-FF areas need to be identified and the comparison areas need to record data on the quantity and diversity of CS options within the areas.

Summary of Phase 2 findings

Phase 2 undertook desk-based assessment of AES uptake within and outside the Facilitation Fund. Indicators were used to assess the potential results and impacts relating to the alignment of options with CS targeting and potential landscape scale impacts. This analysis was supplemented by evidence from the facilitator and land manager surveys. However, it was beyond the scope of this study to assess actual environmental outcomes.

The Phase 2 findings suggested that option richness and option diversity were significantly greater in facilitated agreements and that they were more complex. However, the drivers for these differences were unclear. Agreement holders inside and outside of the groups behave similarly with respect to the operational aspects of the scheme.

Phase 2 also noted that time-lags between changing land management and demonstrable change in environmental conditions mean that not all impacts will yet have had time to materialise (even if land management has changed). It also identified that comparisons with non-FF areas will be hampered by difficulties in controlling for variation in a wide range of variables.

Recommended Methodology for future monitoring of IM_01

This indicator should measure whether option uptake is of greater quantity and more closely aligned to area targeting in FF agreement areas compared to non-FF agreement areas. A data-based approach to identifying comparable areas should be established. This should include areas within the same NCA and with similar local characteristics in terms of agricultural land classification and targeting.

Indicators requiring data collection from future survey or case study work

Indicator IN_03: Group expertise

This indicator was intended to collect data on the range of prior experience or expertise offered by group members. The purpose of this indicator is to identify whether the prior experience of the group members has helped with group formation and dynamics, and the ultimate success of the group.

Data issues

There is no mechanism to collect data on group expertise other than through survey or case study work.

Summary of Phase 2 findings

The Phase 2 report identified that this information would possibly be collated from application forms, but that it probably requires case study analysis to explore fully.

Conclusions for IN_03

Phase 3 work confirms that the application form does not provide a field to capture group expertise. This indicator could be monitored through case study analysis but would require participation of all group members or detailed knowledge of all group members by the facilitator.

Indicator IN_04: Baseline group familiarity

This indicator is intended to establish whether group familiarity prior to group formation had a positive or negative effect on group formation or dynamics.

Data issues

Baseline group familiarity can be established from a detailed survey of facilitators or group members, or case study work, but this is not part of routine data collection.

Summary of Phase 2 findings

This identified that the indicator probably requires case study analysis to explore.

Conclusions for IN_04

Phase 3 confirms that future survey or case study survey work would be required to monitor baseline group familiarity of established groups. Alternatively, this could be an additional requirement to be recorded in annual reports. For new groups this could be included as a question on the application form.

Indicator OU_05: Partnership activities

This indicator records the extent to which the group has engaged with wider community actions. It was anticipated that the data for these activities would be collated from group reports, evaluation forms, and survey of facilitators.

Summary of Phase 2 findings

Counts of engagement events will confirm events that have taken place and attendance will confirm follow through on some plans or targets. Information on quality of engagement will require surveys or case-studies.

Conclusions for OU_05

This indicator could identify group links to wider initiatives; however, this information is not routinely collected. Collating data for this indicator would require a facilitator survey to be carried out. This could form part of any future survey of the CSFF groups. AC_03 also collates information on partnership working which provides information on other activities from the groups. Adding the requirement to record this information on annual reports would also provide baseline data for this indicator.

Indicator RS_03: Land manager attitudes, awareness and capacity

This indicator is intended to measure changes in land manager attitudes, awareness and capacity to carry out land management activities. As outlined at Phase 2, the data for this indicator is to be gathered from an attitudinal survey of land managers and online survey of facilitators (see Section 5 for more detail). It would be worthwhile to consider to add a baseline attitudinal survey of new group members going forward to determine attitudinal changes over time.

Summary of Phase 2 findings

The facilitation role has reportedly been important in providing support and guidance, which leads to the increased confidence of members. With facilitators arranging events, driving projects forward and leading delivery, group members were able to partake in working towards environmental outcomes that would not be achieved without the Facilitation Fund.

Conclusions for RS_03

This indicator can only be populated from survey and case study work. Based on the findings from the facilitator survey, this identified that the CSFF has been seen as building social networks and improving knowledge sharing. Four facilitators mentioned the most important outcome was getting their members to understand what is happening at a landscape or

catchment scale and increasing connectivity for species and habitats. This indicates the positive role of the CSFF in supporting changes in land manager attitudes, awareness and capacity. It is suggested to carry out baseline attitudinal surveys of new groups/new members and reoccurring surveys to measure changes taking place over time.

Indicator IM_02: Social and economic impacts of CSFF activities

IM_02 is intended to measure the social and economic impacts of CSFF activities including expenditure at a local scale, and social impacts of the CSFF such as well-being and information sharing.

Summary of Phase 2 findings

There is an interest in the wider value of CSFF, beyond supporting uptake of CS agreements which are well-aligned to local priorities. This relates to the potential social and economic benefits of collaborative engagement and links to wider initiatives through partnership working. The group documentation highlights a number of activities across groups which should deliver on this, but actual data is limited and more work is necessary to consider how best to capture such impacts in a robust way. Evidence of wider socio-economic effects is unlikely to be apparent from secondary data, so case studies or surveys will be required.

As outlined in the findings from Phase 2, this indicator is reliant on qualitative data obtained from case studies or surveys (see section 6).
It was also indicated that relevant information would be found within the group annual reports. Annual reports for 2019 were not available to inform Phase 3. Review of a sample of previous annual reports did not identify clear reporting of social and economic impacts.

Conclusions for IM_02

The enhanced social and economic benefits of CSFF can be monitored through case study analysis. This could be undertaken as part of a more detailed review at set future dates and based on the set of questions used at Phase 3.

Indicators which are removed from the monitoring framework

Indicator AC_01: Number of applications

This indicator relates to the number of CS applications within a group. However, this is already recorded by CON_01.

Summary of Phase 2 findings

The number of applications submitted is a measure of activity, although this may be subject to cyclical timing i.e. an applicant may have to wait for existing agreements to expire.

Conclusions for AC_01

This indicator is duplicated with CON_01 and can be removed.

Indicator AC_02: Training and events

This indicator identifies whether the expertise, knowledge, training or advice provided has influenced the activities and outputs within the area. This information is also recorded under OU_04.

Summary of Phase 2 findings

Routine reporting will identify if events have occurred, but not indicate quality or influence. This will require more detail on the content of events but also feedback as to relevance, for example. Ideally, feedback will also be sought after some time has elapsed to check if group members have actually acted on anything learnt such as through changing their management strategies. Case-studies are more likely to deliver this information in the short-term.

Conclusions for AC_02

This indicator is duplicated with OU_04 and can be removed.

Indicator OU_1b: Facilitation Plan

This indicator records the presence of a facilitation plan for the group, something which is a requirement for the CSFF process. This plan ensures that there is fit with the group priorities and the NCA priorities.

Summary of Phase 2 findings

Existence of a plan is a simple indicator, but criteria imply the need to compare content with other information and to offer judgement on quality and relevance.

Conclusions for OU_01b

This indicator does not provide additional material for analysis as it is a requirement, and the content of CON_01 provides further analysis of targeting. Indicator OU_01b can therefore be removed.

Indicator RS_01: Land manager attitudes, awareness and capacity

This indicator was originally intended to link endorsed agreements in FF compared to non-FF areas. As previously discussed, endorsement is no longer being recorded due to inconsistent reporting.

Following on from Phase 2 this indicator was re-framed to compare option uptake and alignment in FF and non-FF areas, however this overlaps with IM_01.

Summary of Phase 2 findings

It was suggested that option richness and option diversity were significantly greater in facilitated agreements and they were more complex. However, the drivers for these differences are unclear. Agreement holders inside and outside of the groups behave similarly with respect to the operational aspects of the scheme.

Conclusions for RS_01

The revised scope of this indicator overlaps with the scope of IM_01 and can be removed.

Indicator RS_02

This indicator relates to the alignment of option uptake and group objectives. This is a duplication with OU_03. The original indicator also referred to comparison between facilitated and non-facilitated areas in order to compare alignment between these areas, which is reflected under RS_01.

Summary of Phase 2 findings

Relevance and coherence is presumably judged on appropriateness (based on prevailing scientific understanding and/or modelled results) of management options to be implemented. Evidence of correct implementation will also be required.

Conclusions for RS_02

This indicator is duplicated with the coverage of indicators OU_03 and RS_01 and can be removed.

8.4 Updated Evaluation Framework

The following list details the indicators which will be taken forward in the evaluation framework.

Table 45. Indicators to be included in the evaluation framework.

Indicator code	Indicator type	Indicator name	Data required	Unit of measurement	Data source	Evaluation question	Methodology
CON_01	Context	Alignment of CS and ES options with CSFF group priorities/targets	Data on CS and ES options on land parcels within the CSFF group boundary at the start of group formation	Number of CS options on land parcels within the CSFF group boundary Number of ES options on land parcels within the CSFF boundary Frequency of measurement: 1) at group formation 2) annually	Spatial data on option uptake Application forms and annual reports for membership	What is the number of CS/ES options per member at group formation (or baseline year if data quality does not allow baseline to be established at group formation)?	Count of CS/ES options divided by number of group members (excluding non-funding members)
			Data on CS and ES options on land parcels within the CSFF group boundary at subsequent points in time		Spatial data on option uptake	What is the change over time of the number of CS options per member following group formation?	Comparison of above baseline figure and subsequent change over time.
			Master list of all CS options and their relationship to each priority		Project based analysis	What is the alignment of the CS options taken up with group priorities at the start of group formation?	Percentage of CS options taken up and alignment with each priority
						What is the change over time in the alignment of CS options with group priorities?	Comparison of the above with the baseline figure and subsequent change over time.

Indicator code	Indicator type	Indicator name	Data required	Unit of measurement	Data source	Evaluation question	Methodology
			Spatial data on targets Spatial data on option uptake Master list of all CS options and their relationship to each target	Area (ha) of group with target area Number of target relevant options within target area	Spatial data on targets Spatial data on option uptake	What is the spatial alignment of option uptake with spatial targets?	% of group area with targets % of target relevant options within target area Count of target relevant options within target areas
CON_02	Context	Alignment between group priorities, training and activities	Group priorities Group training, activities and events Data table linking topics of group training, activities and events to group priorities	Type, topic and number of group training activities and events.	Application forms Group annual reports	What is the alignment between group priorities and training?	Develop approach to link topics of group training and activities to group priorities. Identify total number of events per group, per group priority and calculate the percentage of events by priority.
IN_01	Input	Group funding	Funding per group Group membership total number Attendance at events (recording members and non-members)	Funding, group membership, attendance at events	Application forms Group annual reports	What is the relationship between funding per member and attendance at events?	Calculate funding per member from group funding and group membership Calculate group funding cost per member per event by dividing the number of members attending events over a year by the funding per member.
IN_02	Input	Facilitator expertise	Data from CON_01 on option uptake against group priorities (% uptake	Option uptake, facilitator expertise	Application forms	How does group facilitator expertise influence group activities?	Identify where option uptake is greater than the mean group option uptake.

Indicator code	Indicator type	Indicator name	Data required	Unit of measurement	Data source	Evaluation question	Methodology
			against each priority) Calculation of mean option uptake Data on facilitator expertise categorised against group priorities				Analyse if this correlates with facilitator expertise
AC_03		Partnership working	Data on categories of partnership working Data on the categories of partnership working and the options they relate to	Partnership working categories Option uptake	Application forms	How does partnership working influence option uptake?	Collect data on partnership working and categorise in relation to options Identify where option uptake is greater than the mean group option uptake. Analyse if this correlates with partnership working
OU_01a	Output	Group agreements/group type	Facilitator type Defined categories for facilitator type Option uptake	Facilitator type Option uptake	Application forms	How does group type influence group success?	Record facilitator type and assign to set categories Analyse how this correlates with option uptake
OU_02		Growth in membership	Group membership numbers and change over time	Group membership	Application forms Annual reports	What is the maximum beneficial group size?	Using output of CON_01 (count of CS/ES options divided by number of group members (excluding non-funding members) Compare change in membership against success

Indicator code	Indicator type	Indicator name	Data required	Unit of measurement	Data source	Evaluation question	Methodology
OU_03		Quantity of option uptake	quantity, area or length of option deployment	Quantity of option uptake	Option data	What is the quantity of option uptake?	Collect baseline data on the quantity of uptake associated with options. Compare change over time
OU_04		Training and advice delivered	number, type, topic and attendance at events	Number, type, topic and attendance at events	Annual reports	What are the attendance levels (as a percentage of group membership) at different types and topics of event?	Using the outputs from CON_02, identify the types of event which greater levels of attendance. Analyse attendance at events associated with group priorities. Analyse attendance at events by type of event. Undertake case study survey/interview to understand value of different types of event
IM_01	Impact	Environmental outcomes	Identification of comparable FF and non-FF areas Option uptake in FF and non-FF areas	Option uptake alignment with targets	Option data Spatial targeting data	Does the CSFF area achieve better environmental outcomes than non-CSFF areas	Compare the data collected under CON_01 on targets for a selected number of FF groups: % of target relevant options within target area Count of target relevant options within target areas Compare the levels of take up with a comparable non-FF area

Indicators requiring future survey or case study work or amendments to data collection processes through annual reports

Table 46. Indicators requiring future survey or case study work or amendments to data collection processes through annual reports.

