United Utilities Water Limited
Green Recovery
Annual Progress Report
2022

United Utilities

Water for the North West

1. Green recovery overview

In July 2020, Defra, Ofwat, the Environment Agency (EA), the Drinking Water Inspectorate (DWI) and the Consumer Council for Water (CCW) invited water companies to identify ways to support the country's green economic recovery from the COVID-19 pandemic.

Defra and the regulators set out an ambition to build back greener from the pandemic: delivering lasting environmental improvements for current and future generations, whilst meeting the economic and social challenges England faces. This was known as 'Green recovery'.

Water companies were asked to bring forward new proposals and accelerate existing ones to deliver an innovative and more resilient future for customers, society and the environment.

Following submissions from companies in January 2021, Ofwat issued its final decisions in July 2021. We received endorsement to progress with total allowance of £64.402 million additional funding on top of our existing PR19 final determination. This funding incorporated a focus on three specific schemes.

Green recovery scheme	Funding
Accelerating partnerships to deliver natural solutions	£14.943 million to protect habitats, enhance raw water quality, improve drainage and reduce phosphorus
AMP8 WINEP investments at Bury	£44.060 million to provide additional wastewater storage to improve water quality in the Manchester Ship Canal
Tackling storm overflows	£5.399 million to help tackle storm overflows and improve river water quality

This report outlines the progress made in the last financial year on the individual delivery components of each of these three schemes and associated financial profile, the benefits realised through Green recovery activity under our AMP7 performance commitments and the future milestones in our plan.

2. Accelerating partnerships to deliver natural solutions

2.1 Scheme overview

As a water and sewerage undertaker the resilience of our services is intrinsically linked to the resilience of the ecosystems we depend upon. As a result of this we have a Catchment Systems Thinking (CaST) approach which seeks to ensure the health and efficiency of our services is optimised within the context of the resilience of the catchments in which they operate.

Our 'accelerating partnerships to deliver natural solutions' Green recovery scheme proposal focuses on delivering innovative nature-based solutions in three distinct geographic areas of the North West of England. Each one tackles issues that relate directly to our service and also offer the potential to deliver wider benefits to society and therefore offer up partnership potential. We aim to bring forward AMP 8 investment to deliver interventions identified as required through AMP7 investigations and also deliver innovative new ideas to tackle problems in these catchments. The learning we gain from delivering within these three areas will be applied to the rest of the North West as we plan for PR24 and shared with other companies to enable take up elsewhere. The three distinct areas which feature in our proposal are:

(i) **The River Eden catchment, Cumbria** – A largely rural catchment with extensive livestock farming other than for the city of Carlisle in the lower reaches. The catchment is also home to extensive stretches of river designated as Special Areas of Conservation.

(ii) **The Fylde coast, Lancashire** – A heavily urbanised coast featuring resorts such as Blackpool with agricultural land further inland.

(iii) **The River Irwell and wider Greater Manchester area** – The Irwell drains the northern half of Greater Manchester before it flows through Manchester city centre and eventually joins the Manchester Ship Canal. Other than moorland in the upper reaches it is a highly urbanised river system.

We aim to invest £14.9 million on behalf of customers to deliver the following interventions which will enhance the health of ecosystems to deliver the following benefits to customers and wider society. We will also be targeting partnership contributions to allow us to deliver greater benefit to customers without increasing costs.

A breakdown of the costs and targeted benefits from each of the component elements of the 'accelerating partnerships to deliver natural solutions' Green recovery scheme is shown below.

Component	Description	Benefits
Catchment phosphorus	£1.1m investment in scaling up nutrient markets in the Upper Eden catchment to get a head start on improving protected habitats £1.8m investment in piloting approaches to addressing the challenge or agricultural and urban diffuse phosphorus in the Irwell	• 1,000kg/year of agricultural phosphorus load removed from each of the Irwell and Eden catchments • 65kg/year of urban pollution load removed from the Irwell catchment • Creation of green infrastructure • Removal of additional agricultural pollutants • Tackling the challenge of urban pollution and the additional pollutants this brings • Supporting local agricultural economies through challenging times

