



Department  
for Environment  
Food & Rural Affairs

# The enablers and barriers to the delivery of natural flood management project

## Appendix F: Case studies

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# Joint Flood and Coastal Erosion Risk Management Research and Development Programme

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# Contents

Contents .....	3
Case study 1: Countryside Stewardship .....	1
Summary .....	1
Background to this funding mechanism.....	3
Barriers and Enablers.....	5
References and additional information .....	7
Case study 2: Defra £15m NFM Funding.....	8
Summary .....	9
Background to this funding mechanism.....	10
Barriers and Enablers.....	11
References and Additional Information .....	13
Case study 3: Payments per outcome .....	1
Summary .....	1
Background to this funding mechanism.....	2
Barriers and enablers .....	5
References and additional information .....	7
Case study 4: Calderdale NFM grant fund .....	8
Summary .....	8
Background to this funding mechanism.....	9
Barriers and Enablers.....	10
References and additional information .....	12
Case study 5: Somerset NFM auction .....	13
Summary .....	13
Background to this funding mechanism.....	14
Barriers and Enablers.....	15

References and additional information .....	18
Case study 6: EnTrade .....	19
Summary.....	19
Background to this funding mechanism.....	20
Barriers and Enablers.....	22
References and additional information .....	23

## Case study 1: Countryside Stewardship

The Countryside Stewardship (CS) schemes provide funding for farmers, foresters, and land owners and managers to allow them to make improvements to their land for the benefit of the environment. Within this scheme, one of the options that can provide funding for Natural Flood Management (NFM) measures is the SW12: making space for water, which aims to “*restore rivers and habitats to reduce the risk of high energy flows and soil erosion*”. This option is part of the higher tier CS. The requirements for this include allowing the land to flood, grazing requirements and limiting fertiliser use. This option is a 20-year scheme, much longer than the usual 5-year schemes, due to the high-level changes required.

The facilitation fund is also a part of the CS scheme. It was set up to provide funding to people and organisations who want to help bring together groups of farmers, foresters, and land managers with an aim of improving the environment. The purpose of this funding is to encourage partnership working as a means to making land management improvements for the benefit of the environment. The key aims of this are to ensure improvements to land management are done at a landscape scale, rather than individual farm, and maximise the improvements that could be made by working with groups.

### Summary

This case study considers the barriers and enablers presented under the countryside stewardship funding mechanism. It considers how under this funding mechanisms, which might support Natural Flood Management (NFM) implementation, it could address barriers and might facilitate implementation. The Case Study draws on numerous conversations undertaken during the research with landowners and their advisors about Countryside Stewardship (CS) funding. However, the research did not reveal any specific CS funded NFM focussed projects which could be researched in depth. The Case Study relies on farmers, landowners and their advisors describing the opportunities and issues that are likely to arise. The Table below summarises how this funding approach might address some of the key barriers identified in the research and outlines specifically how it might facilitate NFM implementation.

**Table 1. Summary of the barriers addressed by Countryside Stewardship.**

Barriers (identified in wider research)	Is this barrier addressed by this funding mechanism?	How does this funding mechanism address these barriers?
Complex/difficult application forms and paperwork	N	A lot of restrictions to consider in the application process, making it complex and time-consuming (e.g. SW12 requires Environment Agency support).
Requirement of evidence (e.g. modelling)	Y	It is not specified that there is any requirement for any prior evidence in the application process.
Accessibility to funding	N	With SW12 in particular, there are limits on the land that can be used for this. For example, the guidance indicates this option can only be considered on arable, temporary grassland, or improved permanent grassland.
Restrictions on what the money can be used for	N	The CS schemes are very prescriptive in terms of what can be implemented with the funding and there is little to no flexibility on changing the initial plans.
Obtaining the funding	N	The CS schemes are known to be problematic in terms of actually receiving the payment.  Farmers and facilitators are also expected to pay the upfront costs and are then reimbursed after the agreement conditions have been met.
Maintenance funding	N	There is no form of on-going payment or maintenance payment within these schemes.
Complex auditing process (e.g. lots of paperwork/inspections)	N	One of the big criticisms of the CS schemes is the paperwork-heavy conditions and strict inspection/auditing processes.
Lack of appropriate advice and guidance	N/Y	It has been suggested that there is a lack of advice despite the need for professional advice with many of the options.  The facilitation fund offers the opportunity for some advice and encourages partnerships, however there are further criticisms with this-further explored below.

## Background to this funding mechanism

### The process of obtaining the funding:

The CS scheme has 4 main elements: Mid-Tier, Wildlife Offers, Higher Tier, and the Capital Grants. For NFM, applicants would look to the Higher Tier SW12 option (Making Space for Water). This option has application requirements that include the submission of a map of permitted access routes, and a SSSI strategic river restoration plan or River basin management plan. Professional advice is also recommended to ensure that the most appropriate area of land is chosen to implement the measures on.

The application for the facilitation fund is separate to the standard application process and is based on a scoring and assessment process. The application will go through an initial check to ensure it meets the eligibility criteria, followed by a local assessment by Natural England, the Environment Agency, and the Forestry Commission, before going to a national panel assessment to make the final decision. The funding is competitive, and the applications are scored against a number of criteria to determine who can obtain the funding.

### Who can obtain the funding?

The SW12: Making Space for Water funding is available as part of a higher tier CS options and so is open to any landowners eligible under this rural payment scheme. More specifically, the SW12 option has specific criteria the applicant must meet. First, this option is only available on arable land, temporary grassland, or improved permanent grassland that meets all of the following conditions:

- The site forms part of a natural hydrological unit.
- The Environment Agency has provided written support.
- The site is identified in a relevant SSSI strategic river restoration plan, or river basin management plan.

The applicant must then also meet other conditions based on following fertiliser management systems or be a low intensity farmer. It is also specified this option cannot be used where the land is already receiving funding for Ecological focus areas under the Basic Payment Scheme.

The facilitation fund money is available to people or organisations to help facilitate a group of farmers or land managers to improve their land management practices. To be eligible to be a facilitator, individuals must demonstrate expertise in either agriculture, forestry, water management, or ecology. There is also a requirement for members of the facilitation fund group to manage an area of land that is a sufficient size to deliver CS priorities that is at least 2,000 ha in size and spread across a minimum of 4 holdings in the management control of different people.

## **What can the funding be used for?**

Within the SW12 option, features include either new or increased areas of water such as rivers, streams, becks and brooks, ponds, and standing water), bare ground, cobble, and gravel. The features on the land may change or move over the course of the agreement.

The facilitation fund money can only be used for the purposes of facilitating groups of landowners to make changes to land management under the CS agreements. The costs that are eligible for funding are:

- Costs for administration, travel and subsistence, and meetings;
- VAT (where the facilitator is not VAT registered);
- Costs for training on activities that are directly required for the delivery of CS priorities (such as training materials, training venues, and buying in the trainers).

In terms of payment for the enablers, they can be paid for running costs of a facilitation group, salary of the facilitator (along with contributions of national insurance or pension), and project costs set out in a detailed plan. The project plan should involve the transfer of knowledge or expertise through the facilitator.

The funding is not eligible to be used for the costs of submitting the application or other activities that have been completed prior to submission. It can also not be used to provide one-to-one advice to a group member, complete a CS application for a group member, or to provide monitoring information to Natural England.

## **Examples of projects the funding has been used for:**

The CS options are used across the country at varying scales, there are no specific examples listed.

The facilitation fund has been through 4 rounds of applications, 3 national and 1 with a focus on areas in the North that were affected by significant flooding. The successful applicants are documented through case studies and maps to show where these groups are.

## **Requirements to obtain the funding:**

Sites used for the SW12 option can be whole or part parcel and must fit the requirements outlined above. CS agreements are particularly prescriptive in what the farmer must do in order to obtain the funding. These requirements for the SW12 option include:

- Allow land to flood and the river/water to move more freely in the floodplain;
- Establish grassland;
- Follow grazing or cutting requirements (including excluding livestock at certain times);
- Limit manure and fertiliser application;



- Not use pesticides other than control of injurious weeds or invasive species;
- Not create new tracks for vehicle access;
- Not undertake land forming and earthworks, works to river banks, flood defences, drainage works other than those set out;
- Not carry out supplementary feeding.