Indicator code	Indicator name	Data collection options	Evaluation question
IN_01	Group funding	Amend reporting requirements in annual reports to record non CSFF funding	What levels of non-CSFF funding do groups receive?
IN_03	Group expertise	Future survey or case study work	How does group expertise affect success?
IN_04	Baseline group familiarity	Future survey or case study work or amend reporting requirements in annual reports	Does baseline group familiarity affect the success of the group?
OU_05	Partnership activities	Future survey or case study work or amend reporting requirements in annual reports	How many groups have links to other initiatives?
RS_03	Land manager attitudes, awareness and capacity	Future survey or case study work	How does the CSFF contribute to positive land manager attitudes, awareness and capacity?
IM_02	Social and economic impacts of CSFF activities	Future survey or case study work	What are the wider social and economic impacts of the CSFF?

9. Conclusion and forward look

The Facilitation Fund groups are without question positively contributing to maintaining, enhancing and creating natural capital. The primary measurable for this is the presence of CS agreements, putting in place management actions that impact positively on natural capital assets, whether they relate to asset quantity, quality or spatial location and hence the recovery of ecological networks.

These conclusions bring together the findings from the project tasks undertaken to develop and illustrate the connection between CS Facilitation Fund, CS priorities and natural capital objectives. The objective of this project was to evaluate the added benefit of Facilitation Fund groups with a particular focus on contributions to nature recovery and ecological restoration. The study outputs will also assist in the development of the new Environmental Land Management Scheme ('ELMS'), and aid Natural England Area Teams in the delivery of Natural England's conservation strategy.

The monitoring and evaluation framework were intended to provide a method of evaluating the added benefit of Facilitation Fund groups. The Phase 2 evaluation had developed and amended the evaluation framework, identifying a number of potential data issues or gaps.

The original scope of Task 1 was to apply the monitoring framework to the existing 98 farm facilitation groups and the approximately 40 new groups joining in 2020. Following project start, it became apparent that there were significant issues with data collection and management processes, and data availability. Due to the data limitations the review of the evaluation framework became a more significant element of the project task than the analysis of the data, and a revised evaluation framework was developed in close consultation with the NE project lead.

The application of the revised evaluation framework is dependent on future actions to resolve the data issues identified. The revised framework requires testing with an updated data set, and to test and update the proposed methodology.

The suggestions relevant to this are:

- Describe and implement clear data collection and recording procedures, including:
    - The use of consistent vocabulary for data recording;
    - The use of agreed data structures and formats;
    - All data should be clearly attributed to a date;
    - Maintain a record of any changes in approaches to recording data;
- Following changes to address issues with data collection and recording outlined above the following stages are recommended:
    - Establish a baseline against which future monitoring will be compared.
    - Test the proposed revised monitoring framework against a sample CSFF group data and revise the proposed methodology as appropriate.

The case studies examined how well the CS options selected for each case study area reflect some of the wider environmental and landscape issues in the area. This was based on a desk-based review of five case study locations and site visits to a focus location within each of the locations. The review identified the main land management issues for the site visits, the extent and significance of these and how

these aligned with option uptake in these areas. The case studies found that where land managers had active options on their land, that overall, there is good alignment between group priorities, identified land management issues and option choice.

Appropriate option placement within agreements that aligns with both strategic aims and identified land management issues will optimise natural capital benefits derived from positive management under the CS scheme. Both the phase 2 evaluation (Jones et al., 2019) of the Facilitation Funds and the detailed case study assessment in section 7 of this report found good evidence that, where land managers had active options on their land, overall there is good alignment between group priorities, identified land management issues and option choice within Facilitation Fund groups, and phase 2 of the evaluation further shows that this was often enhanced compared to agreements outside of Facilitation Fund groups. This indicates that the Facilitation Fund approach has an additional positive effect on natural capital within England, beyond that which would be achieved by individual holdings in isolation.

Outside of the presence of CS agreements within Facilitation Funds it is highly likely that members already further contribute to the various aspects of natural capital as well as nature recovery but there is no data available to measure the contribution of land managers who choose not to participate in formal agreements but who might still be implementing changes for better environmental delivery on their holding, overall contribution to natural capital and environmental outcomes is therefore currently likely to be considerably underestimated across all groups.

Suggested next steps to further develop and optimise the benefits of a natural capital approach within Facilitation Fund groups integrated within agri-environment schemes are as follows:

- Increase the proportion of Facilitation Fund members that enter agri-environment agreements either under CS or ELMS going forward to maximise positive land management that maintains, enhances and creates national capital assets.
- Identify and quantify other local land management actions by Facilitation Fund members outside those implemented under AES, that increase natural capital and develop a way to measure this.
- Individual Facilitation Fund groups do not currently measure natural capital asset stocks per se. It would be very useful to create a baseline for each holding within the groups to contribute to national assessments of natural capital, measure gains derived from membership in schemes and Facilitation Fund groups against and to develop a starting point upon which to build a comprehensive natural capital evidence base to support decision making.
- Initial asset condition has a considerable effect on the uplift of benefit and value through the application of appropriate management options and should be included in any baseline assessment of asset stocks.
- The spatial configuration of assets in the landscape and relative to other features plays a very large part in how many ecosystem services are delivered, and therefore their contribution to overall natural capital asset stocks. Collecting spatial detail on the location and landscape context of actions/outcomes would contribute to the ability to accurately assess levels of natural capital and the status of ecological networks.

- Such an assessment could be integrated in the creation of farm environment plans or similar mapping efforts when holdings enter AES agreements. Data used in the collation of the natural capital atlas could be re-examined to establish if it is of a suitable scale/granularity to allow an assessment of individual assets at the holding or Facilitation Fund group scale.
- Good knowledge of baseline natural capital assets present and management actions already in place that support these would enable the integration of a natural capital approach as part of future schemes and enable a focus on preserving and enhancing the assets that provide multiple services and benefits.

The overall aim of Task 3 was to explore the additional benefits of the CSFF by applying social capital indicators and identifying any behavioural changes that have taken place.

Evidence of the development of strong bonding social capital between group members characterised by positive social relationships built on trust and reciprocity was identified. These social relationships had resulted in considerable information and knowledge sharing between group members and this outcome was considered one of the main successes of group membership. The interviews also revealed social benefits that members were deriving from interaction with other group members, including a reduction in social isolation, and this outcome was also considered a significant benefit of the groups.

There was strong evidence that the group members were engaging with and building individual relationships with a much broader range of people with different knowledge systems, than they would have done previously, such as environmental and wildlife organisations and specialists. This had led to increased knowledge and engagement with environmental activities, such as on-farm wildlife surveys and resource management.

Facilitators identified specific examples of behaviour change as a result of group members actions, such as signing up to AES agreements. The group member interviews provided evidence of changes in the management of AES options as a result of a deeper understanding of their environmental goals and in changes in cropping practices, such as direct drilling and the use of cover crops. There was also evidence of increased interest in the wildlife and environmental issues on their farms. Furthermore, there was some limited evidence of peer pressure influencing members to do more for the environment than they would have done outside of a group, although this activity usually involved individual actions, rather than co-ordinated activities between group members.

A mixed response was provided to a question about whether being part of the group had contributed to members' sense of ownership of their AES. Some facilitators felt that the group had helped members to understand the aim and objectives of AES and what they are trying to achieve which made them more engaged and therefore created a sense of ownership of the environmental outcomes. However, several facilitators also felt that AES were limited as a mechanism to meet the objectives of the groups, lacking flexibility in the scheme's prescriptions to meet the group's aims.

The group member and facilitator interviews found almost universal support for the continuation of their groups. They were widely valued and seen to have a positive role in delivering future environmental benefits. When asked what changes or support would be required to help the groups continue long-term, the main response was

continued funding for a facilitator. The facilitator was considered crucial in the success of the group.

Of the groups interviewed, 16 facilitators highlighted that their fund had accessed additional funding from sources other than Natural England itself. The funding was provided by various other organisations, such as the Environment Agency, water companies, Network Rail, Wildlife Trust, local authorities, national parks and charities. The influence exerted by these additional funders on the outputs and outcomes achieved by the group varied greatly.

Building on these general suggestions, and looking forward:

- Most groups have reached a stage of development where trust has been built leading to a sharing of knowledge and information. However, this development in building trusting relationships can take a significant amount of time (up to 18 months in some cases), so it is important to ensure funding runs for long enough, and for a minimum of 5 years, to enable these relationships to develop, and then allow time and resources for outcomes to be delivered. Funding for group activities should continue until group goals are achieved as this is important to increase or maintain cohesiveness and to deep collaboration between members.
- Ensure funding is available for a skilled facilitator as they are crucial to the success of the group's development. Within larger groups there may also be value in developing leadership roles for respected farmers/'leaders'.
- Provide more opportunities for facilitators to regularly share their experiences and learn from each other. To date, only one national meeting has been held, and there should be more opportunities for sharing best practice at regular regional and national meetings, and for partnering up with other facilitators.
- Recognise facilitators are likely to bring different skills to the table, and encourage them to develop their knowledge too, as opposed to just disseminating information.
- During group establishment make members aware that they are able to influence the group activities undertaken and should contribute their own ideas. A range of management tools can be used to energise the groups and sustain their momentum.
- Streamline AES prescriptions and offer flexible AES so that they can be adapted to meet the environmental goals of the group. Only 43% of members had a CS agreement, partly reflecting a reluctance to join due to negative perceptions and the rigidity of CS, but also highlighting an opportunity to increase AES uptake. Make results of monitoring and evaluation of environmental outcomes available to group members to demonstrate environmental achievements and thereby reinforce the members' pro-environmental behaviours.
- Allow facilitators some flexibility in how they spend their group's money. A number of facilitators interviewed found they had a significant underspend, but were at a loss as to what they could do with it. One common suggestion was to allocate a percentage of funding which group members could access to complete capital projects that contribute to the group's overall priorities.
- Consider group sizes of around 15-20 members. Smaller groups increase the risk of too few members attending an event to make it worth putting on. If groups are too large the creation of a forum for an open and trusting exchange of information and knowledge can be difficult, although some groups overcome this issue by creating individual clusters of members.

- Climate change is identified as a future threat for all group priorities, however there have been no training events yet. It is essential to educate group members in this area on the likely issues that may result from climate change and how their land management practices could be affected. Education will help land managers to prepare, mitigate and adapt to these changes using relevant agri-environment options to ensure negative impacts are minimised.
- Provide some funding for one-to-one advice, even if part-funded, to propel group members from an awareness and understanding of the management practices required to actual implementation.
- Consider implementing a baseline attitudinal/behaviour/knowledge survey of new groups/new members to help determine attitudinal/behaviour/knowledge changes over time.

10. References

ADAS, Fera & CCRI (2018) Countryside Stewardship Facilitation Fund. Monitoring and Evaluation: Phase 1. Natural England Research Report, Number LM0473

Breyer, J., Medcalf, K., Naumann, E. K., Parker, J., Kessler, L., Smales, R., White, P. and Cruz, J. (2019) Assessment of the Contribution of Agri-Environment Schemes to Natural Capital, Natural England Research Report, Number LM0480

GOV.UK. 2014. National Character Area profiles. [ONLINE] Available at: https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making/national-character-area-profiles. [Accessed 10 June 2020].

Home Farm Nacton. 2020. Home Farm Nacton. [ONLINE] Available at: https://www.homefarmnacton.co.uk/. [Accessed 10 June 2020].

Ingram, J., Short, C. J., Gaskell, P., Mills, J., Lewis, N., Clark, M., Dennis, E., Fisher, R. & Owen, I. (2009) Entry and exit from agri-environmental schemes in Wales. Report for Welsh Assembly Government.

Jones, N., Cao, Y., Adamson, H., Lewis-Reddy, L., Crowe A., Hockridge, B. (2019) Facilitation Fund Phase 2 Evaluation, Natural England Research Report, Number LM0479

Lusardi, J., Rice, P., Waters, R.D. and Craven J. (2018). Natural Capital Indicators: for defining and measuring change in natural capital. Natural England Research Report, Number 076.

Mills et al (2020) Social Indicators for Agri-environment Schemes – Final Report. Natural England.

Mills, J., Gaskell, P., Reed, M., Short, C., Ingram, J., Boatman, N., Jones, N., Conyers, S., Carey, P., Winter, M. & Lobley, M. (2013). Farmer attitudes and evaluation of outcomes to on-farm environmental management. Project No. IF01114. Report to Department for Environment, Food and Rural Affairs (Defra).

