

United Utilities

Evolving the Advanced WINEP for AMP9: An adaptive approach to delivering more value

August 2026

Executive Summary

At United Utilities Water (Uuw), we have long recognised that investing in nature-based solutions is not only an environmental imperative but also a practical and cost-effective way to build resilience across the water system. By working with natural processes, we are improving water quality, enhancing water resources, reducing flood risk, supporting biodiversity recovery and creating lasting benefits for the communities we serve now and for the future.

The Water Industry National Environment Programme (WINEP) has been effective in addressing acute environmental challenges through asset-specific interventions and permit-driven requirements. However, many of the most pressing environmental challenges facing the sector today are chronic, catchment-scale issues that cannot be solved through individual assets alone. These challenges require a different approach: one that embraces large-scale, place-based interventions, delivered collaboratively across sectors and landscapes.

At PR24, there was a strong emphasis on Adaptive Planning, and we fully support this direction. In a world characterised by increasing uncertainty from climate change, nature loss, population growth, industrial change and evolving consumer behaviours, adaptive planning provides a critical framework for managing risk and delivering resilient outcomes. To realise its full potential, the WINEP must evolve to better support adaptive, multi-step pathways that prioritise least-regret interventions, often nature-based solutions, while retaining flexibility to respond to emerging evidence and changing circumstances. Similarly, there is a need for greater flexibility within the WINEP to enable the development and delivery of place-based solutions in partnership with others.

The Advanced WINEP (AWINEP) has been a particularly important regulatory innovation. It has created a transformational opportunity to move beyond traditional approaches and embrace more adaptive, collaborative ways of delivering environmental improvements.

United Utilities has been at the forefront of this transition. Through our pioneering Advanced WINEP Rainwater Management Programme, our leadership of the Ofwat Innovation Fund project Mainstreaming Nature-Based Solutions, and our position as an early adopter of the Taskforce on Nature-related Financial Disclosures (TNFD), we have built significant experience in integrating nature into strategic decision-making and delivery. This journey has strengthened our understanding of both our impacts and dependencies on nature and demonstrated how nature-based approaches can deliver multiple benefits while enhancing long-term resilience.

Drawing on this learning, we believe the AWINEP can play an even greater role in supporting regulatory innovation and enabling adaptive planning. We propose that future AWINEP arrangements support delivery through three complementary approaches:

- **Delivering ahead of statutory requirements, regulatory drivers or conventional grey infrastructure solutions**, building on the successful foundations established through our AMP8 Advanced WINEP Rainwater Management Programme.
- **Delivering alongside conventional schemes**, unlocking more efficient outcomes and enabling least-regret pathways while evidence and understanding continue to develop.
- **Investing in long-term resilience**, helping to prevent future environmental deterioration associated with climate change, urban creep, population pressures and nature loss.

These principles can be applied across the entire water cycle to address water quantity, water quality and environmental resilience challenges. Areas where we see particularly significant opportunities include:

- **Storm overflows:** The flexible rainwater management approach adopted in AMP8 has enabled United Utilities to establish and embed strong partnerships across the North West, creating the conditions to leverage record levels of partnership funding. Building on this success provides a significant opportunity to accelerate delivery and maximise shared outcomes.

- **Water Framework Directive (WFD) and Habitats Directive objectives:** Nature-based solutions offer substantial potential to achieve and sustain environmental standards, for example through catchment-scale nutrient management and habitat enhancement programmes that improve ecological outcomes while delivering wider societal benefits.
- **Catchment resilience and water security:** Natural flood management and wider catchment restoration approaches can deliver multiple benefits simultaneously, including protecting drinking water sources, increasing water storage within catchments, enhancing biodiversity and reducing flood risk for downstream communities.

By embedding these principles within the future AWINEP framework, we can move beyond isolated interventions towards truly integrated catchment management. Through partnership, innovation and a commitment to working with nature, it is possible to deliver more resilient water services, healthier ecosystems and greater value for customers and communities across both urban and rural catchments. United Utilities' experience demonstrates that this approach is not only achievable but is already delivering tangible results at scale.

1. Why do we need to think differently?

Over the past 35 years the Water Industry has invested billions across its asset base; to protect, enhance and restore our waterways and improve the natural environment. The investment has been driven through the WINEP, with tight regulatory controls and delivery dates. This has delivered significant improvements to river and bathing water quality. However, the water system now faces growing pressures that traditional grey infrastructure alone cannot address. These include:

- Climate change
 - Wetter winters leading to an increase in the amount of rainwater reaching the combined sewers, resulting in an increase in spills from combined sewer overflows.
 - Wetter winters leading to increased peak river levels causing outfall locking and asset flooding which leads to increased sewer flooding and pollution risk.
 - Wetter winters leading to greater risk of land slips and soil loss impacting raw water quality and asset condition.
 - Warmer, drier summers leading to increasing river temperatures and lower summer flows. This leaves less capacity for the discharge of wastewater effluents leading to tighter permit limits and less water available for abstraction. Algal blooms will also increase in frequency, threatening raw water quality and increasing costs of drinking water treatment.
 - Warmer, drier summers and more frequent periods of extreme heat, resulting in increased fire risk threatening water catchments and the quality of water supplies.
 - Warmer, drier summers leading to increased risk of drought impacting ecology and water users across the system from water companies to industry and agriculture.
- Net Zero and resilient supply chains
 - Increasing the need to move away from concrete and grey solutions, with high energy and high chemical dependency.
- Urban creep
 - Significant urban growth and expansion, removing green and brownfield land and increasing the amount of rainwater reaching the combined sewers, contributing to nature loss and urban heating.
 - Densification of development leading to more communities having limited access to green space.
- Nature loss
 - Increases the risk of soil loss, erosion, landslips, wildfire as well as faster rates of runoff. These risks contribute to deterioration in water quality, risk of asset loss/damage and the potential for high impact incidents affecting drinking water supplies. In addition, the wider societal impacts are significant such as loss of other physical infrastructure such as roads and the public health impacts of wildfire.
- Increasing customer and stakeholder expectations
 - Meeting standards such as those set out in the Government's Storm Overflow Discharge Reduction Plan (SODRP) would conventionally necessitate significant volumes of grey storage to be constructed. These solutions are not always possible without using all options including nature-based solutions.

These factors create deep uncertainty. The focus at PR24 on Adaptive Planning is a positive step, recognising the need to manage uncertainty more effectively, adapt investment programmes as understanding improves and optimise solutions over the long term. Evolving the WINEP to further support adaptive, phased delivery across AMPs would enable companies to prioritise least-regret interventions, often nature-based, and provide the flexibility needed to support stronger, place-based partnerships unlocking more integrated solutions.

This is critical as a resilient water system cannot be delivered through conventional engineering alone. Many risks can be mitigated more effectively by working with natural systems. However, in some cases, the adoption of nature-based solutions (NBS) through the WINEP has been historically constrained by:

- fixed timescales leading to a lack of flexibility to align with partners to deliver nature-based solutions or place based plans;
- a focus on asset and technology-based end of pipe solutions rather than on the root cause thereby eliminating options at the outset;
- focus on legislation and drivers in isolation, often with their own specific regulatory dates rather than enabling options development at catchment scale. This is in part driven by the complex regulatory framework we have with layers of environmental legislation;
- a high evidence threshold for success has at times limited ability to innovate and deliver solutions with long term objectives; and
- an expectation that habitats can be fully restored in the 5 year period of the WINEP.

In AMP8, UUW's Rainwater Management focused Advanced WINEP has helped us to overcome some of these barriers. The increased flexibility is enabling a step change in the scale of nature-based solutions delivered. Through further regulatory innovation there is an opportunity to build on this and deliver more nature-based solutions.

2. Learning from the successes of AMP8

In AMP8, United Utilities has a Rainwater Management focused Advanced WINEP Programme linked to delivery of Environment Act commitments. The aim of this programme is to accelerate improvements to storm overflows by unlocking partnership-led, nature-based solutions ahead of their inclusion in the WINEP in AMP9-12 to meet expectations set out in the SODRP. This is being achieved through unlocking earlier, innovative investment and delivering projects in partnership within our communities.

The Advanced WINEP provides the flexibility needed to enable partnership and nature-based solutions to thrive, recognising that they take longer to identify, develop and deliver than conventional grey solutions. This approach reduces the scale of grey storage solutions needed in future AMPs, which deliver limited wider benefits. This principle of addressing the issue at source and taking a holistic approach can be applied across the water cycle.

The AMP8 programme has two main sub-programmes:

- A “named” programme – targeting rainwater management upstream of specific “named” overflows, outlined in our initial proposal, where opportunity had been identified through desktop assessments;
- An “agile” programme – working with others opportunistically in catchments where there are high spilling overflows not being addressed in AMP8.

A programme such as this could not have been delivered through the conventional WINEP approach. The key changes in the AMP8 approach which have enabled success are:

- Geographic flexibility – the agile and targeted programmes are able to work across the region allowing us to follow the most cost beneficial opportunities which arise where stakeholders are engaged.
- Timeframe – the removal of a specific regulatory output dates has facilitated time to work with other organisations to develop the right solution rather than focusing on what is achievable by a set date. Different organisations work to different funding cycles and flexibility here enables us to be more agile to their funding restrictions.
- Proportionate modelling - the use of the Rainwater Management Rate has enabled quick decision making without the delays and costs of modelling. The Rainwater Management Rate acts as a guide on the cost beneficial amount to invest in removing or attenuating area from the combined sewer network. Using it facilitates partnership working and enables the steady disconnection of impermeable area. This is especially valuable in large catchments, where individual scheme benefits are hard to detect (e.g. a 2 hectare site in central Manchester). It also avoids the delay and disruption associated with modelling every scheme for the best value assessment.

These principles, and the flexibility they bring, have enabled us to establish and embed strong partnerships across the North West. As a result, in the first year of AMP8 we have directly leveraged £1.5m of partnership funding against £6.8m of expenditure, already exceeding the 20% leverage rate needed to achieve our AMP8 ambition of securing £50m of partnership funding across the AMP period. This is particularly important because, unlike traditional grey infrastructure, water companies do not have the powers to deliver Sustainable Drainage Systems (SuDS) and must therefore work with partners to achieve successful outcomes.