As well as the requirements for work on the land, the agreement holder will also need to keep records of various things and be able to supply them on request. Records will need to be kept of bank statements, invoices, consents and permissions, photographs, and other records. More information on this can be found on the SW12 page on the Gov.UK website.

The facilitation fund sets out an agreement that is 3 years in length, and once the applicant has been notified that the application has been successful, a detailed plan is agreed with Natural England which will then become the facilitation agreement. The guidance lists out what the funding can and cannot be used for. It is also required that claims for the funding are supported by proof of payment/expenditure for items and timesheets to detail the facilitators time.

## Barriers and Enablers

The CS scheme pays landowners to make changes to their land management for the benefit of the environment. A number of barriers and enablers are associated with this funding mechanism. As can be seen in Table 1, there are many of the barriers identified in the wider research associated with this type of funding. As a result, many of the other funding mechanisms have tried to address these barriers. Table 2 below outlines the main barriers and enablers associated with the CS funding and more detail is provided on these in the following section.

**Table 2. Summary of the barriers and enablers associated with Countryside Stewardship.**

Barriers	Enablers
<ul style="list-style-type: none"> <li>• Not specifically targeted at NFM</li> <li>• Inflexible/prescriptive options with little room for change once the agreement is set.</li> <li>• Complex application process.</li> <li>• Significant amounts of paperwork and strict inspections.</li> <li>• Difficulties obtaining payment</li> <li>• SW12: very limited on type of land this can be used on.</li> </ul>	<ul style="list-style-type: none"> <li>• Provides a monetary incentive for farmers to make changes for environmental benefits.</li> <li>• The SW12 agreement is 20-years, which would allow for some long-term benefits.</li> </ul>

There are various different levels and measures that can be implemented through CS all of which aim to improve land management. This variety of options ensures there is potential for many landowners to get involved in these types of schemes and make changes that would provide maximum benefits from their specific land.

The use of a financial incentive to provide these benefits allows the farmers to still maintain their income even if it is necessary to take some of their land out of production. Despite these financial incentives, some concerns have been raised over the lack of maintenance payments or income stream style payment, as the funding usually covers only the capital costs.

The facilitation fund specifically is much more restrictive in what it can be used for. While it cannot be used towards the actual implementation of features, this funding does help towards providing farmers with access to support and advice on how they can change their land management practices to benefit the environment. It also encourages partnership working, a known facilitator for NFM, which again helps to overcome the barrier of farmers wanting advice and guidance on making improvements for environmental gain.

## **Barriers**

One of the biggest constraints identified with the general CS funding is that it is inflexible and very prescriptive over what the farmer has to do. Often it seems farmers would prefer to have a choice on how they approach changing their land management techniques, however as seen above, this funding usually has a long list of requirements on what must be done before they can receive payment. The strict restrictions on what can be done are also reflected in the agreements set out. Once the agreement with the farmer is outlined, it has been suggested that it then often cannot be changed. Therefore, even if a different, potentially more beneficial option comes to light after the agreement has been made, there is limited room to incorporate this.

There is also an associated problem with the applications for these schemes which are said to be very complex and difficult to fill in. "The complexity has gone through the roof, so they're completely unworkable" was a comment made by one farmer who felt there were significant problems with this funding mechanism. This then often leads to the need for an advisor to aid in the application process and consultation with relevant large organisations such as the Environment Agency, Natural England, and the Local Authority. This can make the process more difficult and time-consuming, and as a result there is a risk this could deter farmers for getting involved.

A problem specific to SW12 option is that it is in the higher tier of CS options and therefore there are very specific requirements on which land can be entered into this agreement. Generally, the land needs to be in an environmentally significant site, commons, woodland, and be of a specific land use (arable, temporary grassland, improved grassland). This, along with further requirements outlined above suggest that only a select

few areas of land are likely to be accepted into this agreement and limiting the land available could also limit the benefits that can be obtained.

As well as the complex application process, other issues have been identified with the strict auditing and validation processes that accompany CS schemes. There are significant concerns among farmers that if they make a mistake or don't fully comply with the agreement, the inspectors will enforce strict consequences such as delays to payments. One participant even suggested "you could rent out houses and cottages and sleep at night, whereas filling in a form from will give you a load of grief. I just don't need the hassle". This concern is shared with many farmers, and it has resulted in some farmers being very reluctant to get involved in the schemes.

A further issue that has been identified with the CS options is actually obtaining the payments. In order to obtain the funding from the facilitation fund, applicants must submit invoices of expenditure and evidence of the money that has been spent on facilitation. Even with the other CS options, many farmers have suggested that "Getting paid is the biggest worry". Some indicated that the payment agencies are reluctant to set deadlines and "they don't set themselves deadlines for paying you, so they can't possibly be late". For the farmers, this issue is a real concern as often they cannot afford to pay for many of these measures upfront and are left out of pocket having to wait to reclaim the money back. This is particularly a problem for the larger schemes, with one farmer pointing out "there's no way any of us can find £300,000".

## **Enablers**

Despite the many constraints associated with this funding stream, the CS options can facilitate the implementation of NFM by providing payments to farmers for environmental benefits. Quite simply it can provide a monetary incentive to improve land management, and it could cover losses from a farmer taking areas of land out of production to allow them to make changes to benefit the environment. The facilitation fund provides another facilitator to NFM implementation as it provides an opportunity for support and guidance for the farmers on how to make these changes.

With the SW12 option in particular, there is a benefit in it being a 20-year agreement option as this allows significant changes to be made. It is a positive step that there is recognition of the long-term changes needs when it comes to 'making space for water'. A good plan that provides maximum benefits developed prior to signing the agreement provides the basis for positive changes.

## **References and additional information**

Natural England. 2018. Facilitation Fund: Countryside Stewardship. [Online]. Available from: <https://www.gov.uk/government/collections/countryside-stewardship-facilitation-funding>

Natural England. 2019. Countryside Stewardship. [Online]. Available from: <https://www.gov.uk/government/collections/countryside-stewardship-get-paid-for-environmental-land-management#higher-tier>

Natural England. 2019. SW12: Making Space for water. [Online]. Available from: <https://www.gov.uk/countryside-stewardship-grants/making-space-for-water-sw12>

## Case study 2: Defra £15m NFM Funding

In the 2016 Autumn statement, Defra announced £15 million of government funding to go into Natural Flood Management (NFM) schemes across England. This funding was allocated to 60 projects in total, 26 catchment scale projects and 34 community scale projects. £1 million of this funding was allocated to community scale projects and distributed through a competitive application process. The catchment scale projects were identified by the Environment Agency, Natural England, and the Forestry Commission.

## Summary

This case study considers the barriers and enablers presented under the Defra £15m funding mechanism. It considers how under this funding mechanism, specifically for Natural Flood Management (NFM) implementation, different barriers arise or are addressed and how implementation under this funding mechanism facilitates implementation. The Table below summarises how this funding approach addresses some of the key barriers identified in the research and outlines specifically how it might facilitate NFM implementation.

**Table 3. Summary of the barriers addressed by the Defra £15m funding.**

Barriers (identified in wider research)	Is this barrier addressed by this funding mechanism?	How does this funding mechanism address these barriers?
Complex/difficult application forms and paperwork	Y	Competition style funding involving putting together an application/project proposal with limited restrictions.
Requirement of evidence (e.g. modelling/monitoring)	N	There could be additional costs as monitoring NFM performance is required as part of the funding.
Accessibility to funding	Y	Straightforward accessibility- a 100% grant for those who were successful, and anyone could apply for the community-level funding.
Restrictions on what the money can be used for	Y	Applicants had no restrictions on the type of NFM measures proposed, they just had to apply through a competition.
Obtaining the funding	Y	Receive a 100% grant, if successful in the competition.
Maintenance funding	N	One off funding that does not necessarily account for maintenance but does require monitoring.
Complex auditing process (e.g. lots of paperwork/inspections)	N	There is no set auditing process or inspections, however monitoring is required as part of the funding agreement.