Component	Description	Benefits
Catchment water quality management	£0.7m investment in catchment interventions to improve raw water quality from the Rivers Lune and Wyre which serve the Fylde coast	• 300 farms engaged with • 100 farms engaged with on-site in 121 visits • 40 farm plans and interventions delivered • Reduced agricultural pollution to water sources in E.coli, pesticides etc.
Peatland restoration	£2.3m investment in restoration of upland peat in Haweswater, Goyt Valley, Winter Hill, Longdendale, Barnacre and Grizedale catchments	• Restore 2,500 Ha of peatland • Reduced dissolved organic carbon and colour in raw water supplies • Reduced carbon loss and eventually increased sequestration • Reduced wildfire risk • Improved biodiversity • Reduced water flow from uplands reducing downstream flood risk
Sustainable drainage systems (SuDS) and natural flood management (NFM)	£9.1m investment in sustainable drainage and natural flood risk management schemes within the target areas of Eden, Fylde coast and Greater Manchester to reduce flood risk and mitigate the impact of climate change on storm overflow operation	• Flood risk reduced from properties in affected areas • Reduce storm overflow operation • Delivery of green infrastructure • Creation of amenity value and recreational spaces

The table below outlines the specific allowance for each component of this scheme and what the required output will be upon completion.

Component		Allowance (£m)	Unit	Component level at completion
Catchment phosphorus	Eden catchment phosphorus management - weight of phosphorus removed	1.091	Kg	1,091
	Irwell catchment phosphorus management - weight of phosphorus removed	1.819	Kg	1,065
Catchment water quality management	Number of farms engaged	0.723	Number	300
Peatland restoration		2.253	Ha	2,501
Number of SuDS and NFM solutions installed		9.057	Percentage (%)	100%
		14.943		

2.2 Investment profile and delivery progress

The planned spend for the accelerating partnerships to deliver natural solutions scheme is shown in the table below. The Green Recovery programme is not currently forecasting to overspend or underspend compared to submission. For ease of comparison, our planned and forecast cost profiles are therefore shown as percentages.

Component	% of allowance	Planned spend profile (%)			
		2021/22	2022/23	2023/24	2024/25
Catchment phosphorus	19%	10%	40%	40%	10%
Catchment water quality management	5%	10%	30%	30%	30%
Peatland restoration	15%	10%	20%	35%	35%
Sustainable drainage systems (SuDS) and natural flood management (NFM)	61%	10%	20%	60%	10%
Total	**100%**	**10%**	**25%**	**51%**	**14%**

The planned investment profile for the SuDS and catchment phosphorus programmes was set to deliver most of the expenditure and outputs in 2022/23 and 2023/24, with some expenditure in 2021/22 to set up the programme. For catchment water quality management and peatland restoration, expenditure in 2021/22 was also planned for setting up the programme then a relatively consistent level of expenditure planned across the rest of the AMP.

The current forecast spend for the accelerating partnerships to deliver natural solutions scheme is shown in the table below.

Forecast spend profile (%)	2021/22	2022/23	2023/24	2024/25
Catchment phosphorus	0%	46%	39%	16%
Catchment water quality management	15%	27%	27%	31%
Peatland restoration	0%	69%	15%	15%
Sustainable drainage systems (SuDS) and natural flood management (NFM)	0%	29%	61%	10%
Total	**1%**	**38%**	**48%**	**13%**

The majority of spend incurred in 2021/22 related to programme preparation. A key part of delivering natural solutions is building strong relationships with partner organisations, so that in the long term we can deliver projects that provide benefits for customers, stakeholders and the environment. It is important that we undertake this activity in the right way, so that the benefits are maximised. This activity will also help inform our plans in the future but has required minimal initial expenditure in 2021/22.

The forecast spend profile is therefore different to our planned spend profile. This is due to:

- **Partnership grant funding** – a condition of spend for some areas of the programme e.g. peatland restoration, required 80% of partnership funding to be in place before we start the projects. Some of our partners are still working to secure this grant funding. Our current expectation is that this funding will be secured in time to deliver the programme requirements within the AMP period, however there currently remains an element of uncertainty relating to grant responses.

- **Project preparation** – we have focussed our initial spend on completing preparatory works to identify appropriate areas that need to be targeted e.g. for the Catchment Phosphorus programme. Although we have spent less than our planned profile, the preparation undertaken means that we've been able to update our catchment modelling reports to target the interventions more effectively.
- **New commercial agreements** – there have been some issues with getting the new, complex commercial agreements in place with partners to allow us to spend the money. We are expecting this to be resolved by the end of the calendar year, which will enable us to complete the delivery of the programme within the AMP.

The table below describes the variance between the initial planned and current forecast spend profiles.

Variance (%)	2021/22	2022/23	2023/24	2024/25
Planned spend profile	10%	25%	51%	14%
Forecast spend profile	1%	38%	48%	13%
Variance	**-9%**	**13%**	**-3%**	**-1%**

In 2021/22 our main focus has been preparatory work for the delivery of outputs later in AMP7. In Ofwat table 10E, outputs are reported as zero this financial year. This is because outputs are only reported when all underlying activities are complete. This is fully in line with our plan.