The benefits of removing these key PR24 regulatory barriers are evident. So far 469 opportunities have been raised by internal and external stakeholders this year of which 87% have been within eligible AMP9-12 areas.

Some key examples of where this benefit has been realised is seen in the case studies (Figure 1). These are just some of the many varied opportunities which have arisen by approaching things differently. Further examples can be found in our lessons learned report.

In addition to the schemes which have been delivered through the Rainwater Management Programme there have been many other benefits including:

- Development of a much broader green infrastructure supply chain – this will be critical as we scale up in future AMPs;

- Enabled relationship building with local authorities, through increased engagement leading to further development of pipelines of opportunities;
- Established new programmes of work and investment opportunities that can grow significantly in terms of pace and scale. This is exemplified by our work with non-household customers, particularly in schools, where we have redefined how these programmes of work can deliver.

Figure 1 Case studies of programmes of work delivered through Advanced WINEP¹

Project FloW (Future Leaders of Water) is a programme of work aiming to deliver rainwater management solutions to 400 schools by 2030. It has 4 main aims:

- Improve drainage
- Reduce demand
- Introduce nature
- Educate

Schools are selected using various criteria including flood risk and deprivation. The type of project is decided using site area to determine size of the project and inform the delivery route

So far...

- Over 200 individual installations
- Across 39 schools
- Approximately 650m³ grey storage avoided

Other benefits

- Increase biodiversity
- Saving 15,000l potable water per day through parallel water audits
- Potential reduction in school's surface water charges through United Utilities site area-based charging and SuDS incentives

"This garden is more than just a playground improvement; it is a lasting asset that will benefit our school community for years to come. We are proud to partner with United Utilities on such a forward-thinking, sustainable initiative." Partner School







Liverpool Road, Warrington is a rainwater management partnership project between Warrington Borough Council, the Environment Agency and United Utilities.

The area was identified as a significant flood risk area by the local authority with a long-standing history of flooding and 62 properties at risk of flooding on an annual basis.

A proposal was submitted to the United Utilities Sustainable Water Fund in Spring 2025.

What?

- Remove 2.2Ha of impermeable area from combined area upstream of Warrington North WwTW.
- Through separating out surface water into a new drainage system and pumping station discharging to the canal. Erosion control measures were also implemented in the canal.

Funding

- The Sustainable Water Fund was launched to provide a route for local authorities to bid for funding to remove rainwater from combined sewers.
- Warrington Borough Council applied to the fund and received milestone payments throughout delivery.
- United Utilities contributed £400,000 with £490,000 coming from Environment Agency Flood Defense Grant in Aid (EDGiA).

¹ [Schools invite nature into their playgrounds to help tackle the rain](#)

3. Building on the AMP8 approach

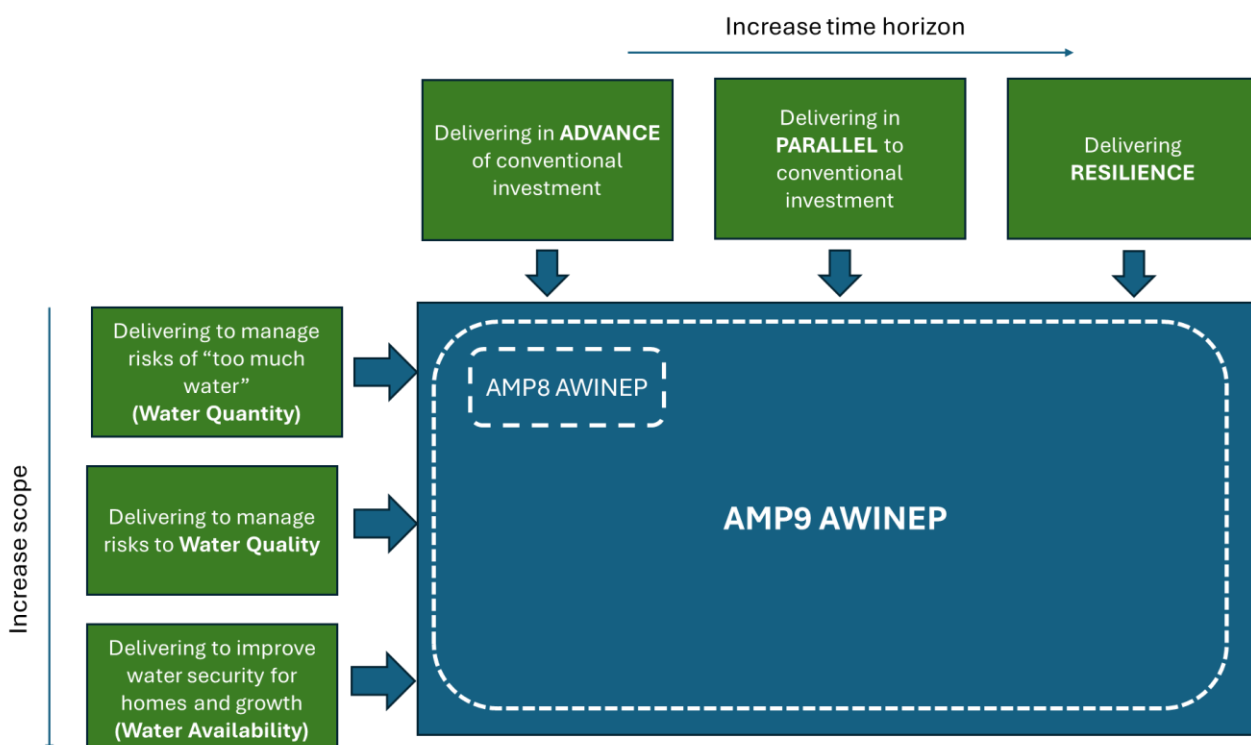
The success of the AMP8 Advanced WINEP approach has been underpinned by a culture of ongoing dialogue, shared learning and a willingness to challenge conventional thinking from early development through to delivery. Through this flexibility, the AMP8 Rainwater Management Programme is demonstrating how nature-based solutions can be delivered at scale, unlocking environmental, social and resilience benefits that extend far beyond traditional infrastructure approaches. The next step is to build on this momentum through an adaptive framework which:

- Addresses a range of challenges; from water resources to returning wastewater to the environment. Innovation is required across the full water cycle;
- Operates over longer timescales. Building sustainable partnerships and delivery of nature-based solutions takes time;
- Remains flexible and agile; and
- Continues to encourage collaboration, partnerships and knowledge improvement.

An adaptive planning framework is proposed, focused on three delivery mechanisms (Figure 2). This provides a balanced way forward which is not overly complex but still allows companies to work in different ways, to achieve better outcomes. The three mechanisms are:

- Delivering in Advance: Activities focused on delivering in advance of conventional investment triggered by an environmental driver such as the AMP8 Rainwater Management Programme;
- Delivering in Parallel: Programmes focused on delivering alongside conventional investment triggered by an environmental driver; and
- Delivering Long term Resilience: Programmes focused mitigating the impact of climate change and nature loss on environmental condition or the resilience of water or wastewater services.

Figure 2 Proposal for an Advanced WINEP framework outlining 3 main approaches which could be applied across the water cycle.



These three approaches could work in combination or isolation of each other depending on the needs in a particular location to form a fully adaptive plan.

3.1 Delivering in Advance

The principle of delivering in advance of a statutory driver has been successfully used in AMP8 for the Advanced WINEP for the Rainwater Management Programme. This principle could also apply to other drivers, such as those from the Water Framework Directive. Where time allows or coupled with constrained discretion, this approach supports a multi-stage adaptive plan to tackling issues as we have demonstrated at Hindley.

Through the development of the AMP8 Rainwater Management Programme, the scale of the opportunity has become clear. Several of the approaches trialled could be rolled out further to deliver more benefits and if the programme could be stretched over a longer time horizon, to include opportunities spanning AMPs, this could further increase opportunity for nature-based solutions.

This would enable companies to work with more partners and provide them with greater certainty to secure resources, enabling the growth of the green solution supply chain. Collaborative approaches, such as masterplanning which has been trialled in Oldham, could be rolled out and embedded securing a longer-term pipeline of opportunities.

3.2 Delivering in Parallel

Nature-based solutions often require time to establish and mature before their full benefits are realised. As a result, they are most effective when implemented in advance of environmental pressures reaching critical levels, regulatory thresholds being breached, or conventional infrastructure solutions becoming necessary. In some circumstances, delivering nature-based solutions ahead of their need is not always feasible because of factors such as regulatory timescales, the longer lead times associated with catchment-scale interventions, and the need to align with partner priorities. However, significant additional opportunities could be unlocked by enabling nature-based solutions to be delivered alongside conventional grey infrastructure schemes.

Adopting an adaptive planning approach would allow for a phased delivery model: a proportionate grey solution could be implemented within an AMP period to meet immediate regulatory requirements, while maintaining flexibility to deliver “low regret” rainwater management interventions over a longer timeframe in alignment with partners. This approach supports a more resilient, future-ready strategy capable of addressing uncertainty, climate change pressures, and long-term growth.

An approach like this could enable a more holistic outcome in complex catchments with high priority overflows where there are multiple drivers and significant opportunities. For example, Liverpool is a catchment with a number of high spilling overflows impacting bathing waters with a high percentage of combined sewers. Through the AMP8 Strategic Catchment Investigations a number of opportunities for Rainwater Management solutions have been identified to support the transformation of Liverpool into a “sponge city”. However, the opportunity to realise some of these is limited by a 2035 regulatory date. If work could be delivered on the green and grey solutions in parallel this would increase the proportion of green solutions which could be delivered in this catchment.

3.3 Delivering Resilience

The impact of long-term pressures such as climate change, urban creep and nature loss will be felt across the water system and beyond. To ensure the water system works for nature, people and supports future growth we need to improve the resilience. Failure to do so will result in environmental deterioration.

This cannot be done in isolation from other organisations and solely through conventional grey engineering. Therefore, nature-based solutions are critical tools in the development of resilient water systems and catchments. They also lend themselves well to an adaptive planning approach needed to address chronic risks.