Lack of appropriate advice and guidance	Y	There is some guidance available on monitoring
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## Background to this funding mechanism

### The process of obtaining the funding

This funding pot was released by the UK Government as a one-off pot of funding for NFM measures and the application process therefore had a specific cut-off date. The funding was split between catchment scale projects and community led projects. The catchment scale projects were identified by either the Environment Agency, Natural England, or the Forestry commission and funding was allocated this way. The community-led projects obtained the funding through a government funded competition for part of £1million worth of funding.

### Who can obtain the funding?

The funding was available to either organisations such as the Environment Agency, Natural England, or the Forestry commission to implement large-scale catchment programmes or to small community groups or charities (i.e. Rivers Trusts) to implement smaller-scale project. The map below shows the projects which successful obtained the funding, split into both catchment and community programmes.

### What can the funding be used for?

There are no set requirements as to what this funding can go towards.

The funding for the community programme was distributed through a competition style application process where applicants had to put together plans for the project to submit. From these it was then decided who would get funding and which applications would not.

### Requirements to obtain the funding

There is a requirement with this funding that monitoring is completed as part of the project. This helps to ensure the projects are helping towards building the evidence base for NFM and works towards one of the actions outlined in the 25-year environment plan; “to learn from the £15m NFM funding to develop our knowledge, identifying and promoting practical solutions for local implementation”.

The monitoring should look at (taken from the monitoring and evaluation guidance produced by Defra, the Environment Agency, and CaBA):

- The reduction in flood and coastal erosion risk to homes
- Improvements to habitats and biodiversity

- The development of partnerships and working with/between the community
- The contribution to research and development

A guidance document produced by Defra, the Environment Agency, and CaBA is available on the different styles and levels of monitoring that might be appropriate for each scheme.

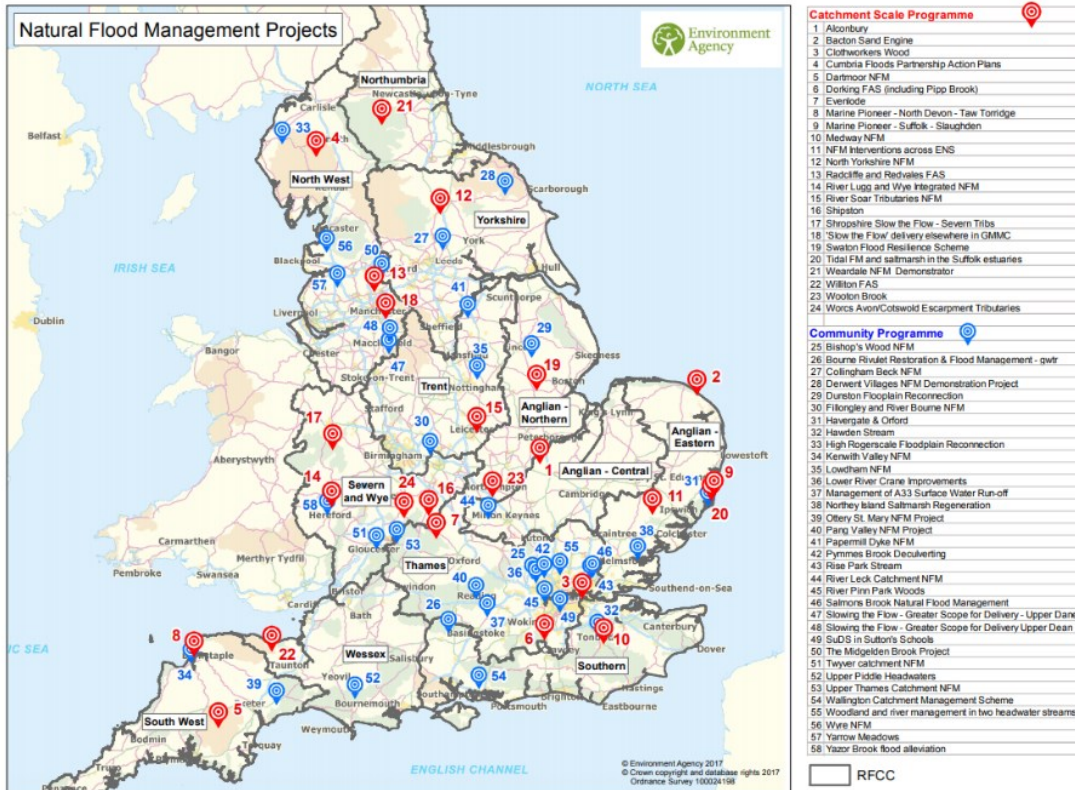


Figure 1. Map of the different projects implemented through this funding (CABA, 2018)

## Barriers and Enablers

The government funding for NFM measures has helped to facilitate the implementation of NFM by providing financial support for both small-scale community level schemes through to larger, catchment-scale projects. The availability of this funding has encouraged the development of NFM projects and supported the implementation.

This funding was driven by the need to implement more NFM measures across the country and to fill evidence gaps in understanding the effectiveness of NFM in providing flood and other environmental benefits. Consequently, there are a number of barriers and enablers identified through desktop research, interviews, and correspondence with those projects funded. Both catchment and community scale projects have been explored to identify these barriers and enablers. A summary of these can be found below in Table 2.

**Table 4. Summary of the barriers and enablers associated with the Defra £15m funding.**

Barriers	Enablers
<ul style="list-style-type: none"> <li>• Requirements for monitoring limits the funding for implementation.</li> <li>• The evidence necessary in the application was difficult to obtain (e.g. specific number of homes protected).</li> <li>• No direct funding for maintenance- the grant money could quickly run out.</li> <li>• The one-off payment could limit future project development.</li> </ul>	<ul style="list-style-type: none"> <li>• NFM focussed funding</li> <li>• Government backing for NFM- raises awareness.</li> <li>• Adds to the evidence base through the monitoring requirements</li> </ul>

## Barriers

Where this funding mechanism was opened out to a competition for local and community projects to apply, there were a number of problems identified with the application process. These issues centred around the information required being somewhat inappropriate for these types of projects, specifically the data requirements, which were difficult to quantify due to the small-scale nature of NFM measures. Some of the questions required data on the number of houses and businesses to be protected by the scheme and the hectares of habitat benefiting. It was identified by an applicant that the data required would typically only be identified in the feasibility stage of a project. The requirement of these figures led to some applicants identifying that they missed out on the competition funding because “the number of properties in most of our flooded catchment was not sufficient to make the project feasible in the EA’s funding calculator”. This was also somewhat contradictory in that this funding is requiring monitoring to fill the evidence gaps, however some of the application questions assume there is evidence on the effectiveness of NFM to be able to calculate these figures.

Further criticisms of the application process were that it was almost too simple and basic. Whilst it was acknowledged that it was in some way a facilitator that there was a simple application form, it was suggested that it was “very formulaic and basic and didn’t really capture the nature of what we wanted to do”. It was also indicated that there was a lack of explanation of what the specific assessment criteria was for the application. For example, no specific method was provided to calculate the ‘wider benefits (£)’. This lack of guidance could have excluded some applicants who did not have the skills and knowledge to be



able to quantify wider benefits. Even those that could quantify these wider benefits were subjected to multiple follow up questions and requests for further information, which led to a more complex application process than initially set out.

Once overcoming the barriers of the application, the requirement for monitoring was also identified as a constraint with this funding mechanism. Concerns were raised that sometimes there is not enough money to ensure the desired project can be implemented and fulfil the monitoring requirements. Consequently, some projects had to be scaled-down to fulfil the monitoring requirements. It was suggested that in many cases, those that did receive funding would use it as match funding as “there is a limit to what you can do with £50k when you have to model it, implement it, maintain it, monitor it, etc.”.

## Enablers

This funding has provided some government backing of NFM for flood risk management, which indicates the Government’s appetite to encourage and implement NFM measures across more organisations and communities. The top-down funding approach raises awareness of NFM as a flood risk management tool.

One applicant of this funding did identify a facilitator with this funding mechanism as the 2-stage application process that allowed 10% of the budget to be released as scoping money in the early stages. Despite the many issues identified with this application, this is something which allowed applicants to carry out early engagement when developing the project. This information could then be used to inform a full business case for the project.

Where monitoring requirements were seen as a constraint by many, it was still acknowledged that these monitoring requirements would be a positive step in growing the evidence base. This evidence could inform future projects and this funding mechanism provides an opportunity to bridge these evidence gaps.