A copy of this table can be found at:

unitedutilities.com/globalassets/documents/pdf/apr-table-2022

In section 2.3 below we set out details of our projected future milestones for delivery of these projects. We have a strong track record of delivery through partnership working but the nature of partnerships means that there is some continued risk around project delivery. Given a reliance on partners being able to secure appropriate funding, provide technical input and align drivers and timescales, it is possible that third party action can delay or cease project development. Although we manage this carefully through diligent project management and partner communication, unforeseen activity can occur. There are two recent examples of this.

(i) A WINEP catchment project looked to develop a wetland adjacent to one of our Wastewater treatment works on land owned by a Wetland Trust. The project drivers were to enhance biodiversity and deliver natural capital benefits to the site as well understand augmented wetland technology, dosing aluminium into the wetland to deliver water quality improvements. Through the project development, a number of constraints were identified including: how viable designs would disturb peatland; the hydraulics required to direct flow around the site; significant imports and exports of groundworks; the impacts on ecology (including the re-homing of water voles) and that the long-term impacts to wildlife of aluminium dosing are currently unknown.

Although the project was technically achievable, it seemed unlikely to sufficiently deliver the desired enhancement of biodiversity and natural capital in the surrounding landscape. In view of the fact the project was unable to meet the overall requirements and drivers of all partners it was therefore ceased.

(ii) We had initially planned a project to deliver peatland restoration in an area of non-owned drinking water catchment on the Greater Manchester and Lancashire boundary. Land ownership and common grazing rights of the moorland site were complicated and a mechanism for convening stakeholders and implementing financial compensation was not already in place. We partnered with 'Moors for the Future', who submitted an application to the Defra Peatland fund for grant funding to facilitate the restoration project. With Natural England, we also co-funded a specialist adviser to undertake stakeholder engagement and establish a route for collaboration with the common grazers to get them into a higher tier countryside stewardship scheme. This was a critical part of the project because without the

stewardship payments to sustain a lower grazing level, the restoration work would be futile as vegetation restoration would be insufficient.

Unfortunately after several months of negotiation the process reached an impasse following claims for payments from inactive graziers. This reduced the viability of the scheme beyond being economically viable, meaning the project did not proceed.

Despite such setbacks sometimes impacting partnership based solutions, we continue to believe that our natural solutions projects within our green recovery programme remain deliverable. We have set out below our current view of the future milestones we are working towards.

2.3 Future milestones

2.3.1 Catchment phosphorus

This year the Eden catchment phosphorous project has undertaken a detailed consolidation exercise, utilising the outputs of the Cumbria Habitats investigation as well numerous data sources to identify catchment offsetting opportunities, in conjunction with requirements for wastewater treatment works in the catchment. This exercise has been a pivotal step that will support in developing a detailed project scope, and has helped to identify where targeted effort needs to be applied in order to deliver required phosphorous reduction.

In the Irwell catchment we have worked with the Irwell Catchment Partnership, the Catchment Based Approach (CaBA) Group Group and have led formation of the Irwell Catchment Nutrient Management Group. The aim of this group is to coordinate catchment learning and activity focussed on nutrient management in the Irwell catchment and using expertise across a range of key partners (including representatives from UU, EA, NE, Groundwork, Mersey Rivers Trust, Storm Water Shepherds) identify and prioritise catchment interventions for delivery.

In both the Eden and Irwell catchments we have undertaken a review with projects across the business with comparable objectives, looking to develop a streamlined programme of activity for nutrient reduction, taking a holistic approach, in line with our Catchment Systems Thinking (CaST) approach. The internal consolidation, review and streamlining activity with other projects is a vital step in the project to ensure we are maximising efficiencies, driving the greatest opportunity for the project and establishing the best possible foundation to take forward as we look to develop a detailed scope. This is in line with our plan and we are now in a position to progress to engage partners and develop a detailed scope which will ultimately drive delivery.

Year	Expected milestone
2022/23	Develop baseline understanding of ‘available’ P load in catchment. This will be developed in conjunction with partners, and will look to agree appropriate systems and data sets that can be utilised to model phosphorous reductions.
	Prioritise focus areas to develop a suite of farm, land management and drainage improvement plans to include potential specific interventions focussed on phosphorous removal and forecast on what interventions will deliver in terms of kg/yr phosphorous removal
	Interventions detailed in drainage improvement plans, prioritised for delivery through multi agency steering group
2023/24	Interventions will be verified against unit cost of phosphorous reduction and progressed to delivery once identified they are in line with modelled expectations.
	Interventions delivered and outputs are evidenced and logged. Report on forecast kg removed as per developed methodology and record on UU systems.
2024/25	Benefits realisation and lessons learned on success of interventions.