Nature-based solutions can take many years to become fully effective and therefore need to be deployed well in advance of anticipated environmental challenges. This means acting before future risks such as climate change impacts, population growth, urban creep or ecological deterioration materialise, rather than responding once regulatory obligations arise. This would require a driver to address emerging and chronic risks or some form of

agreement with the regulator. This could take the form of a catchment resilience driver or be broken down further into separate nature resilience and climate change resilience drivers. In some circumstances, a no deterioration driver exists in the WINEP and could be used but in others there is no driver that can be relied upon and a catchment resilience driver is needed. In the case of storm overflows a “no deterioration” driver would provide a route to addressing issues before they arrive, for example, an overflow not currently exceeding 10 spills but anticipated to with climate change.

Examples of other risks that could benefit from a catchment resilience driver include:

- River erosion, caused by changes in weather and biodiversity loss, which could increase asset risk;
- Outfall locking, caused by increases in peak river levels, which could increase flood risk;
- Hydroclimatic changes in water courses, which could result in tighter permit limits;
- Water scarcity;
- Invasive species management;
- Soil loss and run off, caused by a variety of factors including increased prevalence of plant pests and increased wildfires, leading to increasing operational costs;
- Risk of raw water quality deterioration.

In each case these risks will drive escalating costs for providing the same water and wastewater services to customers. These costs may well not manifest themselves within one AMP and therefore do not fit well into a spend to save business case but will grow over time.

3.4 Application of these approaches

The use of a framework enables Advanced WINEP programmes to be developed independently or as integrated place-based proposals. The approaches are applicable to a variety of issues across the water cycle (more detail can be found in the appendix) including:

- Water Quantity – activities focused on addressing the challenges caused by too much water;
- Water Quality – activities focused on addressing the challenge of nutrient management in the water system; and
- Water Resources – activities focused on protecting and enhancing water supplies to ensure water sufficiency.

These areas all have issues which would benefit from nature-based solutions supported by adaptive plans.

For example, applying these approaches to water quantity issues, such as high spilling overflows and flooding would mean that rainwater could be managed where it fell, through use of nature-based solutions which bring additional benefits. This would reduce the overall amount of grey storage required and allow for ongoing work to mitigate chronic risks such as climate change and growth on overflow performance.

Applying the principles to water quality could drive sector wide investment and supporting other catchment risks such as private sewerage. By using an adaptive approach, working in parallel, chronic issues can be addressed driving environmental improvements to phosphorus and nitrogen beyond what could be delivered independently.

Nature-based solutions for water supply issues have long been part of the environment programmes. However, working over a longer horizon would encourage more stability in supply chain and open up the opportunity to explore new supply options such as water re-use.

Some more tangible examples of how these could be applied are outlined in the case studies below.

Case Study 1: Improving water quantity management in Liverpool drainage area

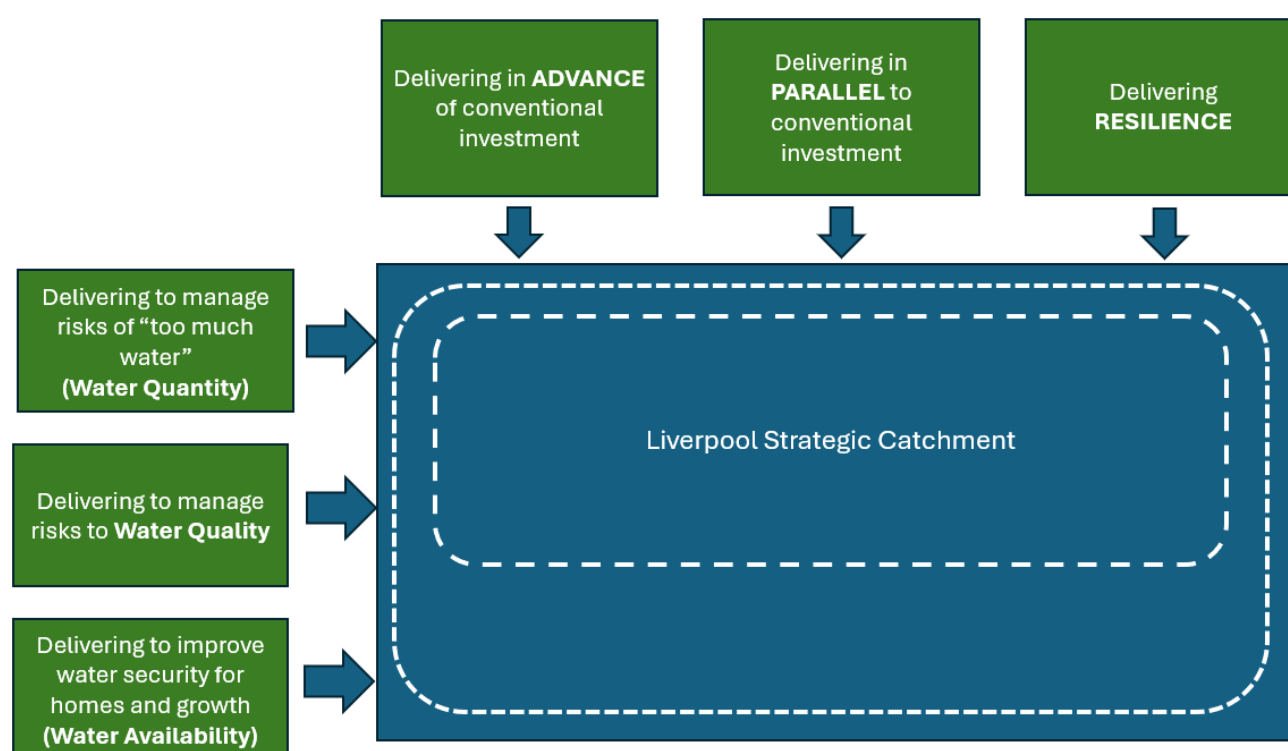
In AMP8, there has been a strategic catchment investigation into how to meet storm overflow targets in the complex drainage areas discharging into the Mersey Estuary, including those which impact bathing waters. Liverpool is a particularly challenging example because it is predominantly drained through a combined sewer system (around 85% combined versus a national average of approximately 36% combined), with limited natural drainage routes. This means large areas of highway, roof and paved surface drain into the same network as wastewater, placing significant pressure on overflows during rainfall. The investigation has confirmed there is significant opportunity for green infrastructure, but also that the conventional response would require a very large engineered grey solution to meet the 2035 regulatory date set out in the SODRP.