Natural England, n.d., Designated Sites View, Nacton Meadows SSSI. [ONLINE] Available at: https://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=S1006266&SiteName=nacton&countyCode=&responsiblePerson=. [Accessed 10 June 2020].

Natural England. 2013. NCA Profile:125: South Downs (NE432). [ONLINE] Available at: http://publications.naturalengland.org.uk/publication/7433354. [Accessed 10 June 2020].

Natural England. 2015. NCA Profile: 82 Suffolk Coast and Heaths (NE491). [ONLINE] Available at: http://publications.naturalengland.org.uk/publication/5626055104659456. [Accessed 10 June 2020].

Natural England. 2018. Designated Sites View, River Itchen - 2000227 SSSI - Cheriton Stream (143). [ONLINE] Available at: https://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1031253. [Accessed 10 June 2020].

The National Archives, n.d., Natural England, Landscape Character Network. [ONLINE] Available at

: https://webarchive.nationalarchives.gov.uk/20140711175027/http://www.naturalengland.org.uk/ourwork/landscape/englands/character/lcn/nationaldatabase/default.aspx. [Accessed 10 June 2020].

Wigley, S., Paling, N., Rice, P., Lord, A., and Lusardi, J. (2020) National Natural Capital Atlas, Natural England Commissioned Report Number 285.

11. Appendix 1 CS membership within Facilitation Funds

Table 47: Total areas (km2), areas and percentages inside and outside CS agreement in each of the current 98 Facilitation Funds

CSFF	Total area (km2)	Under CS agreement (km2)	Under CS agreement (%)	Outside CS agreement (km2)	Outside CS agreement (%)
All funds	*6701.14*	*3232.32*	*48.24*	*3468.82*	*51.76*
010003	24.17	6.2	25.65	17.97	74.35
010005	144.44	86.04	59.57	58.4	40.43
010006	258.62	82.36	31.85	176.26	68.15
010008	154.67	72.52	46.89	82.15	53.11
020001	74.19	57.53	77.54	16.66	22.46
020002	64.12	24.88	38.8	39.24	61.2
020003	106.06	58.63	55.28	47.43	44.72
020006	29.13	12.62	43.32	16.51	56.68
020007	69.42	11.5	16.57	57.92	83.43
020008	80.22	23.08	28.77	57.14	71.23
020009	26.44	19.38	73.3	7.06	26.7
020010	106.67	18.12	16.99	88.55	83.01
020011	19.14	6.83	35.68	12.31	64.32
030002	107.42	15.52	14.45	91.9	85.55
030003	88.56	53.32	60.21	35.24	39.79
030004	199.74	128.72	64.44	71.02	35.56
030006	28.94	12.48	43.12	16.46	56.88
030007	102.19	71.32	69.79	30.87	30.21
030008	149.28	111.97	75.01	37.31	24.99
030009	116.04	46.81	40.34	69.23	59.66
030010	54.76	19.52	35.65	35.24	64.35
030011	150.5	116.95	77.71	33.55	22.29
030012	161.91	93.67	57.85	68.24	42.15
030013	43.25	3.61	8.35	39.64	91.65
040001	46.21	27.86	60.29	18.35	39.71
040005	115.05	43.7	37.98	71.35	62.02
040006	25.01	4.04	16.15	20.97	83.85
040007	14.33	9.2	64.2	5.13	35.8
040008	44.32	19.33	43.61	24.99	56.39
040009	37.92	16.91	44.59	21.01	55.41
040012	60.02	3.28	5.46	56.74	94.54
050001	46.84	26.8	57.22	20.04	42.78
050003	15.08	9.26	61.41	5.82	38.59
050005	135.02	37.01	27.41	98.01	72.59
050006	24.32	0.08	0.33	24.24	99.67

050007	47.26	14.33	30.32	32.93	69.68
050008	21.27	5.86	27.55	15.41	72.45
050009	110.77	76.42	68.99	34.35	31.01
050010	111.41	86.25	77.42	25.16	22.58
050011	8.81	2.83	32.12	5.98	67.88
060001	46.97	9.69	20.63	37.28	79.37
060004	30.64	25.32	82.64	5.32	17.36
060005	23.37	7.52	32.18	15.85	67.82
060006	44.46	19.04	42.83	25.42	57.17
060007	47.83	19.33	40.41	28.5	59.59
060008	40.1	19.49	48.6	20.61	51.4
060009	11.05	2.28	20.63	8.77	79.37
070003	30.55	15.46	50.61	15.09	49.39
070005	32.86	23.45	71.36	9.41	28.64
070006	12.34	5.78	46.84	6.56	53.16
070007	257.87	141.29	54.79	116.58	45.21
070008	49	24.28	49.55	24.72	50.45
070010	18.83	10.84	57.57	7.99	42.43
070012	54.6	44.66	81.79	9.94	18.21
070013	71.5	30.41	42.53	41.09	57.47
070014	16.94	0.78	4.6	16.16	95.4
070015	46.78	26.19	55.99	20.59	44.01
080001	62.78	33.7	53.68	29.08	46.32
080002	37.9	31.83	83.98	6.07	16.02
090001	125.9	30.56	24.27	95.34	75.73
090002	78.24	22.53	28.8	55.71	71.2
090005	45.15	26.88	59.53	18.27	40.47
090006	38.66	13.62	35.23	25.04	64.77
090007	31.21	14.98	48	16.23	52
090009	114.71	68.02	59.3	46.69	40.7
100002	26.13	11.53	44.13	14.6	55.87
100003	23.45	15.43	65.8	8.02	34.2
100004	24.72	6.5	26.29	18.22	73.71
110003	82.96	18.87	22.75	64.09	77.25
110005	17.77	8.87	49.92	8.9	50.08
110006	94.69	37.34	39.43	57.35	60.57
110007	77.6	36.59	47.15	41.01	52.85
110008	39.43	15.77	39.99	23.66	60.01
110009	230.4	138.89	60.28	91.51	39.72
110010	65.22	28.11	43.1	37.11	56.9
110012	29.97	5.63	18.79	24.34	81.21
120001	52.28	19.5	37.3	32.78	62.7
120002	61.06	23.46	38.42	37.6	61.58
120003	43.69	23.94	54.8	19.75	45.2
120004	34.5	25.89	75.04	8.61	24.96
120005	26.51	8.91	33.61	17.6	66.39

120006	32.49	24.79	76.3	7.7	23.7
120007	47.7	38.35	80.4	9.35	19.6
120008	260.98	155.17	59.46	105.81	40.54
120009	68.2	60.01	87.99	8.19	12.01
120010	22.21	5.45	24.54	16.76	75.46
130001	47.41	22.77	48.03	24.64	51.97
130002	85.58	31.85	37.22	53.73	62.78
130004	29.62	10.97	37.04	18.65	62.96
130006	14.34	0	0	14.34	100
130007	47.88	35.64	74.44	12.24	25.56
140002	113.83	49.31	43.32	64.52	56.68
140007	43.2	20.71	47.94	22.49	52.06
140008	154.26	33.16	21.5	121.1	78.5
140009	25.54	20.03	78.43	5.51	21.57
140011	28.08	18.76	66.81	9.32	33.19
140012	98.52	48.6	49.33	49.92	50.67
140013	57.16	26.85	46.97	30.31	53.03

Table 48: Individual Facilitation Fund members (identified by Single Business Identifier - SBI) inside and outside CS agreement

CSFF	Total count of members	Under CS agreement (count)	Under CS agreement (%)	Outside CS agreement (count)	Under CS agreement (%)
All funds	*3064*	*1330*	*43.41*	*1734*	*56.59*
010003	10	3	30	7	70
010005	77	49	63.64	28	36.36
010006	32	12	37.5	20	62.5
010008	30	8	26.67	22	73.33
020001	65	26	40	39	60
020002	32	15	46.88	17	53.13
020003	30	18	60	12	40
020006	20	13	65	7	35
020007	41	9	21.95	32	78.05
020008	22	9	40.91	13	59.09
020009	20	15	75	5	25
020010	23	2	8.7	21	91.3
020011	15	6	40	9	60
030002	65	8	12.31	57	87.69
030003	28	14	50	14	50
030004	94	36	38.3	58	61.7
030006	25	11	44	14	56
030007	24	15	62.5	9	37.5
030008	41	27	65.85	14	34.15

030009	27	12	44.44	15	55.56
030010	21	13	61.9	8	38.1
030011	24	19	79.17	5	20.83
030012	57	23	40.35	34	59.65
030013	17	5	29.41	12	70.59
040001	35	15	42.86	20	57.14
040005	33	14	42.42	19	57.58
040006	16	5	31.25	11	68.75
040007	20	14	70	6	30
040008	36	18	50	18	50
040009	38	14	36.84	24	63.16
040012	16	2	12.5	14	87.5
050001	10	5	50	5	50
050003	17	10	58.82	7	41.18
050005	33	12	36.36	21	63.64
050006	16	1	6.25	15	93.75
050007	43	18	41.86	25	58.14
050008	10	1	10	9	90
050009	8	6	75	2	25
050010	25	15	60	10	40
050011	5	2	40	3	60
060001	19	5	26.32	14	73.68
060004	14	9	64.29	5	35.71
060005	17	7	41.18	10	58.82
060006	31	9	29.03	22	70.97
060007	45	12	26.67	33	73.33
060008	20	10	50	10	50
060009	32	6	18.75	26	81.25
070003	51	24	47.06	27	52.94
070005	32	23	71.88	9	28.13
070006	18	10	55.56	8	44.44
070007	99	53	53.54	46	46.46
070008	31	14	45.16	17	54.84
070010	21	9	42.86	12	57.14
070012	46	30	65.22	16	34.78
070013	23	6	26.09	17	73.91
070014	13	3	23.08	10	76.92
070015	48	29	60.42	19	39.58
080001	21	12	57.14	9	42.86
080002	9	7	77.78	2	22.22
090001	43	9	20.93	34	79.07
090002	30	13	43.33	17	56.67
090005	13	4	30.77	9	69.23
090006	12	4	33.33	8	66.67
090007	15	6	40	9	60
090009	20	11	55	9	45

100002	16	4	25	12	75
100003	13	8	61.54	5	38.46
100004	13	4	30.77	9	69.23
110003	35	9	25.71	26	74.29
110005	11	4	36.36	7	63.64
110006	27	14	51.85	13	48.15
110007	32	11	34.38	21	65.63
110008	69	29	42.03	40	57.97
110009	22	15	68.18	7	31.82
110010	29	14	48.28	15	51.72
110012	20	7	35	13	65
120001	79	33	41.77	46	58.23
120002	82	25	30.49	57	69.51
120003	66	30	45.45	36	54.55
120004	28	19	67.86	9	32.14
120005	21	7	33.33	14	66.67
120006	63	37	58.73	26	41.27
120007	38	20	52.63	18	47.37
120008	56	11	19.64	45	80.36
120009	21	15	71.43	6	28.57
120010	18	6	33.33	12	66.67
130001	22	10	45.45	12	54.55
130002	33	15	45.45	18	54.55
130004	21	9	42.86	12	57.14
130006	13	0	0	13	100
130007	20	11	55	9	45
140002	36	13	36.11	23	63.89
140007	65	37	56.92	28	43.08
140008	55	13	23.64	42	76.36
140009	8	5	62.5	3	37.5
140011	5	3	60	2	40
140012	45	17	37.78	28	62.22