## References and Additional Information

Defra. 2017. Schemes across the country to receive £15 million of natural flood management funding. [Online]. Available from: <https://www.gov.uk/government/news/schemes-across-the-country-to-receive-15-million-of-natural-flood-management-funding>

Defra. 2017. New £1 million flood competition to protect more communities. [Online]. Available from: <https://www.gov.uk/government/news/new-1-million-flood-competition-to-protect-more-communities>



## Case study 3: Payments per outcome

Payments per outcome, or payments by results style funding is a European Union (EU)/Defra and National trust initiative to pay landowners for achieving different environmental benefits through changing their land management practices. These benefits include improvements to habitats and biodiversity for example. The aim of this is to provide a flexible funding approach that allows the farmers and landowners to choose how they manage their land to provide public goods. Advice is available on what benefits could be achieved, and if the farmer wants to achieve better payments, they will have to provide more benefits.

In England and Wales, this funding mechanism is being piloted in 2 trials, one run by the National Trust, and the other an EU/Government funded pilot study known as a Results-based Agri-environment payment scheme (RBAPS) run by Natural England and the Yorkshire Dales National Park (YDNP). The founding principles of both these trials are similar, the only difference being the benefits/results they are aiming to achieve. Both of these trials appear to have had some success with the benefits they have been looking to achieve, and Defra recently agreed to fund a continuation of RBAPS scheme with a further £540,000 to enable it to continue for a further 2 years.

There is some work being completed to investigate the potential for using payment per outcome for Natural Flood Management (NFM) in the Yorkshire Dales. The trial is being completed by the National Trust with the support of iCASP (Yorkshire integrated Catchment Solutions Programme) which will add to the trial already being completed. This project has a focus on how payment per outcome could be used for NFM and will work towards testing the feasibility of the new Defra Environment Land Management Scheme (ELMS). This project is still in the early phases, due to run between 2019-2020 and more information on how NFM could be funded by this mechanism will become available on this as it progresses.

### Summary

This case study considers the barriers and enablers presented under a payments per outcome funding mechanism. It considers how under this funding mechanisms, for Natural Flood Management (NFM) implementation, different barriers arise or are addressed and how implementation under this funding mechanism facilitates implementation. The Table below summarises how this funding approach addresses some of the key barriers identified in the research and outlines specifically how it might facilitate NFM implementation.

**Table 5. Summary of the barriers addressed by payments per outcome.**

Barriers (identified from wider research)	Is this barrier addressed by this funding mechanism?	How does this funding mechanism address these barriers?
Complex/difficult application forms and paperwork	N/A	There is currently no application process as the funding mechanism is in trial stage and participants were selected.
Requirement of evidence (e.g. modelling/monitoring)	Y	No modelling would be required. However, monitoring would be necessary in order to measure the benefits and receive payments. This is something an advisor would work with the landowner on to ease the process.
Accessibility to funding	N	The funding mechanism is currently only available in the trial areas. It is also restricted to areas of land which are not already in other agreements.
Restrictions on what the money can be used for	Y	There are no set prescriptions on what the farmer can do to the land, however they will receive better payments for better outcomes.
Obtaining the funding	N	The farmer will only receive payment once there are benefits from the measures.
Maintenance funding	Y	The funding is on-going throughout the life cycle of the implementation. It is an income style of funding for the landowner as long as the benefits continue to be monitored and realised.
Complex auditing process (e.g. lots of paperwork/inspections)	Y	The aim of this funding mechanism is to reduce the need for strict inspections/audits and eventually teach the farmer to inspect and score their own land. In the current early stages, a lot of advisor input is needed.
Lack of appropriate advice and guidance	Y	Advice is available to show farmers where they can provide benefits or make improvements to the land.

## Background to this funding mechanism

### The process of obtaining the funding

Currently there is no formal process for obtaining this funding as it is only being trialled in Yorkshire, Norfolk/Suffolk, and North Wales. The basic principle of this type of funding is that the farmer makes an agreement, as they do with the current countryside stewardship (CS) scheme, that sets out the purpose and objectives on what will be achieved. The key difference is that there will be no set prescriptions on what needs to be done, unlike the

CS schemes. Instead, the farmer will be able to meet their agreement by working towards the outcomes in a flexible way. Advice will be available to the farmers on how they can improve their land to deliver the set benefits. The payment will then be based upon a score which the farmer and advisor will agree upon. Different scores fall into different payment bands and the farmer will be paid accordingly.

## **Who can obtain the funding?**

This type of funding is currently being used in 2 different trials across the UK. The RBAPS trial is being implemented in both Wensleydale in Yorkshire, and Norfolk/Suffolk. The other trial being carried out by the National Trust and has currently been implemented in Malham in Yorkshire with another starting on the Llyn Peninsula in North Wales.

As a result of this funding only being in a trial stage, there are limitations as to who can actually obtain this funding at this stage. There are also limitations associated with the land available to farmers who want to receive this funding, as land that is already in Agri-environment schemes cannot be used due to the risk of double payments.

## **What can the funding be used for?**

The two different trial schemes currently being piloted are each looking to achieve 2 different environment benefits.

The National Trust trial is focused on delivering benefits to biodiversity. To assess these benefits, they are focusing particularly on pollinator health and soil health.

The current EU-Funded RBAPS study is focused on 4 different benefits, 2 grassland options (species rich hay meadows, and habitat for breeding waders) at the Wensleydale site, and 2 arable options (winter bird food, and pollen and nectar) at the Norfolk/Suffolk sites.

Whilst these trial projects are not currently looking directly at NFM, some of the wider benefits of the environmental improvements they are looking at could include NFM. For example, improving land and soil management is often considered important within the suite of NFM measures. Therefore, even though the benefits are currently focused on biodiversity improvements, NFM could be a possible indirect benefit.

## **Examples of projects the funding has been used for:**

### **The National Trust projects**

The National Trust recognised that there were several problems with the prescriptive Agri-environment schemes and the continuing decline in plant and animal species encouraged them to look at this new approach. Since seeing the success of a 'payments per outcome' style approach in some European countries and in particular the Burren scheme in Ireland, they have been trialling the payments for outcome approach themselves with their tenant

farmers. These trials are taking place in Malham in the Yorkshire Dales, and the Llyn peninsula in North West Wales.

The Yorkshire trial, which is already making progress, is focused on looking at both pollinator health and soil health. To date, 3 farmers have been involved throughout 2 phases of the trial, and it is hoped that another 2 will soon also get involved. Most of the work done so far has been about establishing a baseline; however, now they are beginning to look at implementing capital works to actually improve the health of the soil for example and delivering these environmental benefits. These capital works are dependent on what the farmer wishes to do, as one of the key principles of payment per outcome is that it is not prescriptive on what the farmer must do.

The Welsh trial, which was due to begin in 2018, has a focus on improving the coastal slopes and heathlands in the Special Area of Conservation (SAC). There is no more detail on this trial currently however.

### **The RBAPS project**

In 2016, Natural England and the YDNP received an EU funded 3-year grant to run a pilot study looking at a results-based payment scheme. This is one of 3 EU-funded pilot studies, the other 2 being in Ireland and Spain, and Romania. The trial is looking at 2 grassland options in Wensleydale (YDNP), and 2 arable options in Norfolk/Suffolk. The aims of the study are to develop ways of measuring the results through the implementation of the scheme, and from this analyse the results to determine how well this approach works. As the funding comes to an end, the UK Government has recently agreed to provide funding for the trials to continue for a further 2 years.

At the Wensleydale site there has been some success, with 19 farmers getting involved, and 18 continuing with the trial now it has received additional funding. Between them (the 18 remaining), they have also doubled the amount of land that is involved in the scheme to provide more environmental benefits. Initial results coming out of this have shown that the hay meadows associated with this scheme have been performing better than land that is under traditional Agri-environment schemes, which is a positive step for this funding mechanism. The scores for these hay meadows, based upon different species in the area, have increased over the first year of the trial, indicating some success in terms of environment improvements. The land being used for breeding wader habitat has not been as successful, however this is due to dry weather. As some of the score assessment is based on soil moisture and amount of wet areas, the dry weather has impacted on this.