However, applying the principles set out in this framework (Figure 3) would considerably increase the opportunity for green infrastructure and the additional benefits that would bring. Working in advance, we have announced £30m of investment from the AMP8 Advanced WINEP to start the transformation of Liverpool into a “sponge city”². However, the scale of opportunity exceeds what is possible to deliver in AMP8. To meet the 2035 regulatory date through a conventional WINEP approach, around 800,000m³ of additional grey storage could be required. In a dense urban catchment this would be highly disruptive, expensive and difficult to deliver, as well as locking in a solution that mainly stores rainwater after it has already entered the sewer network.

If working in parallel were fully enabled, a smaller, “no regrets” conventional solution could be delivered alongside a longer-term green proposal working with partners to remove, slow and store rainwater at source through nature-based solutions, surface water arteries and opportunities to reconnect or daylight Liverpool’s hidden rivers where this aligns with regeneration and public realm investment. This would help address an agreed grey storage equivalent over time, deliver immediate regulatory benefits, and avoid closing down the wider opportunity to restore more natural drainage pathways and use regeneration and public realm investment to make Liverpool function more like a sponge city.

Within Liverpool there are also overflows which do not currently exceed 10 spills but do get close. Urban regeneration is usually a once in a generation opportunity. Therefore, it could be prudent to also explore acting to deliver resilience in these areas if an opportunity presented itself and there was evidence of growth, climate change or urban creep.

Figure 3 How the proposed framework could apply to the Liverpool example



² [Using Raingardens to fight flooding in Liverpool](#)

Case Study 2: Delivering a resilient Irwell catchment

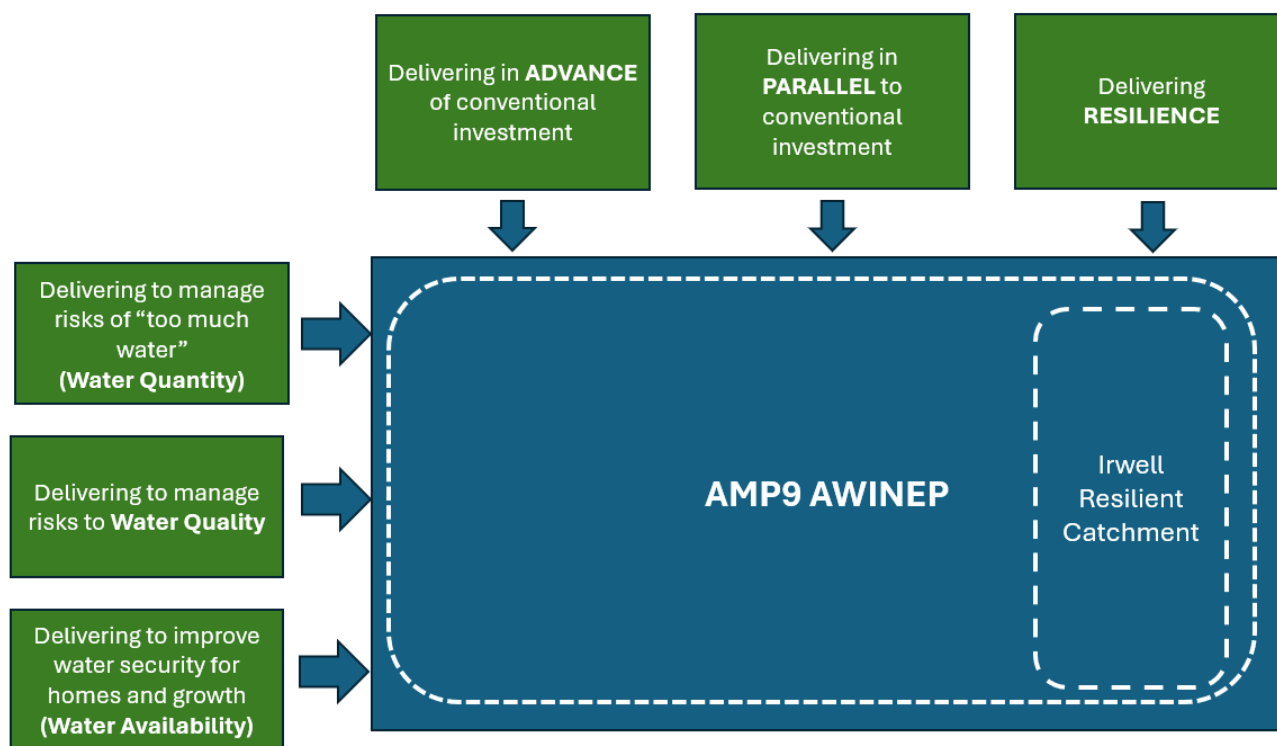
The River Irwell catchment provides a strong example of how a Resilient Catchment Programme seeks to tackle tomorrow's challenges before they become today's crises³. Stretching from the Pennine uplands through Rossendale, Rochdale, Bury, Salford and Manchester, the catchment faces increasing pressures from climate change, including more intense rainfall events and increased peak river levels, declining biodiversity and water quality challenges. These are likely to lead to changes such as increased flood risk, river erosion which may drive the repair and relocation of assets and deteriorating water quality which will lead to tighter permit limits and increased wastewater treatment costs.