12. Appendix 2: Natural capital contribution by Facilitation Fund group

Freshwater

	National Capital Indicator Areas (km²)																
CSFF	Coastal and Floodplain Grazing	Lakes and Standing Waters	Lowland Fens	Lowland Raised Bog	Reedbeds	Blanket Bog	Woodland	Sum of indicators (km²)	CSFF	Coastal and Floodplain Grazing	Lakes and Standing Waters	Lowland Fens	Lowland Raised Bog	Reedbeds	Blanket Bog	Woodland	Sum of indicators (km²)
ALL	76.17	0.20	5.65	2.90	1.62	1788.17	113.84	1988.54									
10003	1.28	0.20	0.04	0.00	0.00	0.00	0.00	1.51	**70006**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10005	0.00	0.00	0.77	0.00	0.09	6.70	0.87	8.43	**70007**	1.31	0.00	0.01	0.00	0.00	0.00	5.15	6.47
10006	0.08	0.00	0.00	0.00	0.01	479.70	1.13	480.92	**70008**	0.32	0.00	0.00	0.00	0.00	0.00	0.60	0.91
10008	0.00	0.00	0.00	0.00	0.00	160.16	0.51	160.67	**70010**	0.05	0.00	0.00	0.00	0.00	0.00	0.50	0.55
20001	2.02	0.00	0.91	0.00	0.04	1.86	19.21	24.04	**70012**	0.00	0.00	0.00	0.00	0.00	0.00	1.68	1.68
20002	0.04	0.00	0.04	0.00	0.03	0.00	0.30	0.41	**70013**	0.51	0.00	0.00	0.00	0.00	0.00	0.29	0.81
20003	0.00	0.00	0.00	0.00	0.00	10.10	2.32	12.41	**70014**	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
20006	0.81	0.00	0.02	0.02	0.00	0.00	0.10	0.94	**70015**	4.69	0.00	0.00	0.00	0.02	0.00	0.51	5.22
20007	0.00	0.00	0.25	0.00	0.00	6.84	0.07	7.16	**80001**	0.07	0.00	0.00	0.00	0.00	0.00	1.29	1.36
20008	0.00	0.00	0.00	0.00	0.00	1.82	0.38	2.19	**80002**	0.00	0.00	0.00	0.00	0.00	0.00	1.88	1.88
20009	0.08	0.00	0.01	0.00	0.00	0.00	0.06	0.14	**90001**	5.87	0.00	0.03	0.00	0.30	0.00	0.00	6.20
20010	0.00	0.00	0.00	0.00	0.00	41.16	2.59	43.75	**90002**	0.78	0.00	0.96	0.00	0.38	0.00	0.02	2.14
20011	0.23	0.00	0.10	2.75	0.00	0.00	0.00	3.08	**90005**	3.00	0.00	0.00	0.00	0.17	0.00	0.01	3.18
30002	0.00	0.00	0.00	0.00	0.00	154.98	0.47	155.45	**90006**	0.67	0.00	0.00	0.00	0.05	0.00	0.00	0.72
30003	0.00	0.00	0.00	0.00	0.00	44.99	0.29	45.28	**90007**	0.14	0.00	0.00	0.00	0.05	0.00	0.00	0.19
30004	0.00	0.00	0.03	0.00	0.00	165.91	2.64	168.58	**90009**	0.45	0.00	0.05	0.00	0.00	0.00	0.00	0.49
30006	1.27	0.00	0.10	0.00	0.00	0.36	0.13	1.86	**100002**	0.58	0.00	0.00	0.00	0.00	0.00	0.00	0.58
30007	0.00	0.00	0.00	0.00	0.00	3.29	0.12	3.41	**100003**	0.00	0.00	0.00	0.00	0.00	0.00	3.32	3.32
30008	0.00	0.00	0.00	0.00	0.00	22.54	0.22	22.76	**100004**	0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.52

30009	0.00	0.00	0.02	0.00	0.00	41.58	1.31	42.90	**110003**	0.02	0.00	0.00	0.00	0.00	0.00	0.02	0.04
30010	0.00	0.00	0.02	0.00	0.00	39.84	2.92	42.78	**110005**	0.00	0.00	0.00	0.00	0.00	0.18	0.13	0.31
30011	0.00	0.00	0.00	0.00	0.00	19.94	0.19	20.13	**110006**	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.09
30012	0.00	0.00	0.14	0.05	0.00	307.38	0.50	308.08	**110007**	0.87	0.00	0.02	0.02	0.08	0.00	1.07	2.06
30013	1.29	0.00	0.09	0.00	0.00	0.00	0.17	1.55	**110008**	0.00	0.00	0.00	0.00	0.00	0.00	1.30	1.30
40001	0.00	0.00	0.00	0.00	0.00	15.77	0.03	15.79	**110009**	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01
40005	0.00	0.00	0.00	0.00	0.00	91.43	0.12	91.56	**110010**	0.00	0.00	0.00	0.00	0.00	27.34	1.66	29.00
40006	0.00	0.00	0.00	0.00	0.00	28.85	0.61	29.46	**110012**	0.00	0.00	0.00	0.00	0.00	2.14	0.01	2.15
40007	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**120001**	0.05	0.00	0.01	0.00	0.02	0.00	0.07	0.16
40008	0.00	0.00	0.00	0.00	0.00	27.91	0.07	27.98	**120002**	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02
40009	0.54	0.00	0.03	0.00	0.00	0.00	0.02	0.60	**120003**	0.00	0.00	0.02	0.00	0.00	0.00	0.20	0.22
40012	0.00	0.00	0.00	0.00	0.00	20.80	0.20	21.00	**120004**	0.00	0.00	0.03	0.00	0.00	0.00	0.08	0.10
50001	0.70	0.00	0.02	0.00	0.00	0.00	0.00	0.72	**120005**	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.57
50003	0.14	0.00	0.00	0.00	0.00	0.00	0.04	0.19	**120006**	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.34
50005	0.29	0.00	0.14	0.00	0.03	0.00	5.34	5.79	**120007**	0.72	0.00	0.00	0.00	0.00	0.00	0.16	0.88
50006	0.00	0.00	0.00	0.00	0.00	1.59	0.10	1.69	**120008**	0.00	0.00	0.00	0.00	0.00	56.71	0.05	56.75
50007	0.00	0.00	0.00	0.00	0.00	5.39	0.16	5.55	**120009**	0.00	0.00	0.00	0.00	0.00	0.58	0.04	0.62
50008	0.56	0.00	0.00	0.00	0.00	0.00	0.18	0.74	**120010**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50009	1.36	0.00	0.00	0.00	0.00	0.00	3.73	5.10	**130001**	0.00	0.00	0.00	0.00	0.00	0.00	2.30	2.30
50010	1.30	0.00	0.00	0.00	0.00	0.00	0.00	1.30	**130002**	0.21	0.00	0.07	0.00	0.00	0.00	3.23	3.51
50011	0.48	0.00	0.00	0.00	0.00	0.00	0.00	0.48	**130004**	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.60
60001	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.19	**130006**	0.09	0.00	1.12	0.00	0.06	0.00	0.36	1.63
60004	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**130007**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60005	0.54	0.00	0.02	0.00	0.00	0.00	0.04	0.60	**140002**	8.56	0.00	0.21	0.00	0.00	0.00	14.73	23.51
60006	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.23	**140007**	0.50	0.00	0.00	0.00	0.00	0.00	7.49	7.99
60007	0.25	0.00	0.03	0.00	0.00	0.34	0.81	1.43	**140008**	10.29	0.00	0.15	0.06	0.02	0.00	1.45	11.98
60008	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**140009**	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.42
60009	0.06	0.00	0.02	0.00	0.00	0.00	0.37	0.45	**140011**	0.00	0.00	0.00	0.00	0.00	0.00	3.15	3.15
70003	0.00	0.00	0.12	0.00	0.00	0.00	6.14	6.26	**140012**	3.63	0.00	0.03	0.00	0.00	0.00	4.53	8.19
70005	0.96	0.00	0.00	0.00	0.03	0.00	0.00	0.99	**140013**	17.55	0.00	0.00	0.00	0.23	0.00	0.05	17.82

Farmland

	National Capital Indicator Areas (km²)						
CSFF	Arable and rotational leys	Orchards & top fruit	Sum of indicators (km²)	CSFF	Arable and rotational leys	Orchards & top fruit	Sum of indicators (km²)
ALL	21.36	2.70	24.06				
10003	0.00	0.00	0.00	70006	0.00	0.09	0.09
10005	0.05	0.00	0.05	70007	2.47	0.03	2.50
10006	0.00	0.00	0.00	70008	0.08	0.26	0.34
10008	0.00	0.00	0.00	70010	0.00	0.23	0.23
20001	0.00	0.15	0.15	70012	0.06	0.01	0.07
20002	0.00	0.00	0.00	70013	1.38	0.05	1.43
20003	0.00	0.00	0.00	70014	0.00	0.30	0.30
20006	0.06	0.00	0.06	70015	0.04	0.61	0.65
20007	0.00	0.00	0.00	80001	0.25	0.00	0.25
20008	0.00	0.00	0.00	80002	0.50	0.02	0.52
20009	0.00	0.00	0.00	90001	0.16	0.00	0.16
20010	0.00	0.00	0.00	90002	0.44	0.01	0.45
20011	0.00	0.00	0.00	90005	0.37	0.00	0.37
30002	0.00	0.00	0.00	90006	0.04	0.00	0.04
30003	0.00	0.00	0.00	90007	0.12	0.00	0.12
30004	0.20	0.00	0.20	90009	0.35	0.00	0.35
30006	0.00	0.00	0.00	100002	0.07	0.00	0.07
30007	0.00	0.00	0.00	100003	0.47	0.00	0.47
30008	0.00	0.00	0.00	100004	0.12	0.00	0.12
30009	0.00	0.00	0.00	110003	0.36	0.00	0.36
30010	0.53	0.00	0.53	110005	0.00	0.01	0.01
30011	0.00	0.00	0.00	110006	0.90	0.02	0.92
30012	0.00	0.00	0.00	110007	0.61	0.00	0.61
30013	0.26	0.00	0.26	110008	0.00	0.10	0.10
40001	0.00	0.00	0.00	110009	0.34	0.00	0.34
40005	0.00	0.00	0.00	110010	0.00	0.00	0.00
40006	0.00	0.00	0.00	110012	0.00	0.00	0.00
40007	0.00	0.00	0.00	120001	0.05	0.02	0.07
40008	0.00	0.00	0.00	120002	0.04	0.00	0.04
40009	0.00	0.00	0.00	120003	0.00	0.02	0.02
40012	0.00	0.00	0.00	120004	0.05	0.02	0.07
50001	0.12	0.00	0.12	120005	0.00	0.01	0.01
50003	0.00	0.00	0.00	120006	0.00	0.01	0.02
50005	4.71	0.00	4.71	120007	0.08	0.00	0.08
50006	0.00	0.00	0.00	120008	0.00	0.02	0.02
50007	0.00	0.00	0.00	120009	0.00	0.00	0.00
50008	0.14	0.00	0.14	120010	0.00	0.01	0.01
50009	0.23	0.00	0.23	130001	0.19	0.03	0.21
50010	1.00	0.00	1.00	130002	0.53	0.00	0.53
50011	0.00	0.00	0.00	130004	0.00	0.02	0.02
60001	0.15	0.00	0.15	130006	0.02	0.00	0.02
60004	0.09	0.00	0.09	130007	0.18	0.00	0.18
60005	0.11	0.00	0.11	140002	0.87	0.00	0.87
60006	0.08	0.00	0.08	140007	0.06	0.00	0.06
60007	0.00	0.01	0.01	140008	0.34	0.00	0.34
60008	0.15	0.00	0.15	140009	0.43	0.00	0.43

60009	0.00	0.07	0.07	140011	0.00	0.00	0.00
70003	0.10	0.08	0.18	140012	0.10	0.00	0.10
70005	1.15	0.50	1.65	140013	0.17	0.00	0.17

Grassland

	National Capital Indicator Areas (km²)				
CSFF	Other Semi Natural Grassland	Sum of indicators (km²)	CSFF	Other Semi Natural Grassland	Sum of indicators (km²)
ALL	206.17	206.17			
10003	0.07	0.07	70006	0.14	0.14
10005	0.44	0.44	70007	16.20	16.20
10006	2.09	2.09	70008	1.79	1.79
10008	0.76	0.76	70010	0.17	0.17
20001	4.58	4.58	70012	2.44	2.44
20002	0.50	0.50	70013	3.29	3.29
20003	1.12	1.12	70014	0.96	0.96
20006	0.00	0.00	70015	4.04	4.04
20007	0.30	0.30	80001	1.05	1.05
20008	1.87	1.87	80002	1.65	1.65
20009	0.00	0.00	90001	2.54	2.54
20010	0.18	0.18	90002	2.60	2.60
20011	0.30	0.30	90005	0.08	0.08
30002	0.85	0.85	90006	0.10	0.10
30003	0.48	0.48	90007	0.04	0.04
30004	2.12	2.12	90009	2.86	2.86
30006	0.17	0.17	100002	0.78	0.78
30007	0.41	0.41	100003	0.42	0.42
30008	1.29	1.29	100004	0.79	0.79
30009	4.58	4.58	110003	2.45	2.45
30010	0.00	0.00	110005	4.12	4.12
30011	0.73	0.73	110006	12.13	12.13
30012	0.25	0.25	110007	14.79	14.79
30013	2.50	2.50	110008	3.15	3.15
40001	0.23	0.23	110009	2.33	2.33
40005	0.07	0.07	110010	1.44	1.44
40006	0.47	0.47	110012	0.09	0.09
40007	0.00	0.00	120001	0.19	0.19
40008	1.43	1.43	120002	3.95	3.95
40009	0.55	0.55	120003	1.23	1.23
40012	0.26	0.26	120004	0.30	0.30
50001	0.51	0.51	120005	0.25	0.25
50003	2.70	2.70	120006	0.14	0.14
50005	4.00	4.00	120007	0.70	0.70
50006	0.60	0.60	120008	2.98	2.98
50007	0.48	0.48	120009	0.34	0.34
50008	0.23	0.23	120010	0.00	0.00
50009	0.64	0.64	130001	2.50	2.50
50010	1.49	1.49	130002	3.84	3.84
50011	0.01	0.01	130004	2.76	2.76
60001	1.27	1.27	130006	0.84	0.84
60004	0.19	0.19	130007	0.85	0.85
60005	0.58	0.58	140002	15.46	15.46
60006	0.87	0.87	140007	2.69	2.69
60007	2.99	2.99	140008	30.63	30.63
60008	0.58	0.58	140009	0.03	0.03
60009	1.73	1.73	140011	0.03	0.03