[More information on the assessment criteria](#)

### **Requirements to obtain the funding**

There are limited requirements associated with this funding stream as it is built on the principle of being more flexible and overcoming the barrier of funding mechanisms being too prescriptive. While agreements will be set with farmers to outline their outcome aims, the

requirements are minimal in terms of the changes they need to make. The key requirement to obtaining the funding is achieving results, and the better the results and benefits produced, the higher the payment will be.

## Barriers and enablers

This funding mechanism provides a number of potential barriers and enablers for NFM implementation. Unlike some of the other funding mechanisms, it was developed in response to issues arising with Agri-environmental funding through the countryside stewardship. Therefore, as outlined in Table 1, it addresses some of the barriers and enablers identified in the research. This is summarised in Table 2 below, and more detail is provided in the following section.

**Table 6. Summary of the barriers and enablers associated with payments per outcome.**

Barriers	Enablers
<ul style="list-style-type: none"> <li>• Difficulties determining the exact value of the benefits. Common to all NFM.</li> <li>• Some benefits are easier to score than others.</li> <li>• Need for significant advisor input at the start.</li> </ul>	<ul style="list-style-type: none"> <li>• Flexibility for farmers- no prescriptions on what they must do.</li> <li>• Upskilling farmers to facilitate them to be able to make better land management choices/consider the environment.</li> <li>• Value for money- farmers are only being paid for the benefits they actually produce.</li> </ul>

One way in which this new funding mechanism overcomes some barriers is that it provides a significant amount of flexibility for farmers to manage their land to deliver benefits - they choose. It is results based rather than paid for prescriptions. It works by providing advice and understanding on what could be achieved and setting the payments accordingly. It is then down to the farmer to determine what they think is best for their land and their business. The encouragement to focus on providing public goods comes through the incentive that better results leads to better payments.

This is an alternative approach to the current norm where farmers are paid to implement measures and receive the money based upon what they do, regardless of the outcomes. The trials are to test whether this approach is likely to provide a better opportunity to maximise benefits, as well as addressing some of the barriers found with other funding.

## Barriers

One of the key challenges associated with this funding mechanism is the difficulty defining and recording the value of the different benefits. While some benefits lend themselves well to being quantified and recorded, such as counting the number of pollinators, others can be more difficult. Improved soils contribution to downstream flood risk for example, could be difficult to quantify due to the variable and unpredictable nature of flooding. As such, this payment mechanisms application to NFM is not necessarily clear.

Difficulty quantifying the values of these benefits is also likely to lead to challenges when developing a methodology to score the benefits. It was suggested that “we wouldn’t be able to quantify the flood risk reduction unless we had really good data to start with”. It was suggested that catchment or sub-catchment monitoring of changes would need to be undertaken. This could be problematic if the farmers in the catchment each want different levels of involvement or are not being willing to be part of the joined-up approach.

Despite one of the main draws of this type of funding being the choice the farmer has with regard to what they do, it is considered that there is a significant need for advisor input to illustrate what farmers could achieve with their land. It was suggested that at the start of any of these types of schemes a lot of advice and “hand-holding” would be required. However, it was recognised that the need for this advice will decrease over time as the farmers learns the skills to score their own land. Once the farmer learns from the advisors how to score their own land, the validation process will become simpler with less need for strict validation from expert advisors.

## Enablers

The response to this type of funding from the farmers involved in the trial projects so far has been positive. “The farmers like the flexibility, the incentive; they are getting a clear reward for environmental benefits”. It has been suggested they like the idea of taking back the decision on what they do on their land but can still obtain financial benefits from this. In terms of achieving environmental benefits that can be quantified and measured easily, this approach would likely be well received by farmers.

As well as farmers having a positive response to this type of funding, it is possible that this approach itself could have a positive impact on the farming community in terms of improving their awareness of the environment. The YDNP trial in particular is founded on the basic principle of upskilling the farmers to allow them to make decisions on how to improve their land. This ensures they actually understand why they are making the changes and the environmental benefits they can obtain from this.

So far, the pilot schemes have found that environmental outcomes were generally better under the payment per outcome schemes than the traditional schemes used, indicating that this approach does seem to work to maximise environmental benefits. The key benefit associated with this funding is the flexibility and giving the choice on how to achieve the



public goods, back to the farmer. This inflexibility in the current system is an issue that has been raised several times, and a major benefit of this funding is overcoming this.

There is also a benefit in this type of funding as it is thought it can achieve better value for money. This funding pays based on the result, rather than just making a payment for the work to be done, which might not always achieve the desired results. As a result, this benefits the farmers who obtains the payment, and the environment by maximising the potential benefits.

## References and additional information

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Natural England. 2017. Results-Based Agri-environment Payment Scheme (RBAPS) pilot study in England. [Online]. Available from: <https://www.gov.uk/government/publications/results-based-agri-environment-payment-scheme-rbaps-pilot-study-in-england>

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Yorkshire Dales National Park (YDNP). 2018. 'Payment by results' farm pilots a 'success'. [Online]. Available from: <http://www.yorkshiredales.org.uk/living-and-working/other-services/press-office/news/recent/payment-by-results-farm-pilots-a-success>

## Case study 4: Calderdale NFM grant fund

In May 2018 Calderdale Council, in partnership with the Environment Agency and the SOURCE partnership (a group that brings together relevant partners in the area with a focus on long-term visions for restoration of the headwater of the River Calder), released a new grant scheme. This allowed individuals and organisations to apply for funding to implement Natural Flood Management (NFM) measures. The fund was set up to help achieve the objectives of the Calderdale flood action plan, and in particular the aim of ‘slowing the flow’ and to build Calderdale’s resilience to heavy rainfall events. The fund initially launched with £150,000, however a good response from landowners with good quality applications led to this being increased to £300,000. A second round of applications was also run following this for a total of £200,000 of funding. The grants are to be used to cover costs of installation of features and future maintenance costs until 2020/21.

### Summary

This case study considers the barriers and enablers presented under the Calderdale NFM grant funding mechanism. It considers how under this funding mechanisms, for Natural Flood Management (NFM) implementation, different barriers arise or are addressed and how implementation under this funding mechanism facilitates implementation. The Table below summarises how this funding approach addresses some of the key barriers identified in the research and outlines specifically how it might facilitate NFM implementation.

**Table 7. Summary of the barriers addressed by the Calderdale NFM grant funding.**

Barriers (identified from wider research)	Is this barrier addressed by this funding mechanism?	How does this funding mechanism address these barriers?
Complex/difficult application forms and paperwork	Y	A simple application form where the landowner applies for exactly what features they want to implement.
Requirement of evidence (e.g. modelling)	Y	The application process does not require any specific evidence, only a simple map.
Accessibility to funding	Y	As a local funding source, the money is accessible to even small landowners who want to complete small-scale projects.

Restrictions on what the money can be used for	Y	There are a variety of options to apply for and there is some flexibility on this.
Obtaining the funding	Y	It is possible to access the funding in stages for larger projects.
Maintenance funding	Y	Funding for maintenance is paid at a fixed rate (outlined in the table below) until 2020/21.
Complex auditing process (e.g. lots of paperwork/inspections)	Y	There is minimal paperwork and the auditing process is just a visit to the site to ensure the work has been completed.
Lack of appropriate advice and guidance	Y	There is a guidance document to advise on how to complete the application, and it is possible to contact advisors.

## Background to this funding mechanism

### The process of obtaining the funding

To apply for the grant funding, an application form must be filled in which outlines the required background information. As part of this, the applicant must submit a map showing where the capital items will be located on the land, and any designations, restrictions, or hazards present on the land.

When the applications are received, they will be given a score using a scoring methodology and criteria developed in partnership for this funding. The scores are determined by factors such as if they are in a priority catchment, which are areas that have been identified as requiring targeted interventions, information on flood efficiency, and potential to provide multiple benefits. These scores, along with the costs of the scheme, are then reviewed by a panel who will allocate the funding. At this point, a screening for ecological concerns and flood risks is carried out to determine the need for any further ecological surveys, land drainage surveys and planning consent requirements and which may need to be included for in the costings. Following this, the applicant is then notified in writing if they have been successful in their application. The applicant must then agree to and sign the terms and conditions, and also submit a statement from a competent engineer that confirms there is no increased risk of flooding as a result of the scheme.