These milestones are currently on track and we’re looking to engage partners to commence baseline understanding in summer 2022.

2.3.2 Catchment water quality management

As described in the section above, no specific outputs have been completed this year. However, partnership funding has been identified with individual Rivers Trusts and will include a combination of other private and public grants where the objectives align with our Green recovery programme. Coordination of the funding and delivery of the activities will be undertaken by partner organisations.

Lune – A collaborative agreement has been drafted, but needs to be agreed before the Rivers Trust are able to commence work. The Lune rivers trust (LRT) will recruit a resource to engage with farmers and deliver the work. The organisation is very small and no upfront work has been possible before the agreement is in place. Once the agreement has been reached we will work with LRT to outline a delivery plan for activity in FY23-25.

Wyre – A collaborative agreement has been drafted, but needs to be agreed before the Rivers Trust are able to commence work. The Wyre rivers trust (WRT) will appoint a resource to engage with farmers and deliver the work. In the meantime, through existing stakeholder engagement work, they have been gathering a list of farmers who have an expressed an interest in working with UU as part of the project and they have identified a person with the right skill set to undertake the farm advisor work. Once the agreement has been reached we will work with LRT to outline a delivery plan for activity in FY23-25.

2.3.3 Peatland restoration

This year we have undertaken preparatory work for grant funding. A combination of government Green Recovery funding and Nature for Climate funding has been identified as the most suitable route of matched funding. Applications for matched funding will be made via partner organisations. As described above in section 2.2, some of our partners are still working to secure this grant funding, meaning there currently remains an element of uncertainty for us in this area. There are also potential risks to mitigate on the complexity of commercial agreements and supply chain, which we are actively working on to ensure this project is successfully delivered.

An overview of the current situation regarding the potential sites and opportunities for peatland restoration is shown below.

Site	Overview
Longendale (Dovestones)	At the time of making the Green Recovery Submission to Ofwat, the RSPB who are a tenant and partner at Longdendale, specifically the Dovestones estate, submitted a bid to the nature for climate peatland restoration fund. The preparatory work had been completed as part of another project and all site surveys, habitat assessments and consents were in the process of being agreed with Natural England. Both funding elements were successful and have combined together to form a £1.6 million project which has received some publicity: https://www.manchestereveningnews.co.uk/news/greater-manchester-news/cash-boost-16m-ancient-peat-23635192 Work started on site in spring 2022 and will complete in 2024 delivering 900 hectares of restoration, which exceeds the original target of 500 hectares.
Barnacre Grizedale	This site is on the western edge of the Forest of Bowland Area of Outstanding Natural Beauty (AONB), and the organisation is supported by Lancashire County Council. Peatland officers have been funded through the Government's Green recovery funding, which has allowed resources to identify areas for peat restoration and work these into candidate sites for nature for climate funding. In the wider Bowland area, we have an existing AMP7 WINEP commitment to deliver peat restoration and these sites have been prioritised for the June 2022 funding round. The National Trust has coordinated the bid on behalf of the Great North Bog partnership (which includes the Forest of Bowland AONB and Cumbria Wildlife Trust amongst others). We will continue to work with partner organisations to develop plans for this area.
Haweswater	The Cumbria Peat Partnership is hosted by Cumbria Wildlife Trust (CWT) who has a history of delivering restoration work on other parts of the Haweswater site. A collaborative agreement has not yet been drafted by our legal/commercial team for agreement before CWT are able to commence work. Once agreed and signed, the CWT will appoint a resource to identify areas for peat restoration and work these into candidate sites for nature for climate funding.

Site	Overview
Winter Hill	Moors for the Future (the peat partnership covering the South Pennines area) expressed an interest as the delivery partner and agreed to include the area in their current bid for Nature for Climate matched funding. However, this is still under discussion.
Goyt Valley	We are exploring a number of potential partnership opportunities in this catchment.

2.3.4 Sustainable drainage and natural flood management

This year has been spent investigating further the potential costs and benefits of different means of delivering these schemes to inform future targeting of investment.