70003	1.40	1.40	140012	1.72	1.72
70005	3.00	3.00	140013	0.42	0.42

	National Capital Indicator Areas (km²)										
CSFF	Nutrient status of water bodies	Soil nutrient status	Nutrient status of water bodies	Soil nutrient status	Sum of indicators (km²)	CSFF	Nutrient status of water ...	Soil nutrient status	Nutrient status of water ...	Soil nutrient status	Sum of indicators (km²)
ALL	1788.17	1847.56	1900.48	113.84	5650.05						
10003	0.00	0.00	0.00	0.00	0.00	70006	0.00	0.00	0.00	0.00	0.00
10005	6.70	6.70	7.17	0.87	21.44	70007	0.00	0.00	0.00	5.15	5.15
10006	479.70	481.17	497.44	1.13	1459.44	70008	0.00	0.00	0.00	0.60	0.60
10008	160.16	162.39	172.33	0.51	495.38	70010	0.00	0.00	0.00	0.50	0.50
20001	1.86	1.86	1.86	19.21	24.79	70012	0.00	0.00	0.00	1.68	1.68
20002	0.00	5.35	0.00	0.30	5.65	70013	0.00	0.00	0.00	0.29	0.29
20003	10.10	10.17	10.17	2.32	32.75	70014	0.00	0.00	0.00	0.01	0.01
20006	0.00	0.00	0.00	0.10	0.10	70015	0.00	0.00	0.00	0.51	0.51
20007	6.84	7.77	7.77	0.07	22.44	80001	0.00	0.00	0.00	1.29	1.29
20008	1.82	2.63	2.63	0.38	7.46	80002	0.00	0.00	0.00	1.88	1.88
20009	0.00	0.00	0.00	0.06	0.06	90001	0.00	0.09	0.00	0.00	0.09
20010	41.16	42.34	42.34	2.59	128.43	90002	0.00	0.00	0.00	0.02	0.02
20011	0.00	0.00	0.00	0.00	0.00	90005	0.00	0.00	0.00	0.01	0.01
30002	154.98	158.43	167.62	0.47	481.49	90006	0.00	0.00	0.00	0.00	0.00
30003	44.99	46.61	48.89	0.29	140.78	90007	0.00	0.00	0.00	0.00	0.00
30004	165.91	169.10	170.45	2.64	508.10	90009	0.00	0.35	0.00	0.00	0.35
30006	0.36	0.71	1.95	0.13	3.16	100002	0.00	0.00	0.00	0.00	0.00
30007	3.29	3.81	4.06	0.12	11.27	100003	0.00	7.69	0.00	3.32	11.01
30008	22.54	23.99	35.63	0.22	82.38	100004	0.00	0.00	0.00	0.00	0.00
30009	41.58	43.99	47.99	1.31	134.87	110003	0.00	0.00	0.00	0.02	0.02
30010	39.84	40.29	40.29	2.92	123.33	110005	0.18	0.18	0.18	0.13	0.67
30011	19.94	19.99	23.32	0.19	63.44	110006	0.00	0.00	0.00	0.09	0.09
30012	307.38	309.08	309.62	0.50	926.59	110007	0.00	0.05	0.00	1.07	1.12
30013	0.00	0.00	0.00	0.17	0.17	110008	0.00	4.44	0.00	1.30	5.74
40001	15.77	15.80	16.61	0.03	48.20	110009	0.00	0.00	0.00	0.00	0.00
40005	91.43	96.51	100.78	0.12	288.85	110010	27.34	27.56	27.56	1.66	84.13
40006	28.85	29.41	30.35	0.61	89.21	110012	2.14	2.24	2.24	0.01	6.64
40007	0.00	0.24	0.00	0.00	0.24	120001	0.00	0.00	0.00	0.07	0.07
40008	27.91	28.44	33.14	0.07	89.57	120002	0.00	0.00	0.00	0.02	0.02
40009	0.00	0.00	0.00	0.02	0.02	120003	0.00	0.00	0.00	0.20	0.20
40012	20.80	20.87	23.41	0.20	65.28	120004	0.00	0.00	0.00	0.08	0.08
50001	0.00	0.00	0.00	0.00	0.00	120005	0.00	3.13	0.00	0.57	3.69
50003	0.00	0.00	0.25	0.04	0.29	120006	0.00	0.00	0.00	0.34	0.34
50005	0.00	0.07	0.00	5.34	5.41	120007	0.00	0.00	0.00	0.16	0.16
50006	1.59	1.59	3.79	0.10	7.07	120008	56.71	57.16	62.38	0.05	176.29
50007	5.39	5.40	6.84	0.16	17.79	120009	0.58	0.95	1.08	0.04	2.65
50008	0.00	0.00	0.00	0.18	0.18	120010	0.00	0.00	0.00	0.00	0.00
50009	0.00	0.00	0.00	3.73	3.73	130001	0.00	0.08	0.00	2.30	2.38
50010	0.00	0.00	0.00	0.00	0.00	130002	0.00	0.00	0.00	3.23	3.23
50011	0.00	0.00	0.00	0.00	0.00	130004	0.00	0.22	0.00	0.60	0.82
60001	0.00	0.00	0.00	0.00	0.00	130006	0.00	0.00	0.00	0.36	0.36
60004	0.00	0.00	0.00	0.00	0.00	130007	0.00	0.00	0.00	0.00	0.00
60005	0.00	0.00	0.00	0.04	0.04	140002	0.00	0.00	0.00	14.73	14.73
60006	0.00	0.00	0.00	0.00	0.00	140007	0.00	0.00	0.00	7.49	7.49
60007	0.34	0.34	0.34	0.81	1.84	140008	0.00	0.06	0.00	1.45	1.51
60008	0.00	0.00	0.00	0.00	0.00	140009	0.00	0.00	0.00	0.42	0.42

60009	0.00	0.00	0.00	0.37	0.37	140011	0.00	6.99	0.00	3.15	10.15
70003	0.00	0.19	0.00	6.14	6.33	140012	0.00	1.15	0.00	4.53	5.68
70005	0.00	0.00	0.00	0.00	0.00	140013	0.00	0.00	0.00	0.05	0.05

	National Capital Indicator Areas (km²)						
CSFF	Broadleaved, mixed & yew woodland	Woodland Priority Habitats	Sum of indicators (km²)	CSFF	Broadleaved, mixed & yew woodland	Woodland Priority Habitats	Sum of indicators (km²)
ALL	126.18	34.76	160.93				
10003	0.02	0.00	0.02	70006	0.01	0.00	0.01
10005	0.99	0.00	0.99	70007	5.29	0.26	5.55
10006	1.87	0.00	1.87	70008	0.74	2.67	3.42
10008	0.83	0.00	0.83	70010	0.50	0.00	0.50
20001	19.23	2.52	21.74	70012	1.69	0.00	1.69
20002	0.37	2.09	2.46	70013	0.46	1.12	1.58
20003	2.55	3.38	5.93	70014	0.01	0.00	0.01
20006	0.20	0.00	0.20	70015	0.55	0.64	1.19
20007	0.34	0.00	0.34	80001	1.31	3.71	5.02
20008	0.38	0.00	0.38	80002	1.88	0.90	2.78
20009	0.11	0.00	0.11	90001	0.03	0.71	0.74
20010	3.80	0.09	3.89	90002	0.06	0.36	0.42
20011	0.00	0.00	0.00	90005	0.15	0.00	0.15
30002	1.04	0.00	1.04	90006	0.00	0.00	0.00
30003	0.35	0.07	0.41	90007	0.02	0.00	0.02
30004	2.78	0.42	3.20	90009	0.03	1.66	1.69
30006	0.13	0.02	0.16	100002	0.01	0.00	0.01
30007	0.21	0.11	0.32	100003	3.37	0.27	3.64
30008	0.22	0.00	0.22	100004	0.00	0.00	0.00
30009	1.86	0.00	1.86	110003	0.35	0.00	0.35
30010	2.92	0.00	2.92	110005	0.33	0.05	0.38
30011	0.25	0.00	0.25	110006	0.11	0.45	0.56
30012	0.70	0.10	0.80	110007	1.47	0.00	1.47
30013	0.18	0.05	0.23	110008	1.70	0.10	1.80
40001	0.06	0.04	0.09	110009	0.42	0.00	0.42
40005	0.35	0.00	0.35	110010	1.81	0.12	1.93
40006	0.69	0.00	0.69	110012	0.01	0.00	0.01
40007	0.01	0.00	0.01	120001	0.08	0.00	0.08
40008	0.07	0.21	0.28	120002	0.15	0.00	0.15
40009	0.05	0.00	0.05	120003	0.49	0.01	0.50
40012	0.25	0.00	0.25	120004	0.08	0.00	0.08
50001	0.00	0.00	0.00	120005	0.75	0.00	0.75
50003	0.32	0.80	1.12	120006	0.34	0.00	0.34
50005	5.35	5.65	11.01	120007	0.18	0.24	0.42
50006	0.12	0.00	0.12	120008	0.05	0.00	0.05
50007	0.23	0.24	0.48	120009	0.04	0.00	0.04
50008	0.19	0.00	0.19	120010	0.02	0.00	0.02
50009	3.73	0.00	3.73	130001	2.47	0.00	2.47
50010	0.06	0.17	0.23	130002	3.27	1.90	5.17
50011	0.00	0.00	0.00	130004	1.01	0.00	1.01
60001	0.00	0.69	0.69	130006	0.37	0.00	0.37
60004	0.00	0.00	0.00	130007	0.00	0.00	0.00
60005	0.04	0.00	0.04	140002	15.56	0.00	15.56
60006	0.01	0.00	0.01	140007	7.50	0.00	7.50
60007	0.85	0.00	0.85	140008	2.66	1.67	4.33
60008	0.00	0.00	0.00	140009	0.42	0.00	0.42

60009	0.50	0.00	0.50	140011	3.15	0.00	3.15
70003	6.40	0.35	6.76	140012	4.57	0.90	5.48
70005	0.00	0.00	0.00	140013	0.07	0.00	0.07

Urban

	National Capital Indicator Areas (km²)				
CSFF	Woodland	Sum of indicators (km²)	CSFF	Woodland	Sum of indicators (km²)
ALL	113.84	113.84			
10003	0.00	0.00	70006	0.00	0.00
10005	0.87	0.87	70007	5.15	5.15
10006	1.13	1.13	70008	0.60	0.60
10008	0.51	0.51	70010	0.50	0.50
20001	19.21	19.21	70012	1.68	1.68
20002	0.30	0.30	70013	0.29	0.29
20003	2.32	2.32	70014	0.01	0.01
20006	0.10	0.10	70015	0.51	0.51
20007	0.07	0.07	80001	1.29	1.29
20008	0.38	0.38	80002	1.88	1.88
20009	0.06	0.06	90001	0.00	0.00
20010	2.59	2.59	90002	0.02	0.02
20011	0.00	0.00	90005	0.01	0.01
30002	0.47	0.47	90006	0.00	0.00
30003	0.29	0.29	90007	0.00	0.00
30004	2.64	2.64	90009	0.00	0.00
30006	0.13	0.13	100002	0.00	0.00
30007	0.12	0.12	100003	3.32	3.32
30008	0.22	0.22	100004	0.00	0.00
30009	1.31	1.31	110003	0.02	0.02
30010	2.92	2.92	110005	0.13	0.13
30011	0.19	0.19	110006	0.09	0.09
30012	0.50	0.50	110007	1.07	1.07
30013	0.17	0.17	110008	1.30	1.30
40001	0.03	0.03	110009	0.00	0.00
40005	0.12	0.12	110010	1.66	1.66
40006	0.61	0.61	110012	0.01	0.01
40007	0.00	0.00	120001	0.07	0.07
40008	0.07	0.07	120002	0.02	0.02
40009	0.02	0.02	120003	0.20	0.20
40012	0.20	0.20	120004	0.08	0.08
50001	0.00	0.00	120005	0.57	0.57
50003	0.04	0.04	120006	0.34	0.34
50005	5.34	5.34	120007	0.16	0.16
50006	0.10	0.10	120008	0.05	0.05
50007	0.16	0.16	120009	0.04	0.04
50008	0.18	0.18	120010	0.00	0.00
50009	3.73	3.73	130001	2.30	2.30
50010	0.00	0.00	130002	3.23	3.23
50011	0.00	0.00	130004	0.60	0.60
60001	0.00	0.00	130006	0.36	0.36
60004	0.00	0.00	130007	0.00	0.00
60005	0.04	0.04	140002	14.73	14.73
60006	0.00	0.00	140007	7.49	7.49
60007	0.81	0.81	140008	1.45	1.45
60008	0.00	0.00	140009	0.42	0.42
60009	0.37	0.37	140011	3.15	3.15
70003	6.14	6.14	140012	4.53	4.53