The funding is paid once the applicant has completed all of the work to implement the measures, and usually following a site inspection. It is possible for payments to be made in instalments for larger schemes. The applicant will have to submit before and after photographs of the site. Any further maintenance payments will then be paid after regular inspections to ensure that the features are being well maintained.

A category for special projects has been included within the applications to cover those types of projects that do not fit into standard categories. This will include projects such as

sustainable urban drainage systems (SuDS), track drainage improvements, and moorland restoration. If applying for this funding, a detailed plan must be submitted which has been drawn up by a professional water management consultant, and the applicant must contact the Calderdale NFM officer prior to the application.

## **Who can obtain the funding?**

The funding scheme is open to applications from any landowners in Calderdale, however there is a points system to help prioritise targeted areas of land. The areas of interest are in the Upper Calder, Walsden Water, Hebden Water, and Cragg Vale. These priority areas were identified by a piece of work by the Environment Agency which looked at the most effective sub-catchments and locations to implement NFM. The guidance states that landowners can appoint agents, tenants may apply with permission of landowners, and commoners' associations may apply, however this is subject to the requisite permissions.

## **What can the funding be used for?**

The grant funding is available to go towards 26 different interventions, with a different amount available for each. More information on this can be found in the guidance note document.

A grant calculator (excel spreadsheet) is available to work out prior to the application, the amount that can be obtained when using a combination of different features.

## **Requirements of the funding**

The applicant may either complete the work themselves or hire contractors to complete the work. However, it is essential the work is carried out according to the specifications outlined in the guidance. The applicant is responsible for ensuring work complies with CDM regulations (2015), and that any necessary drainage or planning consents are in place prior to the works. Where there are particular ecological concerns or considerations relating to the site, specific conditions will be added to the grant offer letter. For example, the grant may be conditional on the works taking place outside of breeding bird season.

## **Barriers and Enablers**

The Calderdale NFM grant funding was developed to create a local funding source for targeted, small-scale NFM project. This funding project was developed to provide local access to funding for small-scale NFM projects that might not be eligible for larger, more traditional flood risk management funding. This enables more smaller, locally appropriate features to be implemented.

A number of barriers and enablers have been identified with this funding mechanism through desktop research and interviews/correspondence with those involved. A summary of these can be found in table 2 below.

**Table 8. Summary of the barriers and enablers associated with the Calderdale NFM grant funding.**

Barriers	Enablers
<ul style="list-style-type: none"> <li>• There can be difficulties associated with applying for consents.</li> <li>• Could have a simpler application form in time.</li> </ul>	<ul style="list-style-type: none"> <li>• NFM focussed funding</li> <li>• Accessibly funding- local, small-scale funders can access.</li> <li>• Flexible- a wide range of features are included in the grant scheme.</li> <li>• Maintenance funding.</li> <li>• Addresses a 'gap in the market' for a funding source for small scale projects.</li> </ul>

## Barriers

The grant funding in Calderdale is a pilot project and therefore it has been possible to identify a number of areas for improvement or considerations that should be made in any future, similar schemes. One particular constraint identified relates to the consenting process relating to NFM. Due to the nature of most of the interventions being proposed, Ordinary Watercourse consent and Planning Permission is required for a significant proportion of the schemes. These consents and permissions require the preparation of application forms and supporting documents. This is time consuming for the landowners and presented a potential barrier with landowner engagement. This is not necessarily a barrier specific to this funding mechanism and is a challenge that anyone implementing NFM is likely to come across. It is however something that has been identified by those working closely with this funding mechanism as something they have needed to address. To minimise the time for the landowners and smooth the engagement process, Calderdale councils NFM project officer has been undertaking much of this work, which has resulted in diverting staff time away from other aspects of the grant scheme and other projects across Calderdale.

## Enablers

This funding mechanisms has been developed as an innovative way of funding NFM involving large statutorily responsible organisations. One of its key benefits is its flexibility for landowners and this has resulted in the scheme being accessible to small scale landowners and farmers who aren't necessarily used to negotiating complex funding streams. The flexibility of it also allows it to fund wide ranging projects that are locally appropriate and might also bring about multiple benefits as a result.

One of the specific enablers identified with this funding the flexibility with payments. When developing the grant scheme, it was acknowledged that many landowners are not in a position to pay for the upfront costs of implementation, particularly for larger-scale projects. As a result, it was decided that while generally payments will be made after

implementation of the measures, for the larger project, agreements could be made to pay instalments once key milestones have been reached. This provides greater opportunity for landowners to consider a larger project.

Importantly it allows concerned landowners to have some agency over their local flood risk and solve problems specific to their land and their affected downstream neighbours. The grants scheme has been able to allocate funding to some schemes which protect only a small number of properties or vulnerable infrastructure and which are unlikely to attract funding from traditional sources. This funding stream has therefore been able to address an apparent 'gap in the market' and been able to deliver flood risk reduction which may not have otherwise been possible with the more traditional funding sources.

## References and additional information

Calderdale Council., Environment Agency, Woodland Trust. 2018. Calderdale Natural Flood Management Grant Scheme Guidance Notes. [Online]. Available from: <http://eyeoncalderdale.com/Media/Default/NFM/Calderdale-NFM-Fund-Guidance-Notes-FINAL.pdf>

## Case study 5: Somerset NFM auction

The Somerset NFM (Natural Flood Management) auction is managed by the South West Farming and Wildlife Advisory Group (FWAG). The online platform works as a reverse auction where the lowest bid is selected to receive funding. The auction has been run twice, firstly in Summer 2018 with £30,000 worth of funding, and again in March 2019 where £35,000 was available to bid for. The first auction in 2018 allowed farmers in the River Tone and River Parrett catchments to bid for funding for 6 different types of NFM measures. The funding comes from the Somerset Rivers Authority who receive their funding from local flood risk related 1.25% council tax precept. This directly links local communities benefiting from the interventions with their tax. The popularity of the scheme has grown over time, with 17 farmers bidding in the first auction, rising to 30 in the second.

### Summary

This case study considers the barriers and enablers presented under the Somerset NFM auction funding mechanism. It considers how under this funding mechanism, for Natural Flood Management (NFM) implementation, different barriers arise or are addressed and how implementation under this funding mechanism facilitates implementation. The Table below summarises how this funding approach addresses some of the key barriers identified in the research and outlines specifically how it might facilitate NFM implementation.

**Table 9. Summary of the barriers addressed by the Somerset NFM auction.**

Barriers (identified in wider research)	Is this barrier addressed by this funding mechanism?	How does this funding mechanism address these barriers?
Complex/difficult application forms and paperwork	Y	The application process is run through a simple, easy to use, online auction platform using a process that farmers are familiar with (auction).
Requirement of evidence (e.g. modelling)	Y	Only requirements are to outline/select which land the work is to be completed on.
Accessibility to funding	Y	The funding can be accessed by any landowners in the area - however this funding mechanism is restricted to Somerset.

Restrictions on what the money can be used for	Y	The funding will be used for the measure that the landowner bid for, however there are limited restrictions other than this.
Obtaining the funding	N	The landowner must put in place the measures and meet certain targets before they can receive the funding.
Maintenance funding	N	There is no direct funding for maintenance, and the farmers are expected to maintain capital features for at least 5 years.
Complex auditing process (e.g. lots of paperwork/inspections)	Y	There is a limited auditing process, with just a need to show you have met the requirements.
Lack of appropriate advice and guidance	Y	The auction provides a set of simple, easy to understand information sheets for each measure.

## Background to this funding mechanism

### The process of obtaining the funding

The auction is set up through an online platform, NaturEtrade. This tool was commissioned by the Environment Agency and thereafter FWAG South West have been involved in its development and piloting. This allows people to access a map and select where they want to do NFM work. They then put in the price they want for undertaking this. The platform allows them to see if the work options they have selected would qualify for the funding and if their price would or wouldn't be successful. Guide prices and upper limits are set by FWAG before the auction, which allows people to bid at a fair price. Then, as the auction gets more interest, more competitive lower bids are placed, indicating they will do the work for less money, therefore outbidding others. If this happens, the person is notified by email and they can go back into the map and re-bid at a lower price.