This work has included:

- **Capabilities** – Developing our landscape framework, bringing on new suppliers builds further capability for the design and build of blue green infrastructure. We have learnt from previous projects, such as our SuDS for Schools project, to ensure a diverse skill set including landscape architecture and drainage engineers are available to competitively tender for regional projects. A further six companies have been added to the framework for this year, to support our ambitions through Green Recovery.
- **Data** – Outputs of new data that show us what types of SuDS are best to install where, in addition to supporting methodologies that add process to how the information can be extracted easily has been completed. This data helps support decision making and is an essential process that enables co-design of solution blends and styles. We aim to further develop and share this data with partners to enable the development of holistic and adaptive strategies that support the upcoming Price Review.
- **Framework** – We have secured Project Engineering Manager resources to manage this programme of work.

In 2022/23 our focus will be on approving and supplementing finance to several partnerships organisations. We will work with partners to plan and develop SuDS and nature based storage solutions that benefit local communities or partnerships.

2.4 Performance commitment and additional benefits

The ‘catchment water quality management’ and ‘peatland restoration’ components of this scheme are not linked to any of our AMP7 performance commitments. Therefore their delivery will not provide additional performance or financial benefit in this area.

There is the potential for some of our ‘sustainable drainage and natural flood management’ activities to provide additional benefit under both our ‘hydraulic internal flood risk resilience’ and ‘hydraulic external flood risk resilience’ performance commitments. However in 2021/22, none of our activities delivered any benefit in this area, as reported in Ofwat table 10D.

Likewise, there is the potential for some of our ‘catchment phosphorus’ activities to provide additional benefit under our ‘enhancing natural capital for customers’ performance commitment. Again, none of our activities delivered any benefit in this area in 2021/22, as reported in Ofwat table 10D.

3. AMP8 WINEP investments at Bury

3.1 Scheme overview

The Manchester Ship Canal is a canalised river that finished construction in 1894. It canalised the natural river to allow for the transportation of raw supplies for manufacturing in the booming city of Manchester and transporting goods to the port of Liverpool. The Ship Canal has been an important transport link over the past 127 years and continues to be used to this day.

In more recent times the Ship Canal has been used for recreation. The turning basin area in Salford is a major area of development for Greater Manchester, providing key locations for the BBC, ITV and Lowry Theatre as well as water-front development focusing more interest in the canal and its water quality. The Manchester Ship Canal corridor in Salford and Trafford is a key focus area for growth in the North West and builds on the increased amenity value already delivered by improvements to UU's discharges over the last 30 years.

The need for the improvement schemes detailed in this document comes from the requirement to improve the dissolved oxygen in the canal that was originally required to comply with the statutory requirements of the Freshwater Fish Directive which were subsumed into the Water Framework Directive in 2013. As the canal is deep and slow moving, during the summer months flows are often low and water is held back in the canal to ensure there is sufficient water for ship navigation. This slow-moving water leads to a risk of low concentrations of dissolved oxygen that natural, flowing rivers enjoy. The low level of dissolved oxygen is a barrier to a thriving fish population and limits the migration of fish to the upstream rivers which cover a large urban area including virtually all of Greater Manchester.

The below confirmed AMP8 requirements will satisfy the statutory driver:

(i) WINEP reference 7UU200793 - Bury WwTW Storm Tanks WFD 99%ile intermittent standards for Dissolved Oxygen and Ammonia. WINEP regulatory date 31 March 2028.

(ii) WINEP reference 7UU200802 - Nuttall Hall Road CSO (BRY0002) WFD 99%ile intermittent standards for Dissolved Oxygen and Ammonia. WINEP regulatory date 31 August 2027.

Completion of the schemes at Bury WwTW storm tanks and Nuttall Hall Road CSO (BRY0002) have been modelled to contribute towards downstream improvements to dissolved oxygen in the Ship Canal and will also enable the River Irwell to meet ammonia and dissolved oxygen Water Framework Directive biological standards. Bringing these forward to complete in 2025 will benefit the environment sooner.

It has been recognised that improving the Ship Canal to meet Water Framework Directive compliance and support migratory fish cannot be achieved by our investment alone. The establishment of the Mersey Rivers Trust hosted Manchester Ship Canal Partnership Forum, with support from the Environment Agency and other key catchment stakeholders, is intended to codesign and co-deliver a long-term multi beneficial environmental improvement strategy for the Canal.

The accelerated completion of these schemes in Bury will result in an earlier improvement to the River Irwell, and are a stepping stone on the journey to the long-term strategy for the Manchester Ship Canal, which the Environment Agency and the Mersey Rivers Trust have signed up to.

The table below outlines the specific allowance for each component of this scheme and what the required output will be upon completion.

