

Title:	Environmental innovation Projects: Evidence Report
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1. Introduction

Affinity Water has a programme to deliver several environmental innovation projects in AMP7 as part of a bespoke Performance Commitment. The goal of the programme is to bring together sector experts, charities, community and environmental groups and other stakeholders to trial the delivery of a range of innovative multi-party projects, linked to different environmental themes and water use behaviours.

Each project has been classed as contributing a certain number of units once completed and verified. The Company will use the units to claim against the bespoke financially incentivised Performance Commitment.

As part of the programme's governance process, a project is considered complete when a report has been compiled from an independent party, which has examined and verified the benefits, after the project has ended. This report comprises an independent assessment of benefits from the work undertaken across three projects within the reporting year 2022-2023, that amount to 6 units, as follows:

- Targeted Campaigns project in the Wey catchments (1 units)
- Targeted Campaigns project in the Brett catchments (1 units)
- River Lea / Holistic catchment project:
 - Work Package 2: Catchment opportunity mapping to protect water resources (1 unit)
 - Work Package 4: Catchment trading of ecosystem services and nature-based solutions (2 units)
 - Work Package 5: Natural Capital (NC) Evaluation of Affinity Water investments in environmental schemes in a targeted sub-catchment of the Lea (1 unit)

The assessment has been made by examining evidence for each project, interviews with project partners, and examining additional evidence and feedback.

2. The Projects

2.1. Targeted Campaigns: in the Wey and Brett catchments (2 project units)

Introduction

The purpose of these projects is to trial innovative ways to reach customers and change behaviours that will result in a reduced demand for water. Affinity Water has a significant challenge to deliver the water demand of its customers against a background of high and increasing population density, low water resources, environmental consideration, and climate change. A key approach therefore is to reduce the demand for water by customers.

The Wey and Brett catchments were selected for these innovation projects because available data show that these communities have a high per capita consumption of water relative to other areas, and a high proportion of customers had not signed up to other water saving schemes and offers by the Company. The Company set itself the target of reducing water consumption in these communities by 12.5% reduction in water consumption by the end of AMP7.

The innovation aspect of the Targeted Campaigns projects is the water reduction behaviour change campaign delivered by the Company. The normal water efficiency communications approach undertaken by the Company comprises usually email contact and the offer of free water saving devices. In contrast, these innovation projects have involved investment in an integrated behaviour

change programme that includes advertising and communications across multiple channels, and working with partners, to reach customers in new ways.

It should be noted that this innovation project is being delivered as part of, and aligned to, its existing water efficiency work and aligned engagement programmes such as 'Save our Streams' which also include the Wey and Brett catchments. Work delivered as part of the Company's ongoing water efficiency programme has resulted in a more robust methodology for estimating water consumption that has benefited the calculation of savings arising from interventions delivered through the Targeted Campaigns work.

Outcomes

In the Wey and Brett catchments the Company has applied innovative customer behavioural profiling to order to identify customer 'types' and match them with communication and engagement method that were considered to be most effective to that type. It has then used the tailored approaches to reach customers and encourage them to save water. The Company has developed a new tool called "my water footprint" and encouraged customers in those community to sign up to it, and follow the guidance and suggestions to order free water saving kit and reduce per capita consumption. The tool also helps people to understand the links between the high consumption of water and adverse effects on the local environment. For those households that registered with the tool, the Company has been able to use the water consumption data to understand what changes are being made.

To roll out the approach, and collaborate with others, the Company has worked with social influencers and local organisations (two Wildlife Trusts) to act as ambassadors, in order to reach more people that it may not have been able to reach otherwise, by using the channels and outlets used by the partners.

Data analysis on the projects shows that the approach has been successful in encouraging between 7-8% of households in the target communities to register for the scheme of which a high proportion ordered water saving devices. Awareness of the water saving programme in the target communities was on par with the general level of awareness across the Company's wider distribution area. This shows that the Company need to continue with its efforts in the target communities to reach more households and encourage water efficiency. Nevertheless, the projects have been successful in meeting and exceeding the water consumption targets.