Once the auction is closed, the bidders are notified if they were successful and are then contacted by a member of the FWAG team. The farmer is then able to discuss with the team how best to implement the features on their land, and in some instances the team might follow-up with a visit the site to discuss the measures and ensure they have been implemented correctly.

### Who can obtain the funding?

The first auction was run in the River Tone and River Parrett catchments in Somerset and the second was then opened out to the whole county of Somerset with just the low-lying internal drainage board areas excluded from this. The funding is available to farmers with



land in the catchments who want to manage water on their land and are willing to put the specified features on their land.

## What can the funding be used for?

The funding was initially available for 6 different types of measures in the first auction:

- [Maize Management](#)
- [Grassland Sub-soiling](#)
- [Leaky structures \(Leaky Dams\)](#)
- [Hedge Planting](#)
- [Soil Bunds and Leaky Ponds](#)
- [Hedge Planting on Bunds](#)

For each of these, information sheets have been produced and are available on the auction website (see links above). These sheets are easy to read and explain more about how to implement the measures, and the requirements to obtain the funding. This provides the farmers with enough information at the outset to decide what measure they can implement within their current business model.

During the second auction, the measures were refined slightly to simplify the terminology and remove some of the more technical features (e.g. leaky ponds). This made the process easier to estimate costs.

## Requirements to obtain the funding

Once the auction ends and the bids have been accepted, certain targets and requirements have to be met before the funding can be obtained. For example, if the farmer has bid for the Maize management option, the target will be to get all the crops off the land and the cover crops on by the 20th October of that same year. The bidders will be informed of the amount of money they will receive and the requirements for this, and if they do not meet these then they will not receive the money. If the farmer bids to put in any of the capital items such as leaky dams, bunds, and hedges, it is expected that they will maintain these features for a minimum of 5 years. The other land management measures however are single year/seasonal measures and there is no commitment beyond this.

## Barriers and Enablers

To promote NFM implementation in targeted locations, the Somerset NFM auction was created. This funding mechanism was developed as a means to facilitate the distribution of public money to local landowners for implementing NFM measures. Specifically, it was considered that this would address some of the barriers associated with the complex countryside stewardship schemes, to deliver market efficiencies and close farmer involvement in implementation. It also provides an opportunity for farmers with land not

eligible for the SW12: Making space for Water Countryside Stewardship option to still contribute to NFM.

The following section will consider how this funding mechanism addresses the key barriers identified that limit NFM implementation. It will also consider the barriers and enablers that are evident within this funding mechanisms. A summary of this can be seen in the table below.

**Table 10. Summary of the barriers and enablers associated with the Somerset NFM auction.**

Barriers	Enablers
<ul style="list-style-type: none"> <li>• Limited uptake of more complex features</li> <li>• Farmer incurs the initial costs- they have to wait to receive the money</li> <li>• Still some prescriptions/requirements on what must be done</li> <li>• No specific maintenance funding for capital measures, but maintaining them is expected</li> </ul>	<ul style="list-style-type: none"> <li>• NFM focussed funding</li> <li>• A process the farmers understand- auction</li> <li>• Simple application process and limited paperwork</li> <li>• Local funding- local advice and guidance</li> <li>• Accessible funding</li> <li>• Engaging a new generation of farmers through an innovative approach</li> <li>• Opportunity for more land to be used for NFM</li> <li>• Advice and guidance sheets- allows the farmers to self-implement features</li> </ul>

## Barriers

Through allowing farmers to decide what features they want to bid for and implement, there is a potential problem in some features not being taken up. In previous auctions, it was identified that the options of maize management and grass sub-soiling was much more popular than leaky dams for example. It is speculated this may be because farmers understand these options better and therefore makes it easier to implement. It was found that farmers were much less likely to engage with the more “unusual measures” (i.e. putting things in channels, Runoff Attenuation Features (RAFs)) as it is less commonly implemented than usual ‘farm land management options’. As a result, this could lead to limited uptake of some of these more complex measures and consequently, it may require further work by South West FWAG to encourage the uptake through this funding process.

Further restriction on NFM measures being undertaken in the auction include NFM measures which require extensive input required to implement the measures effectively.

It was suggested for example that some of the larger-scale measures, such as floodplain reconnection or storage, would not be appropriate for this type of funding. This is because of the level of input required in terms of understanding the hydrology and the potential long planning processes required to deliver these types of schemes. Additionally, the current

method of bidding is solely for one landowner; however, some NFM measures (such as leaky barriers across a watercourse) can span across multiple landowners. The auction mechanism is therefore currently limited in its ability to provide larger scale NFM measures, but effective in implementing smaller scale NFM measures.

A further barrier associated with this funding mechanism is the payment process. One of the key concerns identified with other funding mechanisms (particularly the countryside stewardship) is the difficulties of obtaining payment and needing to pay the upfront implementation costs. The auction does not necessarily address this barrier and the system works so that the farmer does not receive payment until they can successfully show they have achieved the target set out in the agreement. Similar to the payment per outcome style of funding, this would likely achieve good value for money and stop farmers from obtaining money unfairly. However, this could again provide a barrier to being able to utilise this funding mechanism for the larger capital items, where the farmer might need funding upfront for the implementation costs.

## **Enablers**

This approach to funding NFM facilitated the implementation of NFM measures across a large area of land in a short space of time very efficiently. The auction has particularly tried to emphasise a “prescriptive light, outcome heavy” approach to funding. One of the things that has allowed this funding mechanism to be a successful facilitator is that farmers have had a very positive response. The auction market approach involving ‘bidding’ is inherently understood by the farming community. As such understanding the process and its acceptance is straight forward.

They particularly like the simplicity of the application process and limited paperwork associated with it, and this addresses one of the key barriers associated with funding NFM. One farmer who has been involved with it said, “It only took me a few minutes to place my bid online and there wasn’t any paperwork. I’m really pleased with what I’ve been able to achieve with the grant money” (Farming UK, 2019).

Another aspect they like is the interactivity associated with the auction and being asked what they want to do, rather than being approached and told what they have to do. Farmers appear to have a much more positive response to this flexibility, and also the local nature of this approach. One farmer pointed out that generally with the grant schemes “it’s set prescriptions for everybody in the county, and that doesn’t work...stuff just doesn’t fit everybody, every area is different”. The auction funding mechanism addresses this barrier through being locally relevant. It is only available in a small area, and therefore the advice is likely to be tailored this way. It also utilises funding from local taxpayers which might further encourage buy-in from communities.

The auction has allowed both small-scale farmers, large-scale land managers and commercial farmers to get involved, being very inclusive for all due to the competitive nature of the auction style. This ensures it can facilitate the implementation of various scales of NFM measures, and is accessible for all, something highlighted as a barrier in

some cases. The result of this is that larger areas of land are available for features that can have various environmental benefits.

The innovative nature of this auction is also something that has engaged the younger generation of farmers. The organisation running the auction have found “you often find the son or daughter is the one doing the bidding and getting involved”. This could be an important tool to get a new generation of farmers engaged with environmental issues. The local, land owner, agency this scheme supports is appreciated by the farming community.

## References and additional information

Farming UK. 2019. Farmers invited to bid in UK's first auction to help tackle floods. [Online]. Available from: [https://www.farminguk.com/News/Farmers-invited-to-bid-in-UK-s-first-auction-to-help-tackle-floods\\_51346.html](https://www.farminguk.com/News/Farmers-invited-to-bid-in-UK-s-first-auction-to-help-tackle-floods_51346.html)

FWAG South West. 2019. Natural Flood Management Auction. [Online]. Available from: <https://www.fwagsw.org.uk/natural-flood-management-auction>

## Case study 6: EnTrade

EnTrade is a funding mechanism developed by Wessex Water in 2016 as a means of promoting alternative options to building a new nitrate treatment works to reduce the nitrates entering Poole Harbour through better land management. Since development it has now become a stand-alone platform that potential funders can use to distribute the money, they have for providing environmental benefits. It is being implemented as a reverse auction where farmers can bid for funding to implement different measures that provide a range of environmental benefits. Through this system, it is possible to calculate which areas can provide the most benefits for the lowest price and determine a market price for these environmental benefits. To date, it has been primarily used to look at improving water quality, however there is potential to expand this out to Natural Flood Management (NFM), as many of the features used for water quality benefits can potentially also deliver flood risk reduction benefits.