Component	Allowance (£m)	Unit	Component level at completion
Network storage installed at Nuttall Hall road	32.090	Percentage (%)	100%
Additional storm tank capacity installed at Bury WwTW	11.970	Percentage (%)	100%
	44.060		

3.2 Investment profile and delivery progress

The planned spend for this scheme is shown in the table below. The Green Recovery programme is not currently forecasting to overspend or underspend compared to submission. For ease of comparison, our planned and forecast cost profiles are therefore shown as percentages.

Component	% of allowance	Planned spend profile (%)			
		2021/22	2022/23	2023/24	2024/25
Network storage installed at Nuttall Hall road	73%	7%	8%	36%	50%
Additional storm tank capacity installed at Bury WwTW	27%	7%	8%	36%	50%
Total	**100%**	**7%**	**8%**	**36%**	**50%**

The planned investment profile for the WINEP investments at Bury was based on delivery of both schemes in AMP7, with the majority of expenditure expected in 2023/24 and 2024/25 to complete the solutions.

The current forecast spend for the Bury scheme is shown in the table below.

Forecast spend profile (%)	2021/22	2022/23	2023/24	2024/25	AMP8
Network storage at Nuttall Hall road	1%	4%	17%	57%	21%
Additional storm tank capacity at Bury WwTW	1%	2%	17%	59%	21%
Total	**1%**	**3%**	**17%**	**59%**	21%

Programme spend in 2021/22 relates to the 'define phase', to progress the development of the solution and tender package to go to the market for pricing.

The forecast spend profile is therefore different to our planned spend profile. Our current forecast profile reflects the risk that we may need to spend in AMP8 in order to complete delivery of the programme, however we are looking for opportunities to bring this back into the current AMP period. This is due to:

- **Bury WwTW** – In developing the solution at Bury WwTW we have had to undertake many months of network modelling and hydraulic analysis. Completing this modelling and analysis has been fundamental to understanding all issues at the inlet works and potential solutions to resolve them. This has taken longer than anticipated and is reflected in the forecast spend profile. However, although we are reviewing

the project forecast and delivery dates, we are currently still working to complete the project within the agreed time period.

- **Nuttall Hall** – In developing the solution the UU project team have looked at several locations to optimise the design solution and cost. This has resulted in the requirement to build a solution on third party land, which has added some additional time into the schedule. Negotiations to secure the land and are now nearing completion. Similar to Bury WwTW, we are still working to complete the project in the agreed time period.

The table below describes the variance between the initial planned and current forecast spend profiles.

Variance (%)	2021/22	2022/23	2023/24	2024/25	AMP8
Planned spend profile	7%	8%	36%	50%	-
Forecast spend profile	1%	3%	17%	59%	21%
Variance	**-6%**	**-5%**	**-19%**	**9%**	**21%**

In 2021/22 our main focus has been preparatory work for the delivery of outputs later in AMP7. In Ofwat table 10E, outputs are reported as zero this financial year. This is because outputs are only reported when all underlying activities are complete. This is fully in line with our plan.

A copy of this table can be found at:

unitedutilities.com/globalassets/documents/pdf/apr-table-2022

3.3 Future milestones

As described in the overview section, we were originally committed to the delivery of the two elements of this scheme by the regulatory dates (31 March 2028 for Bury Storm Tanks and 31 August 2027 for Nuttall Hall Road CSO). Through Green recovery, we now aim complete these schemes by 2025/26. However, completion by 2025/26 is subject to land purchase and planning consent.

3.4 Performance commitment and additional benefits

This scheme is not linked to any of our AMP7 performance commitments. Therefore delivery of the scheme will not provide additional performance or financial benefit in this area.

4. Tackling storm overflows

4.1 Scheme overview

Over the past 18 years, we have invested £1.2 billion improving our overflow discharges to reduce the incidence, volume and impact of spills. This is evident in the North West as the impact of agriculture is now cited as the most common reason for water quality not meeting "good" ecological status.

In the North West we experience high levels of rainfall and this leads to higher levels of urban runoff than other regions of the country. We have a higher proportion of combined sewers than any other water company with over 54% combined as a proportion of our legacy public sewers. This legacy means the risk of spills from these systems is higher as they respond quicker to a storm when compared to more separate systems.

We have over 2,200 storm overflows which act as a relief system in period of heavy or prolonged rainfall events. Our long-term ambition is to reduce spill frequency where it has an environmental impact and then to further reduce spills where this can be demonstrated to be beneficial to customers. In recent surveys, customers have shown that they place a high value on their local natural environment and a strong preference to protect the environment from deterioration.