Conclusion

The conclusion is that the delivery of this work package has enabled the successful delivery of targeted water efficiency messages, and enabled customers in the target catchments to reduce their water consumption. The matching of communication methods to customer 'types' and use of multiple communication platforms and partners has been successful in achieving water demand savings that exceed the original targets.

The Company has signalled its intention to apply the insights gleaned from these innovation projects to further develop its ongoing strategy and roll out this hyper-target and customer 'type' oriented approach to its wider region in order to achieve similar levels of demand reductions. This action is encouraged.

2.2. Project: Lea Catchment Management (4 project units)

2.2.1. Work Package 2: Catchment opportunity mapping to protect water resources (1 unit)

Introduction

The aim for this work package is develop an evidence-led, catchment-scale approach to delivering nature-based solutions for increased resilience of water resources in the Upper Lea.

This work comprised performing integrated mapping using a GIS system to identify current catchment dynamics and condition, issues, risks, and identify opportunities where nature based solutions could be implemented to promote resilient ecosystems, which would help protect water resources, as well as promote biodiversity. The approach itself is innovative, and particularly its focus on delivering interventions that will encourage resilient water resources.

To deliver this work package, Affinity Water worked with the South East Rivers Trust (SERT) on a study on the wider Colne and Lea Catchments. This included the River Beane sub catchment which satisfies the 'Upper Lea' aspect.

SERT is involved in a wider project called ProWater¹ that has developed a methodology for landscape management with the objective of water resources. It has brought its understanding and work on ProWater to this collaboration with Affinity Water, building on initial trials of the approach in the Beult and Little Stour catchments in Kent, where further work is ongoing to pilot nature based solutions. The collaboration between the Affinity Water and South East Water is continuing, with the mutual benefits arising from this partnership through knowledge sharing, cross working, and applying outcomes and learning to future projects.

Outcomes

Information reviewed for this verification report gives evidence to the holistic nature of the GIS based assessment, and the inclusion of information from quantitative sources to stakeholder discussions and inputs. The project outcomes include locations within the catchment considered to be 'opportunity areas' for increasing water resource resilience, based on factors that account location, condition, and potential criteria, where encouraging or supporting changes to natural processes would enhance recharge and retention of water.

While the study undertaken is high level, it is an appropriate first step to identify priority or opportunity areas that would be best to target for subsequent on-the-ground interventions. There is much more work that needs to be done before any delivery can take place, and therefore a tangible benefit of the approach is the involvement of stakeholders from the onset as these partners will be essential to try and deliver change. The partners range from environmental regulators to local ground based organisations. A key barrier in following out land use change that accords with optimal landscape management and/or deploy nature based solutions is changing areas currently under agricultural production. Motivating and incentivising farmers and land managers to switch agriculturally productive land to nature based land uses is key to achieving tangible outcomes, and achieving this will be enhanced through a multi-partner stakeholder approach.

Another tangible benefit created by the project is the GIS based datasets that were created in the process and will be shared amongst the project partners, and understanding of the methodology applied. The Company can use these outputs in further work in the Beane catchment but also elsewhere, such as the Chess catchment.

It is understood that Affinity Water wish to adopt this approach as part of its business-as-usual delivery of environmental projects, in order to ensure the specific knowledge gained through this work package is not lost. The Company has stated that it intends to adopt this mapping approach, in association with SERT, across other key operational catchments for AMP8 and AMP9 as a phased programme covering WINEP and the Company's Long Term Delivery Strategy. Given the outcome generated by the approach, from indication of focus areas and inclusion of local stakeholders as part of the development approach and identification of opportunity areas, this statement is welcomed as the approach gives an excellent starting point to gather key information together in a spatial way, and create or enhance shoulder relationships that will help deliver positive outcomes. It is imperative to keep up the momentum and links with stakeholders in order to build on the momentum and keep things moving, as otherwise there may be a danger of stakeholder fatigue.