Rather than waiting for these impacts to worsen and relying solely on engineered solutions, an AWINEP resilience programme (Figure 4) could invest early in catchment-scale nature-based solutions such as woodland creation, peatland restoration, wetland creation, floodplain reconnection and sustainable drainage systems. These measures take time to establish, but once mature they help slow and store water, improve water quality, increase carbon sequestration, restore habitats and enhance community wellbeing. Delivering benefits to water quantity, water quality and water resources in the catchment.

By acting now, the programme seeks to identify where nature-based solutions represent the best value, delivering multiple benefits across the water cycle from a single investment. Unlike grey engineered solutions which are often designed to address a specific issue, catchment-scale nature-based solutions can simultaneously reduce flood risk, improve water quality, support biodiversity recovery, sequester carbon and enhance the local environment. This wider range of outcomes means that, in the right locations, nature-based solutions can deliver greater overall value than traditional engineering approaches.

Alongside our AMP8 catchment investigation in the Irwell and in collaboration with multiple partners we are developing a pipeline of opportunities to improve the resilience in the catchment. The approach recognises that engineered solutions may still be required in the future to manage any residual risk that remains. However, by establishing natural assets today, the scale and complexity of future engineered interventions can be reduced, ensuring they are targeted only where necessary.

Figure 4 How the framework could apply to the Irwell Resilient Catchment



³ [Leaky dams on Holcombe Moor to stop flooding and wildfires - BBC News](#)

4. Benefits of this approach

Through the experiences with the AMP8 Advanced WINEP and more broadly through engagement with partners and innovation projects such as Mainstreaming Nature-Based Solutions, multiple benefits of an adaptive Advanced WINEP approach have been identified. Key benefits include:

- Increased delivery of Nature-based Solutions;
- More cost efficient delivery of outcomes whilst ensuring obligations are still met;
- Development of more mature, established partnerships unlocking increased economic efficiency between partners; and
- Opportunity to help unlock funding in environmental improvement through nature-based recovery.

These could not be achieved without the flexibility the Advanced WINEP brings.

4.1 Increased delivery of nature-based solutions

As seen in AMP8, the additional flexibility brought by the Advanced WINEP has already enabled the successful delivery of more green solutions than previous AMPs. The increased flexibility, and the proportionate modelling approach would mean water companies are able to invest more in less conventional solutions, which may take longer to deliver such as, SuDS and Natural Flood Management, but deliver a greater variety of benefits. There are opportunities to address challenges across the water cycle with nature-based solutions (Table 1). Different nature-based solution types can provide a different range of benefits.

Table 1 High level summary of application of different types of Mainstreaming Nature-Based Solutions Intervention Categories

Type of Nature-based Solution	Water Quality	Water Quantity	Water Resources	Key Additional Benefits
Treatment wetlands e.g. Constructed wetlands	Y	-	-	Pollution reduction, Biodiversity & habitat, Carbon
Sustainable Drainage Systems e.g. Swales	Y	Y	Y	Flood risk reduction, Biodiversity & habitat, Carbon, Pollution risk reduction, Enable Development, Private Water Supply Resilience
Natural Flood Management e.g. Runoff management	Y	Y	Y	Flooding & Erosion risk reduction, Biodiversity & habitat, Carbon, Pollution risk reduction, Social, Private Water Supply Resilience
River Restoration e.g. Restoring rivers to original course	Y	Y	-	Biodiversity & habitat, Flooding and Erosion risk reduction, Carbon
Coastal Nature-based Solutions e.g. Saltmarsh and mudflat management and restoration	Y	Y	-	Social, Biodiversity & habitat, Flooding and Erosion risk reduction

4.2 More cost-efficient delivery of outcomes

Having a more flexible adaptive approach allows organisations to deliver in partnership to address shared risks and pursue shared goals. By working in this way, companies are able to develop joint co-funded proposals.