In the past the Environment Agency (EA) has set event monitoring requirements based on spill frequency and amenity[1] and frequently spilling overflows are investigated as part of our Water Industry National Environment Programme (WINEP). However, there is recognition that more can be done and our continued investment in developing, enhancing and maintaining hydraulic models of our wastewater network means we now have coverage for 99% of population in the region. This valuable asset allows us to simulate the long-term performance of the majority of our overflows to compliment the event monitoring programme. Combining the data from our event monitors and models gives us the capability to understand the performance of nearly all our overflows.

In light of this continued focus from both customers and regulators, we have developed a 'Green recovery' scheme to place additional emphasis on storm overflows. This scheme consists of two components:

(i) Storm overflow assessment framework (SOAF) investigations

The SOAF was written by the Environment Agency as an assessment framework for compliance with the relevant legislation such as the Urban Wastewater Treatment Regulations (UWWTR). This framework supports companies in assessing the impact of storm overflows and identifying cost beneficial solutions to reducing spill frequency.

Any overflow reported to exceed the spill frequency thresholds as set out in Table 1 of the SOAF guidance document should be investigated. The thresholds are based on the number of years an event monitor has been installed and the average annual number of spills reported.

In preparation for AMP7, 195 sites were identified for investigation and inclusion in the WINEP version 3. These sites were recognised as enhancement projects in our 2019 Final Determination and are planned for delivery in AMP7. Irrespective of Green Recovery, we had already chosen to accelerate this programme to complete all 195 WINEP requirement by March 2023. This has afforded us capacity to deliver some additional investigations in AMP7. These additional investigations would otherwise be delivered in AMP8 under the current U_INV WINEP driver.

[1] Water companies: environmental permits for storm overflows and emergency overflows
https://www.gov.uk/government/publications/water-companies-environmental-permits-for-storm-overflows-and-emergency-overflows/water-companies-environmental-permits-for-storm-overflows-and-emergency-overflows

Since defining our AMP7 programme we have installed over 1,600 new EDMs and as a result we have significantly increased our monitoring capacity and knowledge of our systems. From this data we have identified 587 new sites that meet or exceed the SOAF spill thresholds for an investigation.

Our Green Recovery proposal would deliver Stage 1 (Why is the storm overflow a high frequency spiller?) of the SOAF investigation on all 587 sites with 300 going forward onto Stage 2 (*Does the storm overflow cause an environmental impact?*) and Stage 3 screening (*Initial assessment of options for improvements*). This phased approach in the delivery is in recognition of lessons learned during the delivery of our AMP7 programme.

By taking a phased approach we will target the highest priority sites and group overflows into catchments to create efficiency in the investigations but also allow us to identify and adopt a catchment solutions approach where appropriate with early engagement with local stakeholders. This will also minimise the number of changes to the programme which is essential for successful delivery in a short timeframe

(ii) Build three new integrated catchment models

Our integrated catchment models (ICMs) are a dynamic digital representation of a watercourse's catchment hydrology and water quality. These models are calibrated to real time data to represent the water quality impact of urban and diffuse rainfall runoff within the receiving watercourse. The urban contributing catchment is represented through our sewer network models that represent all overflows, surface water outfalls and wastewater treatment works contributions.

The ICMs are used to assess the water framework directive status of a watercourse and are used to identify where there is non-compliance and its root cause. A significant advantage of the models is they can represent both dry weather and wet weather conditions and are able to replicate the impact of climate change. We have built ICMs for a significant portion of the region and these have been used to inform overflow and Wastewater Treatment Works (WwTW) needs for the multiple WINEPs. We have identified three river watersheds where we'd like to expand our modelling coverage as they contain a high number of frequently spilling overflows.

The key to building an integrated catchment model is having suitable data for calibration. This requires capturing long-term water quality trend data and sampling dry and wet weather events to replicate the impact of the overflows. As a minimum we collect a full summer period for each catchment. Due to lab capacity we would have to phase the data collection over two summers in an overall three year programme including the model build and calibration, needs assessment to develop a model suitable to look at options. To deliver this extended ICM programme would require planning to start in late 2021 to facilitate surveys in 2022 and 2023 and allowing time to build and calibrate the models.

The table below outlines the specific allowance for each component of this scheme and what the required output will be upon completion.

Component	Allowance (£m)	Unit	Component level at completion
SOAF investigations	3.888	Percentage (%)	100%
Integrated catchment models - Sankey Brook and Wiza Beck	0.986	Number	2
Integrated catchment models - Upper Derwent	0.525	Number	1
	5.399		

4.2 Investment profile and delivery progress

The planned spend for the tackling storm overflows scheme is shown in the table below. The Green Recovery programme is not currently forecasting to overspend or underspend compared to submission. For ease of comparison, our planned and forecast cost profiles are therefore shown as percentages.