Conclusion

The conclusion is that the delivery of this work package has delivered tangible benefits to the Company's understanding of how and where to target nature based solutions for the benefit of biodiversity and water resilience, and will support further work to ensure the roll out of interventions for the Beane and other locations where the methodology is applied.

2.2.2. Work Package 4: Catchment trading of ecosystem services and nature-based solutions (2 units)

Introduction

The aim for this work package is to test and evaluate the benefits of different market trading approaches with farmers and land managers to deliver ecosystem services in the Upper Lea

¹ See: <https://www.southeastriverstrust.org/projects/prowater-managing-landscapes-for-resilient-water-resources/>

catchment. The outcome of the work package will help the Company to develop its approach and involvement in market trading to deliver ecosystem services at the landscape scale that will help it deliver against its goals. These goals range from improved raw water quality, carbon sequestration, to increased biodiversity.

The development of market trading approaches is a new approach to the funding of catchment management and environmental improvements. Trading platforms are in early stages of development, and funding stream for environmental or catchment management measures are in flux / or being gradually rolled out by government due to changes in national policies. The Company's collaboration with other partners ('buyers') in this way, to maximise fragmented resources to achieve common goals is an excellent use of public funds, and deliver greater outcomes from the combined funding from buyers, but experience of participation in such market based approaches is relatively low. As such, this work package is an excellent example of initiative project in which the Company can explore the practical nature of how two platforms work, and ascertain the benefits of the interventions that were delivered before committing further.

The Company took the following steps:

- To be involved in two different market-based ecosystem services trading approaches:
 - a "Reverse Auction" for cover crops in Upper Lea using the EnTrade² environmental trading platform, co-funding interventions with Cambridge Water
 - a "1 month auction" for nature based solutions managed by the East Anglia Landscape Enterprise (LENs)³ using the NatureBid environmental trading platform, alongside other participants such as Nestle / Purina and Cargill)
- Review each trading approach with regard to advantages and disadvantages from the perspective of the Company
- Undertake a Natural Capital evaluation of the funded measures through the different approaches including benefits, limitations and opportunities.
- Produce a summary report of the work to inform the planning of the AMP8 and AMP9 WINEP Catchment and Nature-based solutions programme

Outcomes

The Company was able to successfully participate in each trading platform and 'buy' the delivery of ecosystem intervention by farmers and landowners. For both platforms, the collaborative and coordinated nature of the approach meant that other private funding sources were unlocked enabling more interventions were delivered than could have been alone through a single funding body, such as Affinity Water acting on its own, maximising actual change on the ground. It also meant that the budget that the Company had originally ring fenced for buying services was less than needed, due to the participation of other buyers. The use of a web based platform also had benefits in the ease of use by all participants, and it reduced the reliance on 1:1 interactions meaning that trading can occur across large areas and, critically, during periods of isolation (such as covid) or busy times in the farming calendar.

The report that the work undertaken for Work Package 4 includes a natural capital evaluation of the benefit of the interventions. This evaluation monetises the benefits from the interventions and showed a cost/benefit ratio of at least 6:1. This evidence is very useful for decision making and gives extra evidence of the merit of participation in such schemes against a baseline of doing nothing, or independent action, which would not be possible if this innovation project had not been undertaken. Such monetised results help to demonstrate to customers that funding on environmental improvements is spent wisely, particularly where this type of spend may not be customers' top priority. It also helps to show that wider societal benefits arise from the delivery of interventions to increase or maintain ecosystem services, such as natural flood management, which can have positive effects to everyone living in the floodplain.

