Title:	**Environmental Innovation Projects:** Evidence Report
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For the attention of:	[redacted]

1. Introduction

Affinity Water has a programme to deliver several environmental innovation projects in AMP7 as part of a bespoke Performance Commitment (PR19AFW_W-B2: Environmental innovation – delivery of community projects). The objective of the programme is to bring together sector experts, charities, community and environmental groups and other stakeholders to trial the delivery of eight innovative multi-party projects, linked to different environmental themes and water use behaviours. By working in partnership with different organisations, Affinity Water (the Company) is aiming to deliver greater environmental benefits than could be achieved through using a more traditional siloed delivery approach.

Each project, once complete and verified, will deliver a certain number of units. The Company will use the units to claim against the bespoke Performance Commitment, which has a financial incentive rate (reward) of £0.143m per unit. The Company's intention is that the investment is cost-neutral; i.e. the funding invested by the Company in each project is recouped through successful delivery of a unit. The ethos behind the EIP programme is that it allows for trialling of new approaches that have the potential to deliver wider benefits, with acknowledgement that not all approaches will work, and with the lessons learned incorporated into future strategies and investment planning.

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 one project in the Lee catchment within the reporting year 2023-2024, and which amounts to one unit.

In addition, the reasons why the following two projects have been discontinued during the reporting year, are set out below, and therefore the Company is not claiming any units for these:

- **Faith groups – Grey Water Recycling (Pinn).** The scope of this project, which was initiated in April 2022, was to engage 23 individual faith groups across the Hindu, Jewish and Muslim communities to develop engagement to facilitate behavioural change and, where appropriate, fit water saving devices in religious premises. The aim was to deliver a reduction in water usage in the premises as part of an overall commitment to reducing water demand and per capita consumption (PCC) in the Company's Pinn community. However, despite working with a project partner with expertise in this field, the project was unsuccessful as Affinity Water struggled to engage the majority of the faith groups included within the scope of the project. Furthermore, where engagement was successful, the payback period for fitting of water saving devices was found to be too long, so the project partner recommended against proceeding with the installations. Instead, the Company has partnered with South Staffordshire Water on an Ofwat-funded project which started in June 2023 and aims to establish a deeper understanding of how water is used and valued in different faiths and cultures as well as providing insight into customer usage profiles.
- **Education smart meters in schools (Dour).** The scope of the project, developed in 2018, was to install smart meters in 10 schools and provide training to staff and students on how to monitor their water usage. The aim was to engage students on water conservation and reduce water consumption across schools. The Company decided not to proceed with this project because it has now secured accelerated AMP8 funding for a large smart metering installation programme from July 2024, which will include schools and other non-households. An additional factor was that earlier this year Affinity Water launched its Water Smart programme, which aims to engage children, families and the wider community on water conservation, including those in the Dour water resource zone.

2. The Project

This assessment has been made by examining evidence for the project provided by Affinity Water, including carrying out a virtual audit as part of the assurance process.

2.1. Lea catchment: chalk stream health assessment (1 project unit)

Overview and approach

This project is one of six EIP work packages, totalling seven project units, focused on the Lea Catchment, which have an overarching aim to investigate a new delivery model using a catchment-based approach. The chalk stream health assessment work package had an objective to **'undertake a baseline assessment of the health of a chalk stream using a preferred approach'**.

The initial approach selected by the Company was to pilot the application of a chalk stream health metrics methodology developed by Arup in 2020 for the River Chess for Thames Water and Affinity Water, on the River Beane, a chalk stream tributary of the River Lea. Partway through this project, however, it was identified that the data available to apply the methodology were either lacking, unavailable in an appropriate time series or insufficiently spatially extensive. Collection of the required data would have required significant investment and it was considered that this would not be an appropriate use of customers' money. The Company also identified that stakeholders found the method complex to understand.

As a result of this, in January 2023 a change in scope of the Arup chalk stream health metrics project was agreed with Arup whereby instead of trialling the chalk stream health metrics on the Beane, a monitoring strategy to enable collection of robust scientific data to assess stream health was to be produced. This was developed between January and April 2023, with the final report published in April 2023. Although the Company reported that the monitoring strategy has informed its future delivery model for collecting river data (e.g. increasing the use of citizen science approaches), there are no plans at present to implement the proposed strategy in its current form.