70005	0.00	0.00	140013	0.05	0.05

Coastal

	National Capital Indicator Areas (km²)								
CSFF	Nutrient status of water bodies	Soil nutrient status	Nutrient status of water bodies	Sum of indicators (km²)	CSFF	Nutrient status of water bodies	Soil nutrient status	Nutrient status of water bodies	Sum of indicators (km²)
ALL	6.85	13.54	13.54	33.93					
10003	0.00	0.00	0.00	0.00	70006	0.00	0.00	0.00	0.00
10005	0.00	0.00	0.00	0.00	70007	0.00	0.00	0.00	0.00
10006	0.00	0.00	0.00	0.00	70008	0.00	0.00	0.00	0.00
10008	0.00	0.00	0.00	0.00	70010	0.00	0.00	0.00	0.00
20001	2.72	0.00	0.00	2.72	70012	0.00	0.00	0.00	0.00
20002	0.00	0.00	0.00	0.00	70013	0.00	0.00	0.00	0.00
20003	0.00	0.00	0.00	0.00	70014	0.00	0.00	0.00	0.00
20006	0.00	0.00	0.00	0.00	70015	0.00	0.00	0.00	0.00
20007	0.00	0.00	0.00	0.00	80001	0.00	0.00	0.00	0.00
20008	0.00	0.00	0.00	0.00	80002	0.00	0.00	0.00	0.00
20009	0.00	0.00	0.00	0.00	90001	0.53	0.00	0.00	0.53
20010	0.00	0.00	0.00	0.00	90002	0.00	0.00	0.00	0.00
20011	3.60	0.00	0.00	3.60	90005	0.00	0.00	0.00	0.00
30002	0.00	0.00	0.00	0.00	90006	0.00	0.00	0.00	0.00
30003	0.00	0.00	0.00	0.00	90007	0.00	0.00	0.00	0.00
30004	0.00	0.00	0.00	0.00	90009	0.00	0.00	0.00	0.00
30006	0.00	0.00	0.00	0.00	100002	0.00	0.00	0.00	0.00
30007	0.00	0.00	0.00	0.00	100003	0.00	0.00	0.00	0.00
30008	0.00	0.00	0.00	0.00	100004	0.00	0.00	0.00	0.00
30009	0.00	0.00	0.00	0.00	110003	0.00	0.00	0.00	0.00
30010	0.00	0.00	0.00	0.00	110005	0.00	0.00	0.00	0.00
30011	0.00	0.00	0.00	0.00	110006	0.00	0.00	0.00	0.00
30012	0.00	0.00	0.00	0.00	110007	0.00	0.00	0.00	0.00
30013	0.00	0.00	0.00	0.00	110008	0.00	0.00	0.00	0.00
40001	0.00	0.00	0.00	0.00	110009	0.00	0.00	0.00	0.00
40005	0.00	0.00	0.00	0.00	110010	0.00	0.00	0.00	0.00
40006	0.00	0.00	0.00	0.00	110012	0.00	0.00	0.00	0.00
40007	0.00	0.00	0.00	0.00	120001	0.00	0.00	0.00	0.00
40008	0.00	0.00	0.00	0.00	120002	0.00	0.00	0.00	0.00
40009	0.00	0.00	0.00	0.00	120003	0.00	0.00	0.00	0.00
40012	0.00	0.00	0.00	0.00	120004	0.00	13.54	13.54	27.08
50001	0.00	0.00	0.00	0.00	120005	0.00	0.00	0.00	0.00
50003	0.00	0.00	0.00	0.00	120006	0.00	0.00	0.00	0.00
50005	0.00	0.00	0.00	0.00	120007	0.00	0.00	0.00	0.00
50006	0.00	0.00	0.00	0.00	120008	0.00	0.00	0.00	0.00
50007	0.00	0.00	0.00	0.00	120009	0.00	0.00	0.00	0.00
50008	0.00	0.00	0.00	0.00	120010	0.00	0.00	0.00	0.00
50009	0.00	0.00	0.00	0.00	130001	0.00	0.00	0.00	0.00
50010	0.00	0.00	0.00	0.00	130002	0.00	0.00	0.00	0.00

50011	0.00	0.00	0.00	0.00	130004	0.00	0.00	0.00	0.00
60001	0.00	0.00	0.00	0.00	130006	0.00	0.00	0.00	0.00
60004	0.00	0.00	0.00	0.00	130007	0.00	0.00	0.00	0.00
60005	0.00	0.00	0.00	0.00	140002	0.00	0.00	0.00	0.00
60006	0.00	0.00	0.00	0.00	140007	0.00	0.00	0.00	0.00
60007	0.00	0.00	0.00	0.00	140008	0.00	0.00	0.00	0.00
60008	0.00	0.00	0.00	0.00	140009	0.00	0.00	0.00	0.00
60009	0.00	0.00	0.00	0.00	140011	0.00	0.00	0.00	0.00
70003	0.00	0.00	0.00	0.00	140012	0.00	0.00	0.00	0.00
70005	0.00	0.00	0.00	0.00	140013	0.00	0.00	0.00	0.00

	National Capital Indicator Areas (km²)				
CSFF	Naturalness of water level regime	Sum of indicators (km²)	CSFF	Naturalness of water level regime	Sum of indicators (km²)
ALL	8.55	8.55			
10003	0.04	0.04	70006	0.00	0.00
10005	0.77	0.77	70007	0.01	0.01
10006	0.00	0.00	70008	0.00	0.00
10008	0.00	0.00	70010	0.00	0.00
20001	0.91	0.91	70012	0.00	0.00
20002	0.04	0.04	70013	0.00	0.00
20003	0.00	0.00	70014	0.00	0.00
20006	0.04	0.04	70015	0.00	0.00
20007	0.25	0.25	80001	0.00	0.00
20008	0.00	0.00	80002	0.00	0.00
20009	0.01	0.01	90001	0.03	0.03
20010	0.00	0.00	90002	0.96	0.96
20011	2.85	2.85	90005	0.00	0.00
30002	0.00	0.00	90006	0.00	0.00
30003	0.00	0.00	90007	0.00	0.00
30004	0.03	0.03	90009	0.05	0.05
30006	0.10	0.10	100002	0.00	0.00
30007	0.00	0.00	100003	0.00	0.00
30008	0.00	0.00	100004	0.00	0.00
30009	0.02	0.02	110003	0.00	0.00
30010	0.02	0.02	110005	0.00	0.00
30011	0.00	0.00	110006	0.00	0.00
30012	0.19	0.19	110007	0.04	0.04
30013	0.09	0.09	110008	0.00	0.00
40001	0.00	0.00	110009	0.01	0.01
40005	0.00	0.00	110010	0.00	0.00
40006	0.00	0.00	110012	0.00	0.00
40007	0.00	0.00	120001	0.01	0.01
40008	0.00	0.00	120002	0.00	0.00
40009	0.03	0.03	120003	0.02	0.02
40012	0.00	0.00	120004	0.03	0.03
50001	0.02	0.02	120005	0.00	0.00
50003	0.00	0.00	120006	0.00	0.00
50005	0.14	0.14	120007	0.00	0.00
50006	0.00	0.00	120008	0.00	0.00
50007	0.00	0.00	120009	0.00	0.00
50008	0.00	0.00	120010	0.00	0.00
50009	0.00	0.00	130001	0.00	0.00
50010	0.00	0.00	130002	0.07	0.07
50011	0.00	0.00	130004	0.00	0.00
60001	0.00	0.00	130006	1.12	1.12
60004	0.00	0.00	130007	0.00	0.00
60005	0.02	0.02	140002	0.21	0.21
60006	0.00	0.00	140007	0.00	0.00
60007	0.03	0.03	140008	0.21	0.21
60008	0.00	0.00	140009	0.00	0.00
60009	0.02	0.02	140011	0.00	0.00

70003	0.12	0.12	140012	0.03	0.03
70005	0.00	0.00	140013	0.00	0.00

Nutrient and Chemical Status

	National Capital Indicator Areas (km²)						
CSFF	**Nutrient status of water bodies**	**Soil nutrient status**	**Sum of indicators (km²)**	**CSFF**	**Nutrient status of water bodies**	**Soil nutrient status**	**Sum of indicators (km²)**
ALL	0.00	3.08	3.09				
10003	0.00	0.00	0.00	70006	0.00	0.00	0.00
10005	0.00	0.13	0.13	70007	0.00	0.00	0.00
10006	0.00	1.41	1.41	70008	0.00	0.00	0.00
10008	0.00	0.00	0.00	70010	0.00	0.00	0.00
20001	0.00	0.00	0.00	70012	0.00	0.20	0.20
20002	0.00	0.00	0.00	70013	0.00	0.00	0.00
20003	0.00	0.00	0.00	70014	0.00	0.00	0.00
20006	0.00	0.00	0.00	70015	0.00	0.00	0.00
20007	0.00	0.00	0.00	80001	0.00	0.00	0.00
20008	0.00	0.00	0.00	80002	0.00	0.00	0.00
20009	0.00	0.00	0.00	90001	0.00	0.00	0.00
20010	0.00	0.00	0.00	90002	0.00	0.00	0.00
20011	0.00	0.00	0.00	90005	0.00	0.00	0.00
30002	0.00	0.00	0.00	90006	0.00	0.00	0.00
30003	0.00	0.00	0.00	90007	0.00	0.00	0.00
30004	0.00	0.00	0.00	90009	0.00	0.00	0.00
30006	0.00	0.00	0.00	100002	0.00	0.00	0.00
30007	0.00	0.00	0.00	100003	0.00	0.00	0.00
30008	0.00	0.00	0.00	100004	0.00	0.00	0.00
30009	0.00	0.00	0.00	110003	0.00	0.00	0.00
30010	0.00	0.00	0.00	110005	0.00	0.00	0.00
30011	0.00	0.00	0.00	110006	0.00	0.00	0.00
30012	0.00	0.00	0.00	110007	0.00	0.00	0.00
30013	0.00	0.00	0.00	110008	0.00	0.00	0.00
40001	0.00	0.00	0.00	110009	0.00	0.00	0.00
40005	0.00	0.00	0.00	110010	0.00	0.00	0.00
40006	0.00	0.00	0.00	110012	0.00	0.00	0.00
40007	0.00	0.00	0.00	120001	0.00	0.00	0.00
40008	0.00	0.00	0.00	120002	0.00	0.00	0.00
40009	0.00	0.25	0.25	120003	0.00	0.00	0.00
40012	0.00	0.00	0.00	120004	0.00	0.00	0.00
50001	0.00	0.00	0.00	120005	0.00	0.00	0.00
50003	0.00	0.00	0.00	120006	0.00	0.00	0.00
50005	0.00	0.00	0.00	120007	0.00	0.19	0.19
50006	0.00	0.00	0.00	120008	0.00	0.00	0.00
50007	0.00	0.00	0.00	120009	0.00	0.00	0.00
50008	0.00	0.00	0.00	120010	0.00	0.00	0.00
50009	0.00	0.00	0.00	130001	0.00	0.00	0.00
50010	0.00	0.03	0.03	130002	0.00	0.00	0.00
50011	0.00	0.00	0.00	130004	0.00	0.00	0.00
60001	0.00	0.00	0.00	130006	0.00	0.00	0.00
60004	0.00	0.00	0.00	130007	0.00	0.00	0.00

60005	0.00	0.00	0.00	140002	0.00	0.00	0.00
60006	0.00	0.00	0.00	140007	0.00	0.00	0.00
60007	0.00	0.00	0.00	140008	0.00	0.00	0.00
60008	0.00	0.00	0.00	140009	0.00	0.00	0.00
60009	0.00	0.00	0.00	140011	0.00	0.00	0.00
70003	0.00	0.57	0.57	140012	0.00	0.30	0.30
70005	0.00	0.00	0.00	140013	0.00	0.00	0.00