The report also includes a comprehensive assessment of the advantages and disadvantages of each trading platform, and review of their limitations. Again, this would not be possible with direct participation in the scheme as facilitated through this innovation project. This knowledge is useful for the Company to tailor its participation in market trading schemes. It is also useful for the Company when engaging with the managers of the existing platforms to ascertain the possibility of making changes to the system to better match the nature of Affinity Water's schemes and its desired measures and outcomes, and

² See: <https://www.entrade.co.uk>

³ See: <https://landscapeenterprisenetworks.com/east-of-england>

further develop monitoring and verification approaches (which particularly desired by water company buyers more than other buyers to a result of regulatory drivers).

The successful nature of the participation in the trading approach is such that the Company is continuing to engage with the platforms and has signed up to the 2023 trading year, and exploring options for AMP8. Further, it is collaborating with platform managers to see if the system can be developed to overcome limitations mentioned above, where possible.

Conclusion

The conclusion is that the delivery of this work package has resulted in rich insights to the way in which the Company can participate in market-based trading platform to deliver intervention to realise ecosystem services, and evidence of how the approach can deliver many more interventions, at a lower cost, than if the Company acted alone.

It is encouraging that the Company is continuing to participate, and is taking an active role to seeking to positively change aspects of the approach to better suit its needs.

2.2.3. Work Package 5: Natural Capital (NC) Evaluation of Affinity Water investments in environmental schemes in a targeted sub-catchment of the Lea (1 unit)

Introduction

The aim for this work package is to evaluate, using a natural capital approach, the various environmental projects and investment made by Affinity Water in the River Beane catchment. The objective is to generate knowledge and better understand the effect of the Company's actions in terms of how/if environmental enhancements were achieved, the arising benefits and disbenefits (and monetary value). The outcome of this work would be used to inform the development of a Natural Capital Approach that would be applied to future locations.

The River Beane catchment was selected as it has been the focus of many environmental schemes (covering invasive species, river restoration, abstraction reduction, raw water quality and biodiversity improvements) over AMP6 and AMP7 and thus there was much information and data available with which to conduct the evaluation.

Outcomes

To deliver the evaluation, a natural capital baseline was created for the Beane catchment, against which assessment were made for the different measures delivered by the Company. A number of individual evaluation reports were created with the detailed results for each specific measures, plus a summary / overarching report, which provided the overview for the catchment as a whole.

Key outputs of the work are the expression of financial benefits arising from the work, quantitative values for selected ecosystem services arising from interventions such as kg reduction of nitrate, biodiversity habitat units delivered and tonnes of greenhouse gases sequestered for example, plus the identification of the wider benefits associated with an intervention delivered for a specific reason, and interdependencies.

Conclusion

The conclusion is that the delivery of this work package has enabled the Company to link together discrete projects and schemes, and use the natural capital methodology to showcase quantitative values for selected ecosystem services that creates a powerful and illustrative body of evidence for Affinity Water investments in environmental schemes.

It is encouraging that the Company undertook this work, and sought to link together discrete packages of work to better understand the interdependence and joint benefits arising from it. Such a step is often not undertaken, and this project has showed the benefits of doing so. Such assessments help to show the wider benefits of delivering environmentally oriented work, and how they underpin healthy catchments which are critical to the Company's key dependence on clean water resources.

Understanding the interdependencies of different interventions will help the Company better design enhancement work and schemes for AMP8 and beyond that combine different aspects to achieve additive or in-combination benefits.

3. Conclusion

Having examined the evidence that supports each project, it is concluded that the projects have generated benefits in the form of information, knowledge, and insights that would not have arisen otherwise, through business as usual activities.

Innovative work does not always generate positive outcomes and benefits, and outcomes that can be easily picked up and easily integrated into ongoing processes and approaches. Therefore the Company is encouraged to continue the process of embedding the knowledge gleaned from these projects into aligned, ongoing and future work. In this way relevant information can be shared more widely than the original project team, maximising the legacy of the work, and incorporating elements into standard working approaches wherever possible.