Being able to work in areas and at a timescale that aligns to others reduces the overall build cost in addition to the leveraged funding. This can be seen through the AMP8 Advanced WINEP Programme which has leveraged more co-funding than ever before and even more than forecast.

This helps to keep costs and bills down for everyone.

4.3 Development of more mature, established partnerships

Building a programme over a longer time horizon, without the constraints of regulatory deadlines, as proposed here, will enable organisations to build better relationships as they have had the time to:

- Understand each other's priorities and frameworks;
- Understand shared risks and opportunities and co-develop suitable solutions;
- Set out a joint plan of action;
- Align funding; and
- Develop confidence to resource to deliver the plan.

In AMP8, UUW has worked closely with Greater Manchester Combined Authority and Liverpool City Region Combined Authority as well as local authorities, building on our IWM approach to develop pipelines of work. This has helped to identify the significant scale of the opportunity for nature-based solutions in the region and could not have been achieved in isolation.

4.4 Opportunity to unlock funding in environmental improvement

The government's Environmental Improvement Plan (EIP) commits to managing 30% of land and seas for nature by 2030 alongside other nature targets. In 2021, the Green Finance Institute estimated that for England the scale of the funding gap to achieve Government nature commitments was in the range of £21-53bn. Whilst we are five years on, the OEP's latest assessment of EIP progress noted that delivery mechanisms are not adequately funded or scaled. The water industry has a role to play here as it has a clear dependency on nature however the conventional WINEP which is usually framed around individual assets and fixed timeframes does not enable the industry to collaborate with partners at the scale that is needed to improve the ecosystem resilience we depend upon or play a role in filling the funding gap. By enabling the Advanced WINEP to focus on catchment resilience, nature-based solutions can play a very important role in addressing this need.

The consequences of not investing to address pressures, such as those outlined in section 1, may not manifest themselves for some time; however, the nature-based solutions are needed in the near term to enable optimal risk mitigation. As a result, this type of investment is not incentivised by the way the industry is regulated, other than through the Biodiversity Performance Commitment and associated Outcome Delivery Incentive (ODI) which seeks to incentivise companies to conserve and enhance biodiversity in the exercise of its functions. However, this is limited in its reach by the cap on outperformance and the uncertainty about whether an AMP9 incentive for biodiversity will exist. Additionally, the ODI incentivises those nature-based solutions that deliver biodiversity uplift quickly so does not adequately fill the gap to drive long-term landscape scale change.

We do have some catchment scale solutions named in the conventional WINEP and have done for 20 years. However, these often relate to our land ownership, or the land ownership of partners we have a long-standing relationship with. An AWINEP driver that focuses on catchment resilience would enable us to also focus investment where it's most needed to deliver resilient services into the future and enable us to work with a much wider range of partners without the risk that we are taking on an obligation that will be very hard to deliver for a named location by a fixed delivery date.

5. Next steps & conclusions

In order to drive the successful implementation of nature-based solutions an adaptive framework is needed which:

- Is flexible and agile – not tied to specific locations and dates but focuses on programme deliverables;
- Operates over longer timescales to enable sustainable partnerships for the delivery of nature-based solutions;
- Focuses on outcomes rather than outputs;
- Requires monitoring and modelling that is proportionate with the level of investment; and
- Is applicable across the water cycle to address multiple challenges.

An Advanced WINEP structured as shown in Figure 2 could enable investment in nature-based solutions in a way that the conventional WINEP never could. Delivering these in advance, alongside or post-delivery of a grey solution could offer a better holistic option for society.

As we move towards the development of the AMP9 Advanced WINEP there are a number of key steps, set out in Table 2, which are needed from all involved to support the implementation of such a framework.

Table 2 Key actions required to deliver more through the Advanced WINEP

Who?	What?	Why?
Water Companies	Continue to share lessons across the industry from the AMP8 Advanced WINEP programmes to feed into regulatory working groups and industry forums	Provides the opportunity for learning to be incorporated into regulatory guidance and future proposals.
	Develop proposals and programmes of work, with partners for engagement with regulators	Early stakeholder buy in is critical to developing deliverable programmes in this space.
Mainstreaming Nature- Based Solutions	Develop a definition, measures and drivers for catchment resilience investment which clearly recognise the importance of addressing chronic risk	Provides a consistent line of site between regulation and proposals and supports development of customer protection proposals.
Regulators	Maintain a culture of ongoing dialogue, shared learning and a willingness to challenge conventional thinking	Collaboration is more likely to result in successful proposals being brought forward.
	Introduce appropriate mechanisms for managing regulatory measures and deliverables over longer, multi-AMP timescales	Temporal flexibility is key to working with stakeholders and provides confidence in partnering in longer term ventures. Supports the development of the nature-based solution supply chain.
	Introduce mechanisms to enable a parallel approach to investment delivery balancing green and grey investment	These proposals are likely to require a significant amount of governance and understanding this will aid the design of proposals.
	Include a driver for resilience in guidance or a mechanism for inclusion of resilience proposals as part of the AWINEP	Provides a consistent line of site between regulation and proposals

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Water for the North West