Species Composition

	National Capital Indicator Areas (km²)				
CSFF	**Naturalness of biological assemblage: number of trophic levels & community composition in each level**	**Sum of indicators (km²)**	**CSFF**	**Naturalness of biological assemblage: number of trophic levels & community composition in each level**	**Sum of indicators (km²)**
ALL	2352.45	2352.45			
10003	0.19	0.19	70006	0.31	0.31
10005	9.95	9.95	70007	25.55	25.55
10006	501.35	501.35	70008	5.87	5.87
10008	173.91	173.91	70010	0.92	0.92
20001	29.97	29.97	70012	4.30	4.30
20002	8.40	8.40	70013	5.59	5.59
20003	14.68	14.68	70014	1.26	1.26
20006	0.48	0.48	70015	5.33	5.33
20007	8.66	8.66	80001	5.97	5.97
20008	4.84	4.84	80002	4.32	4.32
20009	0.23	0.23	90001	4.56	4.56
20010	46.41	46.41	90002	4.50	4.50
20011	6.78	6.78	90005	1.55	1.55
30002	169.41	169.41	90006	0.43	0.43
30003	49.75	49.75	90007	0.35	0.35
30004	178.84	178.84	90009	4.25	4.25
30006	2.31	2.31	100002	0.98	0.98
30007	4.75	4.75	100003	11.52	11.52
30008	37.13	37.13	100004	0.92	0.92
30009	54.18	54.18	110003	3.20	3.20
30010	43.27	43.27	110005	4.69	4.69
30011	24.27	24.27	110006	12.97	12.97
30012	310.82	310.82	110007	16.79	16.79
30013	3.69	3.69	110008	9.50	9.50
40001	16.92	16.92	110009	3.21	3.21
40005	101.22	101.22	110010	30.94	30.94
40006	31.42	31.42	110012	2.34	2.34
40007	0.28	0.28	120001	1.10	1.10
40008	34.71	34.71	120002	4.24	4.24
40009	1.55	1.55	120003	1.84	1.84
40012	23.93	23.93	120004	14.00	14.00
50001	0.59	0.59	120005	4.63	4.63
50003	4.11	4.11	120006	0.91	0.91
50005	16.50	16.50	120007	1.65	1.65
50006	4.51	4.51	120008	65.45	65.45
50007	7.78	7.78	120009	1.53	1.53

50008	0.44	0.44	120010	0.63	0.63
50009	4.40	4.40	130001	5.27	5.27
50010	2.12	2.12	130002	9.14	9.14
50011	0.15	0.15	130004	4.08	4.08
60001	2.00	2.00	130006	2.64	2.64
60004	0.25	0.25	130007	1.89	1.89
60005	1.35	1.35	140002	34.10	34.10
60006	1.09	1.09	140007	10.33	10.33
60007	4.30	4.30	140008	36.14	36.14
60008	0.84	0.84	140009	0.50	0.50
60009	2.31	2.31	140011	10.19	10.19
70003	8.74	8.74	140012	8.65	8.65
70005	3.69	3.69	140013	1.96	1.96

Vegetation

	National Capital Indicator Areas (km²)						
CSFF	**Presence & frequency of pollinator larval & adult food plants**	**Extent of permanent vegetation cover**	**Sum of indicators (km²)**	**CSFF**	**Presence & frequency of pollinator larval & adult food plants**	**Extent of permanent vegetation cover**	**Sum of indicators (km²)**
ALL	621.84	815.53	1437.38				
10003	2.11	4.69	6.80	70006	1.23	1.15	2.37
10005	11.85	15.29	27.14	70007	42.81	34.05	76.87
10006	11.76	24.57	36.33	70008	9.45	9.03	18.48
10008	4.02	5.94	9.96	70010	0.97	0.70	1.67
20001	7.66	6.17	13.83	70012	4.42	4.59	9.01
20002	8.35	10.52	18.87	70013	8.49	9.76	18.25
20003	4.53	12.57	17.10	70014	1.31	1.87	3.18
20006	1.15	2.97	4.12	70015	10.32	12.32	22.64
20007	2.40	3.94	6.34	80001	5.91	2.72	8.63
20008	3.99	4.60	8.59	80002	3.05	2.93	5.98
20009	0.51	0.20	0.71	90001	7.96	9.39	17.35
20010	2.65	4.46	7.12	90002	6.11	8.41	14.53
20011	1.42	3.19	4.62	90005	3.78	3.89	7.68
30002	6.42	9.80	16.22	90006	1.04	1.16	2.20
30003	2.68	3.16	5.84	90007	2.28	2.04	4.31
30004	10.33	11.01	21.34	90009	6.87	8.62	15.49
30006	3.25	3.49	6.73	100002	4.52	5.95	10.47
30007	1.74	2.26	4.00	100003	3.07	2.67	5.73
30008	2.26	3.44	5.70	100004	4.54	7.59	12.13
30009	10.03	18.46	28.49	110003	8.60	13.69	22.30
30010	1.32	0.55	1.87	110005	5.82	7.11	12.93
30011	3.23	6.48	9.71	110006	20.75	26.19	46.94
30012	1.64	3.95	5.59	110007	24.53	27.71	52.24
30013	6.65	5.15	11.80	110008	5.32	5.93	11.25
40001	2.23	4.29	6.52	110009	16.01	59.83	75.83
40005	15.55	20.17	35.71	110010	5.59	10.31	15.90
40006	2.00	2.56	4.56	110012	0.28	0.31	0.59
40007	0.45	0.72	1.17	120001	5.85	8.53	14.38
40008	4.76	5.39	10.16	120002	8.20	11.63	19.83
40009	1.56	2.09	3.65	120003	4.05	6.01	10.05

40012	1.47	4.35	5.82	120004	3.03	2.56	5.59
50001	2.23	2.52	4.75	120005	3.22	5.05	8.27
50003	4.54	7.33	11.87	120006	5.78	5.54	11.33
50005	12.11	4.84	16.95	120007	3.50	2.52	6.02
50006	2.33	4.56	6.89	120008	9.84	11.13	20.97
50007	2.94	4.16	7.09	120009	4.26	4.64	8.90
50008	0.44	0.72	1.17	120010	1.94	4.05	5.99
50009	4.85	3.52	8.38	130001	7.94	6.11	14.05
50010	10.16	11.36	21.52	130002	15.14	9.58	24.72
50011	0.49	1.74	2.22	130004	5.74	8.09	13.83
60001	3.28	1.88	5.16	130006	3.25	2.02	5.27
60004	1.29	1.27	2.56	130007	4.67	3.00	7.67
60005	1.87	1.87	3.75	140002	31.85	38.29	70.13
60006	2.12	2.68	4.80	140007	10.93	13.73	24.66
60007	12.33	21.32	33.65	140008	46.49	80.41	126.90
60008	3.34	2.97	6.31	140009	0.79	0.24	1.04
60009	2.59	3.24	5.82	140011	0.37	1.52	1.89
70003	3.98	2.39	6.37	140012	6.43	10.66	17.09
70005	7.25	5.57	12.81	140013	5.45	9.94	15.38

Cultural

	National Capital Indicator Areas (km²)						
CSFF	Favourable condition of	Designated Historic Environment Assets (World Heritage Sites, Scheduled monuments (% at risk), Historic	Sum of indicators (km²)	CSFF	Favourable condition of	Designated Historic Environment Assets (World Heritage Sites, Scheduled monuments (% at risk), Historic	Sum of indicators (km²)
ALL	20.39	230.69	251.08				
10003	0.00	1.91	1.91	70006	0.00	0.00	0.00
10005	0.00	5.06	5.06	70007	0.00	13.80	13.80
10006	0.00	11.85	11.85	70008	0.00	1.75	1.75
10008	0.00	1.55	1.55	70010	0.00	1.44	1.44
20001	2.72	0.40	3.13	70012	0.00	0.45	0.45
20002	0.00	6.26	6.26	70013	0.00	2.84	2.84
20003	0.00	8.89	8.89	70014	0.00	0.62	0.62
20006	0.00	1.57	1.57	70015	0.00	0.76	0.76
20007	0.00	0.59	0.59	80001	0.00	0.25	0.25
20008	0.00	0.00	0.00	80002	0.00	0.23	0.23
20009	0.00	0.05	0.05	90001	0.53	0.01	0.54
20010	0.00	0.50	0.50	90002	0.00	0.53	0.53
20011	3.60	0.38	3.98	90005	0.00	0.32	0.32
30002	0.00	1.71	1.71	90006	0.00	0.00	0.00
30003	0.00	0.55	0.55	90007	0.00	0.07	0.07
30004	0.00	0.94	0.94	90009	0.00	0.11	0.11
30006	0.00	0.46	0.46	100002	0.00	2.40	2.40
30007	0.00	0.56	0.56	100003	0.00	0.00	0.00
30008	0.00	0.58	0.58	100004	0.00	0.00	0.00
30009	0.00	4.15	4.15	110003	0.00	14.98	14.98
30010	0.00	0.00	0.00	110005	0.00	1.04	1.04
30011	0.00	2.38	2.38	110006	0.00	24.43	24.43
30012	0.00	0.64	0.64	110007	0.00	8.67	8.67
30013	0.00	0.51	0.51	110008	0.00	0.53	0.53

40001	0.00	0.34	0.34	110009	0.00	42.94	42.94
40005	0.00	4.26	4.26	110010	0.00	1.41	1.41
40006	0.00	0.49	0.49	110012	0.00	0.00	0.00
40007	0.00	0.30	0.30	120001	0.00	0.14	0.14
40008	0.00	0.73	0.73	120002	0.00	1.81	1.81
40009	0.00	0.13	0.13	120003	0.00	0.38	0.38
40012	0.00	2.68	2.68	120004	13.54	0.12	13.66
50001	0.00	0.12	0.12	120005	0.00	0.97	0.97
50003	0.00	2.34	2.34	120006	0.00	0.00	0.00
50005	0.00	0.45	0.45	120007	0.00	0.00	0.00
50006	0.00	0.39	0.39	120008	0.00	2.01	2.01
50007	0.00	0.73	0.73	120009	0.00	0.46	0.46
50008	0.00	0.09	0.09	120010	0.00	0.80	0.80
50009	0.00	0.48	0.48	130001	0.00	0.30	0.30
50010	0.00	1.02	1.02	130002	0.00	2.87	2.87
50011	0.00	0.79	0.79	130004	0.00	0.84	0.84
60001	0.00	0.29	0.29	130006	0.00	0.03	0.03
60004	0.00	0.06	0.06	130007	0.00	0.03	0.03
60005	0.00	0.00	0.00	140002	0.00	6.14	6.14
60006	0.00	0.31	0.31	140007	0.00	0.71	0.71
60007	0.00	1.98	1.98	140008	0.00	18.12	18.12
60008	0.00	0.83	0.83	140009	0.00	0.00	0.00
60009	0.00	0.26	0.26	140011	0.00	0.00	0.00
70003	0.00	0.00	0.00	140012	0.00	3.30	3.30
70005	0.00	0.76	0.76	140013	0.00	0.76	0.76

Asset Location

	National Capital Indicator Areas (km²)				
CSFF	**Patch size, shape and edge**	**Sum of indicators (km²)**	**CSFF**	**Patch size, shape and edge**	**Sum of indicators (km²)**
ALL	15.58	15.58			
10003	0.02	0.02	70006	0.01	0.01
10005	0.15	0.15	70007	0.23	0.23
10006	0.81	0.81	70008	0.15	0.15
10008	0.33	0.33	70010	0.00	0.00
20001	0.08	0.08	70012	0.01	0.01
20002	0.08	0.08	70013	0.17	0.17
20003	2.02	2.02	70014	0.00	0.00
20006	0.12	0.12	70015	0.04	0.04
20007	0.27	0.27	80001	0.01	0.01
20008	0.06	0.06	80002	0.00	0.00
20009	0.06	0.06	90001	0.03	0.03
20010	1.22	1.22	90002	0.06	0.06
20011	0.00	0.00	90005	0.15	0.15
30002	0.67	0.67	90006	0.00	0.00
30003	0.09	0.09	90007	0.02	0.02
30004	0.19	0.19	90009	0.03	0.03
30006	0.04	0.04	100002	0.01	0.01
30007	0.13	0.13	100003	0.05	0.05
30008	0.04	0.04	100004	0.00	0.00
30009	0.86	0.86	110003	0.33	0.33

30010	0.00	0.00	110005	0.20	0.20
30011	0.09	0.09	110006	0.02	0.02
30012	0.25	0.25	110007	0.39	0.39
30013	0.03	0.03	110008	0.40	0.40
40001	0.04	0.04	110009	0.42	0.42
40005	0.24	0.24	110010	0.15	0.15
40006	0.16	0.16	110012	0.00	0.00
40007	0.01	0.01	120001	0.01	0.01
40008	0.00	0.00	120002	0.13	0.13
40009	0.02	0.02	120003	0.29	0.29
40012	0.04	0.04	120004	0.00	0.00
50001	0.00	0.00	120005	0.19	0.19
50003	0.28	0.28	120006	0.00	0.00
50005	0.10	0.10	120007	0.03	0.03
50006	0.02	0.02	120008	0.00	0.00
50007	0.09	0.09	120009	0.00	0.00
50008	0.01	0.01	120010	0.02	0.02
50009	0.08	0.08	130001	0.18	0.18
50010	0.06	0.06	130002	0.04	0.04
50011	0.00	0.00	130004	0.41	0.41
60001	0.00	0.00	130006	0.03	0.03
60004	0.00	0.00	130007	0.00	0.00
60005	0.00	0.00	140002	0.83	0.83
60006	0.01	0.01	140007	0.00	0.00
60007	0.06	0.06	140008	1.20	1.20
60008	0.00	0.00	140009	0.00	0.00
60009	0.12	0.12	140011	0.00	0.00
70003	0.27	0.27	140012	0.09	0.09
70005	0.00	0.00	140013	0.02	0.02