### Summary

This case study considers the barriers and enablers presented under the EnTrade funding mechanism. It considers how under this funding mechanism, for Natural Flood Management (NFM) implementation, different barriers arise or are addressed and how implementation under this funding mechanism facilitates implementation. The Table below summarises how this funding approach addresses some of the key barriers identified in the research and outlines specifically how it might facilitate NFM implementation.

Table 11. Summary of the barriers addressed by EnTrade.

Barriers (identified in wider research)	Is this barrier addressed by this funding mechanism?	How does this funding mechanism address these barriers?
Complex/difficult application forms and paperwork	Y	Online auction platform that is easy to use and familiar to farmers.
Requirement of evidence (e.g. modelling)	Y	The applicant will only be required to select the land they want to implement the features on.
Accessibility to funding	Y	Any landowners in the area can use this funding mechanism.
Restrictions on what the money can be used for	Y	There are no restrictions or set prescriptions as the payment amount is decided based on the level of outcomes achieved.

Obtaining the funding	Y	The payment is a based-on outcomes and consequently, it is up to the farmer to achieve a high level of outcomes.
Maintenance funding	N	There is no set funding for maintenance.
Complex auditing process (e.g. lots of paperwork/inspections)	Y	There is a light-touch validation process, and it is hoped a new app that has recently been released will make this as quick, simple and paper-work free as possible.
Lack of appropriate advice and guidance	Y	The lack of paperwork and simple validation process has been used to try and allow advisors to spend their time better and therefore provide more advice where it is needed.

## Background to this funding mechanism

### The process of obtaining the funding

EnTrade works on a payment per outcome basis and so obtaining the funding is dependent on the actual amount of benefits gained from the measures. To determine who can receive the funding, the system calculates where the environmental benefits can be best placed/maximised and then works out the cheapest set of bids from farmers that would achieve the best outcome. This could result in paying just one farmer for the work, or a combination of 20 different farmers, depending on which is the best price for the best outcome offers.

Validation is an important step in offering the funding, to ensure the farmers have put in the measures and kept within the agreement set out. EnTrade has recently developed and released an innovative smartphone app which helps with the validation process. With this, the farmers, with help from their advisors where necessary, can upload photos and data quickly and easily for validation. Currently, this does still need to be backed up by an auditing process, however over time it is hoped the app will be able to be used as the primary auditing/validation process. This process can help ensure the maximum benefits are obtained, that funding is distributed fairly, and help build data sets for future evidence building.

### Who can obtain the funding?

The funding is available to any farmers and landowners in an area where someone is running an EnTrade project to distribute funding.

## What can the funding be used for?

When EnTrade was conceived, only 4 measures were funded. Now, it has been expanded to include over 50. It has primarily been used so far for water quality benefits by several of the water companies, however it is recognised that many of the features included do have multiple benefits.

Some of the NFM type measures that EnTrade could be used for including:

- Planting new cross-slope hedges
- Earth bank boundary creation for new hedgerow
- Planting new woodland to improve water quality or reduce flood risk
- Watercourse fencing – sheep netting
- Watercourse fencing – plain steel or barbed wire
- Sediment ponds and silt traps
- Constructed wetlands for the treatment of field run-off and/or land drain water
- In-field soil bunds
- Swales (channels) next to farm tracks
- Management of wetlands, swales, ponds and silt traps
- Unmanaged 6m watercourse buffer strip on arable fields
- Unmanaged 6m watercourse buffer strip on intensive grassland
- Cover crops following maize
- Cover crops following cereals
- Grassland sub-soiling
- Arable sub-soiling

## Where has the funding been used?

In 2015, Wessex Water wanted an alternative option to building a new nitrate treatment plant at Dorchester sewage works to stop 40 tonnes of nitrogen entering Poole Harbour. This scheme would have cost approx. £6million to build and around £300k a year to run. EnTrade was developed to look at the possibility of working with farmers to control how fertiliser is applied to the land, and better management of this land. This was a large-scale project over an area covering 80,000ha including 500 farms. The first auction in 2016 had a 20-tonne reduction target. After the success of the pilot auction, Wessex Water have since run a further 4 auctions which has resulted in a saving of 153 tonnes of nitrogen over 2,993 ha of land.

In 2017 and 2018, United Utilities worked with EnTrade to run an auction in Cheshire to encourage farmers to better manage their land with cover crops in 7 identified safeguarding zones. In the first auction in 2017, 12% of eligible farmers bid for almost £20,000 worth of funding to save 7,500 kg of nitrogen. After this success, the second auction saw a 56% increase in farmers getting involved and almost £30,000 worth of funding was bid for, which enabled a further 30% of nitrogen to be saved.

## Requirements to obtain the funding

Once EnTrade has established where the money can be best spent, the farmer will receive a 2-page contract document outlining exactly what they need to do to obtain the funding. The farmer will then just have to read and fill out the document and agree to the terms.

## Barriers and Enablers

The EnTrade funding mechanism provides a relatively simple and easy to use platform to distribute funding for measures that can bring about environmental benefits. The reverse-auction style ensures that funding is distributed fairly, is accessible by all landowners, and helps towards developing a market price for environmental benefits/public goods.

One of the key barriers that EnTrade addresses is that it is not prescriptive on what has to be done and gives farmers choices in the specifics of how they make their land management changes. For example, if the farmer bids to introduce cover crops, they have a choice on which crop to use and there are no strict dates that this feature has to be implemented by. The motivation for the farmer to implement these measures comes from the increased payment for better environmental outcomes.

**Table 12. Summary of the barriers and enablers associated with EnTrade.**

Barriers	Enablers
<ul style="list-style-type: none"><li>• Not specific to NFM</li><li>• Some difficulties modelling the environmental benefits with limited evidence.</li><li>• It is not actually a funding sources in itself, just a platform for those with funding to use to distribute it.</li></ul>	<ul style="list-style-type: none"><li>• Useful at finding areas to maximise environmental benefits for a fair price-possible to identify a market price.</li><li>• Limited paperwork/light-touch validation process.</li><li>• Simple application in a system the farmers understand (auction).</li><li>• Value for money- payment is per outcome.</li></ul>

## Barriers

This funding mechanism is a relatively new development and has primarily been used to address water quality problems to date. There is limited evidence of this funding platform being used for a funding pot for NFM measures, however many of the benefits targeted for water quality improvements could have wider flood risk management benefits. There is also potential for this platform to be used in future specifically for NFM implementation.

Few barriers were identified as a result of this mechanism not specifically being used for NFM funding, however a limitation of EnTrade was identified that is worth considered when looking at NFM implementation. EnTrade is a funding mechanism that is reliant on



accurately identifying the parcels of land which will have the greatest environmental benefits. After bids have been placed, the system will then calculate the cheapest set of offers that provide the greatest environmental outcomes. Whilst this approach can provide good value for money, it does require a robust model that can accurately identify the impacts of different measures. As there is still some uncertainty and evidence gaps with many of the natural features or measures using in NFM, this could be difficult to accurately quantify.

## Enablers

EnTrade has proven to be a useful funding mechanism in that it can identify areas where environmental outcomes can be maximised for a fair price. It has been successful in reducing nitrate runoff in Poole Harbour and farmers have had a positive response to this style of funding due to the flexibility associated with it. As the payment is based on the outcomes, it allows the farmers to choose how they implement the measures with minimal restrictions.

There has also been a good initial response to the limited paperwork associated with the agreements and the light-touch validation processes which can be done through an online platform or through the app. This addresses one of the key barriers that has been identified with other funding mechanisms that they are very paperwork heavy and have strict inspection and auditing processes, that farmers have raised concerns they feel is not worth their time. With this approach, EnTrade has found a way of collecting valuable data in a simple, quick, and affordable manner, that over time should require limited input by another other than the farmer themselves.

One thing that has been important for EnTrade throughout its development is that it is not looking to replace the role of the advisors on the ground who play a valuable role in helping farmers to better manage their land. Instead, it works to ensure the advisors are not having to spend their time filling in paperwork and processing payments and can focus on providing advice where it is needed.

## References and additional information

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