Component	% of allowance	Planned spend profile (%)			
		2021/22	2022/23	2023/24	2024/25
SOAF investigations	72%	-	-	51%	49%
Integrated catchment models - Sankey Brook, Wiza Beck and Upper Derwent	28%	-	-	51%	49%
Total	**100%**	**-**	**-**	**51%**	**49%**

The SOAF investigation planned spend profile is based on the investigation deliverables being expected in 2023/24 and 2024/25. The planned spend profile of the Integrated catchment models programme was based on the assumption that work in the three catchment areas would be completed predominantly across 2023/24 and 2024/25.

The current forecast spend for the tackling storm overflows scheme is shown in the table below.

Forecast spend profile (%)	2021/22	2022/23	2023/24	2024/25
SOAF investigations	4%	44%	33%	20%
Integrated catchment models - Sankey Brook, Wiza Beck and Upper Derwent	1%	16%	41%	41%
Total	**3%**	**36%**	**36%**	**26%**

Spend incurred against this programme in 2021/22 is attributed to programme preparation activities:

- **SOAF Investigations** – 2021/22 spend is associated with the initiation of stage 1 high level investigations. Details of these are shown in the table below. The output of these investigations will determine which sites require environmental surveys to be undertaken in 2022/23.
- **ICM models** – 2021/22 spend is associated with stakeholder and contractor engagement and the co-ordination of catchment surveys. This work was undertaken to ensure that the appropriate equipment was in place at the agreed locations, ready for work to commence in 2022/23.

Milestone	Initial Planned Milestone Dates	Updated Milestone Dates
Identification and shared sites in MSF template for 150 full SOAF investigations (Batch 1)	18 February 2022	18 February 2022
Environmental Impact Surveys begin for Batch 1 (150 sites)	15 March 2022	15 March 2022

The forecast spend profile is therefore different to our planned spend profile. This is due to:

- **SOAF Investigations** – The environmental surveys will start in 2022/23. Our actual profile reflects an assumption that it will take circa two years to deliver the investigations based on norms, and therefore work will continue until 2024/25.
- **ICM Models** – The planned spend profile was based on the assumption that work in the three catchment areas would be completed across 2023/24 and 2024/25. We've since decided to phase the work across the three catchments to ensure that we have the appropriate laboratory capacity and sampling availability to deliver all elements of the work required this AMP. The actual delivery spend profile has been updated to reflect this, however we still plan to complete the project by the end of the AMP.

The table below describes the variance between the initial planned and current forecast spend profiles.

Variance (%)	2021/22	2022/23	2023/24	2024/25
Planned spend profile	-	-	51%	49%
Forecast spend profile	3%	36%	36%	26%
Variance	**3%**	**36%**	**-15%**	**-23%**

In 2021/22 our main focus has been preparatory work for the delivery of outputs later in AMP7. In Ofwat table 10E, outputs are reported as zero this financial year. This is because outputs are only reported when all underlying activities are complete. This is fully in line with our plan.

A copy of this table can be found at:

unitedutilities.com/globalassets/documents/pdf/apr-table-2022

4.3 Future milestones

The future milestones of the SOAF activities are shown in the table below.

At the request of the Environment Agency, we have moved the completion of milestone 4 forward by five months. Although milestone 1 has been pushed back to December 2022, we believe the critical path completion of milestone 3 is still achievable.

Milestone number	Milestone	Updated Milestone Date
1	Identification and shared sites in MSF template for 150 full SOAF investigations (Batch 2)	December 2022
2	Environmental Impact Surveys complete for Batch 1 (150 sites)	November 2022
3	Environmental Impact Surveys begin for Batch 2 (150 sites)	March 2023
4	Completion of 287 Stage 1 only investigations	September 2023
5	Environmental Impact Surveys complete for Batch 2 (150 sites)	November 2023
6	Full Investigations Complete for Batch 1	March 2024
7	Full Investigations Complete for sites Batch 2	March 2025

As described in the section above, for ICM we have taken the pragmatic decision to phase the work across the three catchments to ensure that we have the appropriate laboratory capacity and sampling availability to successfully delivery all the elements of the work required the end of AMP. The project milestones have therefore been amended to reflect this change.

4.4 Performance commitment and additional benefits

This scheme is not linked to any of our AMP7 performance commitments. Therefore delivery of the scheme will not provide additional performance or financial benefit in this area.

United Utilities Water Limited
Haweswater House
Lingley Mere Business Park
Lingley Green Avenue
Great Sankey
Warrington
WA5 3LP

unitedutilities.com

United Utilities

Water for the North West