13. Appendix 3: Natural capital contribution by NE/EA administrative boundaries

Freshwater

Table 49: Summary of CS option areas within EA/NE administrative areas which impact NCIs in the Freshwater habitat category

	National Capital Indicator areas (km²)							
Region	**Coastal and Floodplain Grazing Marsh**	**Lakes and Standing Waters**	**Lowland Fens**	**Lowland Raised Bog**	**Reedbeds**	**Blanket Bog**	**Woodland**	**Sum of indicator area (km²)**
All	**76.17**	**0.20**	**5.65**	**2.90**	**1.62**	**1788.17**	**113.84**	**1988.54**
Cumbria and Lancashire	3.43	0.00	1.49	2.77	0.07	376.31	32.96	417.02
Devon Cornwall and the Isles of Scilly	0.77	0.00	0.06	0.00	0.02	57.28	1.53	59.66
East Anglia	10.98	0.00	1.04	0.00	0.95	0.00	3.20	16.17
East Midlands	0.29	0.00	0.14	0.00	0.03	35.83	6.21	42.50
Greater Manchester Merseyside and Cheshire	0.54	0.00	0.03	0.00	0.00	0.00	0.02	0.60
Kent South London and East Sussex	28.34	0.00	0.15	0.06	0.25	0.00	9.42	38.22
Lincolnshire and Northamptonshire	4.39	0.00	0.02	0.00	0.00	0.00	3.91	8.33
North East	1.37	0.20	0.81	0.00	0.10	646.55	2.51	651.54
Solent and South Downs	12.49	0.00	1.44	0.00	0.06	0.00	25.14	39.14
Thames	2.41	0.00	0.01	0.00	0.00	0.00	11.62	14.05

Wessex	0.89	0.00	0.02	0.02	0.08	29.66	4.89	35.57
West Midlands	7.70	0.00	0.05	0.00	0.05	0.00	4.03	11.83
Yorkshire	2.57	0.00	0.40	0.05	0.00	642.54	8.38	653.93

Farmland

Table 50: Summary CS option areas within EA/NE administrative areas which impact NCIs in the Farmland habitat category

	National Capital Indicator areas (km2)		
Region	**Arable and rotational leys**	**Orchards & top fruit**	**Sum of indicator area (km²)**
ALL	**21.36**	**2.70**	**24.06**
Cumbria and Lancashire	0.16	0.24	0.40
Devon Cornwall and the Isles of Scilly	0.22	0.12	0.33
East Anglia	2.22	0.03	2.25
East Midlands	4.71	0.00	4.71
Greater Manchester Merseyside and Cheshire	0.00	0.00	0.00
Kent South London and East Sussex	1.00	0.00	1.00
Lincolnshire and Northamptonshire	1.48	0.00	1.48
North East	0.05	0.00	0.05
Solent and South Downs	1.88	0.03	1.91
Thames	3.13	0.03	3.16
Wessex	2.21	0.15	2.36
West Midlands	3.30	2.11	5.41
Yorkshire	1.00	0.00	1.00

Table 51: CS option areas within EA/NE administrative areas which impact NCIs in the Grassland habitat category

	National Capital Indicator areas (km2)
Area	**Other Semi Natural Grassland**
ALL	**206.17**
Cumbria and Lancashire	16.49
Devon Cornwall and the Isles of Scilly	10.09
East Anglia	10.91
East Midlands	5.56
Greater Manchester Merseyside and Cheshire	0.55
Kent South London and East Sussex	33.77
Lincolnshire and Northamptonshire	2.88
North East	3.36
Solent and South Downs	25.21
Thames	18.22
Wessex	43.27
West Midlands	23.76
Yorkshire	12.11

Table 52: CS option areas within EA/NE administrative areas which impact NCIs in the Mountain, moor and heathland habitat category

	National Capital Indicator areas (km2)				
Area	**Blanket bog**	**Dwarf shrub heath**	**Semi-natural grassland (above moorland line)**	**Woodland (above moorland line)**	**Sum of indicator area (km²)**
ALL	**1788.17**	**1847.56**	**1900.48**	**113.84**	**5650.05**
Cumbria and Lancashire	376.31	394.51	410.73	32.96	1214.50
Devon Cornwall and the Isles of Scilly	57.28	61.24	63.46	1.53	183.51
East Anglia	0.00	0.44	0.00	3.20	3.63
East Midlands	35.83	36.46	40.98	6.21	119.48
Greater Manchester Merseyside and Cheshire	0.00	0.24	0.00	0.02	0.26
Kent South London and East Sussex	0.00	0.06	0.00	9.42	9.48
Lincolnshire and Northamptonshire	0.00	0.00	0.00	3.91	3.91
North East	646.55	650.25	676.94	2.51	1976.26
Solent and South Downs	0.00	1.23	0.00	25.14	26.37
Thames	0.00	14.68	0.00	11.62	26.30
Wessex	29.66	34.70	29.99	4.89	99.24
West Midlands	0.00	0.00	0.25	4.03	4.28
Yorkshire	642.54	653.75	678.14	8.38	1982.81

Table 53: CS option areas within EA/NE administrative areas which impact NCIs in the Woodland habitat category

	National Capital Indicator areas (km2)		
Area	**Broadleaved, mixed & yew woodland**	**Woodland Priority Habitats**	**Sum of indicator area (km²)**
ALL	**126.18**	**34.76**	**160.93**
Cumbria and Lancashire	36.23	8.79	45.02
Devon Cornwall and the Isles of Scilly	2.18	0.25	2.44
East Anglia	3.48	7.34	10.82
East Midlands	6.40	5.89	12.29
Greater Manchester Merseyside and Cheshire	0.06	0.00	0.06
Kent South London and East Sussex	10.65	1.67	12.32
Lincolnshire and Northamptonshire	3.99	0.17	4.16
North East	3.71	0.00	3.71
Solent and South Downs	26.26	2.80	29.06
Thames	11.82	0.53	12.35
Wessex	7.21	0.72	7.93
West Midlands	4.81	5.93	10.74
Yorkshire	9.39	0.66	10.05

Coastal

Table 54: CS option areas within EA/NE administrative areas which impact NCIs in the Coastal habitat category

	National Capital Indicator areas (km2)			
Area	**Salt marsh**	**Sand dunes**	**Shingle**	**Sum of indicator area (km²)**
ALL	**6.85**	**13.54**	**13.54**	**33.93**
Cumbria and Lancashire	6.32	0.00	0.00	6.32
Devon Cornwall and the Isles of Scilly	0.00	13.54	13.54	27.08
East Anglia	0.53	0.00	0.00	0.53
East Midlands	0.00	0.00	0.00	0.00
Greater Manchester Merseyside and Cheshire	0.00	0.00	0.00	0.00
Kent South London and East Sussex	0.00	0.00	0.00	0.00
Lincolnshire and Northamptonshire	0.00	0.00	0.00	0.00
North East	0.00	0.00	0.00	0.00
Solent and South Downs	0.00	0.00	0.00	0.00
Thames	0.00	0.00	0.00	0.00
Wessex	0.00	0.00	0.00	0.00
West Midlands	0.00	0.00	0.00	0.00
Yorkshire	0.00	0.00	0.00	0.00

Table 55: CS option areas within EA/NE administrative areas which impact NCIs within the Cultural asset quality theme

Region	Favourable condition of SSSIs	Designated Historic Environment Assets (World Heritage Sites, Scheduled monuments (% at risk), Historic Parks &	Sum of indicators (km²)
ALL	**20.39**	**230.56**	**250.95**
Cumbria and Lancashire	6.32	30.87	37.19
Devon Cornwall and the Isles of Scilly	13.54	6.69	20.23
East Anglia	0.53	1.51	2.03
East Midlands	0.00	2.05	2.05
Greater Manchester Merseyside and Cheshire	0.00	0.43	0.43
Kent South London and East Sussex	0.00	19.59	19.59
Lincolnshire and Northamptonshire	0.00	2.49	2.49
North East	0.00	20.36	20.36
Solent and South Downs	0.00	12.67	12.67
Thames	0.00	16.19	16.19
Wessex	0.00	94.84	94.84
West Midlands	0.00	12.70	12.70
Yorkshire	0.00	10.19	10.19

Table 56: CS option areas within EA/NE administrative areas which impact NCIs within the Hydrology and Geomorphology asset quality theme

	National Capital Indicator Areas (km²)	
Region	**Naturalness of water level**	**Sum of indicators (km²)**
ALL	8.55	8.55
Cumbria and Lancashire	4.25	4.25
Devon Cornwall and the Isles of Scilly	0.06	0.06
East Anglia	1.04	1.04
East Midlands	0.14	0.14
Greater Manchester Merseyside and Cheshire	0.03	0.03
Kent South London and East Sussex	0.21	0.21
Lincolnshire and Northamptonshire	0.02	0.02
North East	0.81	0.81
Solent and South Downs	1.44	1.44
Thames	0.01	0.01
Wessex	0.04	0.04
West Midlands	0.05	0.05
Yorkshire	0.45	0.45

Table 57: CS option areas within EA/NE administrative areas which impact NCIs within the Nutrient and Chemical Status asset quality theme

	National Capital Indicator Areas (km²)		
Region	**Nutrient status of**	**Soil nutrient status**	**Sum of indicators (km²)**
ALL	0.00	3.08	3.09
Cumbria and Lancashire	0.00	0.57	0.57
Devon Cornwall and the Isles of Scilly	0.00	0.19	0.19
East Anglia	0.00	0.00	0.00
East Midlands	0.00	0.00	0.00
Greater Manchester Merseyside and Cheshire	0.00	0.25	0.25
Kent South London and East Sussex	0.00	0.00	0.00
Lincolnshire and Northamptonshire	0.00	0.03	0.03
North East	0.00	1.54	1.54
Solent and South Downs	0.00	0.30	0.30
Thames	0.00	0.00	0.00
Wessex	0.00	0.00	0.00
West Midlands	0.00	0.20	0.20
Yorkshire	0.00	0.00	0.00

Table 58: CS option areas within EA/NE administrative areas which impact NCIs within the Species Composition asset quality theme

	National Capital Indicator Areas (km²)	
Region	**Naturalness of biological assemblage: number of trophic levels & community**	**Sum of indicators (km²)**
ALL	2352.31	2352.31
Cumbria and Lancashire	484.42	484.42
Devon Cornwall and the Isles of Scilly	95.97	95.97
East Anglia	25.87	25.87
East Midlands	60.21	60.21
Greater Manchester Merseyside and Cheshire	1.82	1.82
Kent South London and East Sussex	48.92	48.92
Lincolnshire and Northamptonshire	7.68	7.68
North East	685.40	685.40
Solent and South Downs	61.69	61.69
Thames	49.17	49.17
Wessex	87.70	87.70
West Midlands	39.22	39.22
Yorkshire	704.24	704.24

Table 59: CS option areas within EA/NE administrative areas which impact NCIs within the Vegetation asset quality theme

	National Capital Indicator Areas (km²)		
Region	**Presence & frequency of pollinator larval &**	**Extent of permanent**	**Sum of indicators (km²)**
ALL	624.38	815.53	1439.91
Cumbria and Lancashire	81.27	118.61	199.87
Devon Cornwall and the Isles of Scilly	50.26	61.66	111.91
East Anglia	37.38	39.16	76.54
East Midlands	19.38	16.12	35.50
Greater Manchester Merseyside and Cheshire	2.05	2.81	4.86
Kent South London and East Sussex	63.75	104.33	168.07
Lincolnshire and Northamptonshire	18.24	19.86	38.10
North East	29.84	50.49	80.32
Solent and South Downs	69.36	69.67	139.02
Thames	55.44	51.78	107.21
Wessex	92.82	159.18	251.99
West Midlands	63.09	66.21	129.30
Yorkshire	41.52	55.68	97.20

Patch size, shape and edge

Table 60: CS option areas within EA/NE administrative areas which impact the Patch size, shape and edge Natural Capital Indicator

	National Capital Indicator Areas (km²)	
Region	**Patch size, shape and edge**	**Sum of indicators (km²)**
ALL	**15.58**	**15.58**
Cumbria and Lancashire	5.36	5.36
Devon Cornwall and the Isles of Scilly	0.66	0.66
East Anglia	0.31	0.31
East Midlands	0.37	0.37
Greater Manchester Merseyside and Cheshire	0.03	0.03
Kent South London and East Sussex	1.23	1.23
Lincolnshire and Northamptonshire	0.15	0.15
North East	1.31	1.31
Solent and South Downs	1.18	1.18
Thames	0.29	0.29
Wessex	2.32	2.32
West Midlands	0.79	0.79
Yorkshire	1.58	1.58