In parallel to this metrics development project, following the Company's ongoing engagement with the Herts and Middlesex Wildlife Trust (HMWT), in June 2022 the HMWT provided a proposal to the Company to establish a chalk river 'biodiversity net gain bank'. The concept behind a biodiversity net gain (BNG) bank is to identify a series of sites where BNG uplift can be achieved through developer investment, driven by the requirement to deliver 10% BNG uplift under the Environment Act. As part of this, HMWT's proposed approach was to combine the Defra River BNG Metric which is used to assess the BNG of rivers with the organisation's Riverine Local Wildlife Sites (RLWS) criteria developed between 2019 and 2022. The aim was to assess the current state of a chalk river using both Defra River BNG Metric and RLWS methodologies, identify new riverine Local Wildlife Sites and identify river stretches that could benefit from intervention. It was agreed that this approach would be piloted on the Rivers Ash and Mimram, which are also chalk stream tributaries of the River Lea, as opposed to the River Beane, which it was determined was already the focus of ongoing data collection as part of a long-term Flagship project with Defra and the EA, alongside local organisations.

HMWT proceeded with the BNG bank or 'biobank' pilot project, with a comprehensive report provided to the Company in 2023. The pilot provided the following key outputs and results:

- In depth ecological information was collected across the length of the River Mimram and along 6 km of the River Ash.
- 13 riverine Local Wildlife Sites were proposed for selection, and a report was prepared for each landowner outlining findings on their stretch of the river.
- Evidence of the negative impact of siltation and high nutrient levels on all plant communities was collected.
- A River Corridor Assessment condition score was generated for each subreach assessed, along with the score uplift needed to move up a category.
- A BNG Metric calculation was carried out for each designated river length assessed, along with an indication of the potential increase in units that could be achieved and sold by raising the condition class.

Outcomes

Based on our review of the supporting documents and reports provided by the Company, and an audit discussion held in May 2024, there is evidence that the Lea chalk stream health assessment work package delivered the following outcomes:

- A comprehensive understanding of the river health of the River Mimram and a 6 km stretch of the Ash.
- An understanding of the different types of methodologies available to assess chalk river health, their advantages and disadvantages, and their differences and synergies. This will inform future river condition assessments and ultimately, river restoration strategies.
- The biobank pilot demonstrated that creation of a biobank is only achievable once projects with red line boundaries (the site boundary of the scheme) have been clearly defined, designed and approved (which was not within the scope of the pilot).
- The biobank pilot showed the level of resource required to assess condition for an entire river and a key finding was that targeting of areas more likely to become part of river improvement projects may be a better use of resources.
- Both projects showed how the Company can partner with other organisations to deliver catchment projects.
- The biobank project collected extensive ecological data which will be held by the local records centre and available for public use.
- The biobank project highlighted the challenges of engaging with landowners to secure permission for surveys, which should be factored into future planning.

Findings

From the evidence we have seen, the Lea chalk stream health assessment work package has delivered significant benefits to customers and local communities in terms of:

- An understanding of the state of two important chalk streams.
- Informing future catchment strategies by providing an understanding of resource requirements for data collection and condition assessment, and successful partnership working approaches.
- Providing an understanding of requirements for development of a biobank, which has the potential to accelerate environmental investment within catchments.

The Company is planning to share its findings from these two projects at the Chalk Stream Flagship Projects Conference and the HMWT will also be disseminating project findings at the Lea Conference with catchment stakeholders, both scheduled for later this year. By ensuring the lessons learned from these projects are disseminated as widely as possible across the water industry and with Rivers and Wildlife Trusts, this will maximise the benefits from the Company's investment beyond the Affinity Water company area and contribute to the knowledge and experience gained being integrated into catchment investment strategies for AMP8 and beyond.

3. Conclusion

Having reviewed the evidence for the Lea chalk stream health assessment project, it is reasonable to conclude that this has generated significant benefits in the form of organisational knowledge and experience, ecological data and information to inform future catchment investment planning that would not have been gained through business-as-usual approaches. The Company's rationale for discontinuing the faith groups and education smart meters projects appear sound and avoids any unnecessary investment in progressing projects that are unlikely to contribute to the overall programme objectives or would lead to duplicated effort.