

Policy and Regulation: Barriers and Enablers for Mainstreaming NbS

Summary Briefing Note

December 2025

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Issue & Revision Record

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Introduction

The water environment faces increasing stresses from climate change, population growth, societal pressures such as affordability, ageing infrastructure and the biodiversity crisis. Nature-based Solutions (NbS) have a key role to play in addressing these pressures. They are multi-functional and can provide multiple benefits – tackling flooding, drought and water quality issues, supporting biodiversity, delivering social value and contributing to the climate adaptation and resilience of other land uses. However, systemic barriers currently hinder wider adoption of NbS and the full realisation of their benefits.

The Mainstreaming Nature-based Solutions (MNbS) project has brought together a range of partners and stakeholders from a variety of sectors to discuss and understand the current barriers, and to develop recommendations for enablers that would facilitate widespread adoption of NbS in the UK. This document provides a high-level summary of some of the key policy and regulatory barriers, enablers and recommendations, that have been developed by Workstream 2 (Policy and Regulation) as part of Phase 1 of the MNbS programme. This includes outputs from discussions and workshops with practitioners, regulators and policy makers from both the water industry and other key sectors that impact the water environment.

The MNbS Policy & Regulation barriers

The key barriers identified through phase 1 of the Policy and Regulation workstream are summarised below. These barriers do not completely preclude delivery of landscape scale NbS. However, together they result in challenges, which may only be overcome in particular circumstances and with the right political and organisational drive.

Barrier 1 - Misaligned or conflicting policies and legislation

Conflicting messages and lack of alignment between different pieces of policy and legislation were identified as some of the key barriers during discussions with practitioners, regulators and policy makers. Some restrictions on NbS are legitimate as there is a need to ensure targets are met for environmental protection and improvement, but the regulatory environment must include more flexibility and appetite for new approaches to allow NbS or hybrid schemes in the right places.

“There is also a real issue that the regulatory regime is built around point source grey infrastructure and designed to regulate how that operates. Trying to force NbS into this approach is probably not going to work and if we want to drive to deliver more we need to adopt the regulatory regime to be designed for the options we are seeking to deliver.”

Comment received from the MNbS online survey (2024)

Changes in policy and legislation, particularly midway through the water industry price review process, has also been raised as a barrier to consideration of NbS in the water industry optioneering process. Changes to policy and legislation are inevitable but can create confusion, put further constraints on time and ultimately hinder the development of non-conventional solutions such as NbS. Although changing policy can present a barrier, it is possible that the direction of travel in the future will be towards promotion of NbS, and changes needed to improve our environment. Therefore, as long as changes to policy are implemented well, this should be seen as more of an opportunity rather than barrier.

Key themes:

- Overly prescriptive legislation is creating barriers to innovation/adoption of NbS solutions.
- Risk adverse nature of regulators limiting opportunities for NbS at large scale.
- Conflicting/changing policies during critical stage of water industry asset management (AMP) cycles for optioneering.

These three themes are explored in Case Study 1 and Case Study 2 below.

Case Study 1 – Changes in Policy

This case study provides examples on how regulatory changes midway through the water industry price review (PR24) and delays in crucial planning guidance created barriers to identifying and promoting NbS, resulting in reliance on end of pipe solutions (for example wastewater treatment) at the cost of adopting NbS that could have provided wider benefits, whilst still addressing the key driver for investment.

The Environment Act 2021, and its associated secondary legislation, was introduced during the PR24 planning process, and included a legally binding target to reduce the amount of total phosphorus discharged from treated wastewater by 80% by 31 December 2038. This hindered development of NbS due to the specific focus on wastewater discharges, as well as the timing of this change which led to increased time pressure to develop options that met the new requirements, resulting in more conventional options being prioritised.

For the PR24 WINEP, a series of guidance documents were published to assist water companies in developing their plans, including specific guidance for each WINEP driver. However, some driver guidance documents were not ready at the start of the WINEP option development period, and delays to guidance, which in some cases led to a change in approach, impacted the development of options (particularly NbS) and timely delivery of the WINEP.

Case study 2 – Conflicting policies and legislations

A key conflict arose in the Price Review 2024 (PR24) Water Industry Environment Programme (WINEP) planning, following the introduction of the Environment Act 2021. For PR24, the Ofwat Strategic Policy Statement (SPS), WINEP methodology and the Environment Improvement Plan 2023 (EIP 23), all promoted catchment solutions and NbS.

The PR24 WINEP guidance, published by the Environment Agency, did also include guidance and support for innovative permitting solutions, such as catchment nutrient balancing (CNB) as a regulatory mechanism for wastewater treatment works discharges. CNB has been used by the water industry as an alternative to conventional permitting to address specific catchment needs in a more sustainable and holistic way, unlocking innovative and integrated approaches that have the potential to deliver wider benefits. CNB allowed water companies to offset some of their water quality obligations (mainly phosphorous) at a wastewater treatment works by contributing to other sectors to deliver beyond their obligations (also known as “fair share”).

However, because of the significant changes to the regulatory landscape (e.g. the introduction of the Environment Act 2021) and lack of evidence demonstrating the effectiveness of CNB measures in achieving the required water quality improvements, the EA withdrew their support for CNB permitting approaches in January 2025. As a result, CNB proposals for PR24 could not be taken forward.

The Environment Act 2021, introduced during the PR24 WINEP planning process, states that water companies must reduce their phosphorus loads from treated discharges by 80%, relative to a 2020 baseline and by 2038. The key conflict here is that the Environment Act target can only be achieved through the use of end-of-pipe solutions, including constructed wetlands. In reality, because the resulting phosphorus reduction targets at each individual treatment works will be so tight, it is likely that conventional treatment solutions will be prioritised.

Although it is recognised that water company assets need to perform to certain standards, these regulatory restrictions can result in missed opportunities for catchment solutions that deliver wider benefits. Alternative approaches such as CNB had the potential to be a key driver of landscape scale NbS, especially in relation to offsetting their discharge permitting requirements at smaller works.

Barrier 2 - Misalignment of different sectors and fragmented and siloed planning

The misalignment of different sectors is limiting opportunities to work in a joined-up way across multiple organisations and sectors, and to maximise benefits for the environment whilst utilising a range of funding sources and expertise.

The misalignment of policy and sectors contributes to fragmented environmental planning. Even within the water industry, the focus on single targets, rather than wider environmental outcomes (despite efforts after Price Review 2019 (PR19) to resolve this) means planning to achieve multiple environmental benefits is challenging.

Key themes:

- Fragmented and siloed planning between sectors, resulting in missed opportunities for joint funding of solutions that can provide wider benefits (Case Study 3 provides an example how this can impact on delivery of Sustainable drainage systems (SuDS).
- Misaligned timescales for different planning processes. For example, River Basin Management Plans (RBMP), often identifying actions required by different sectors, is published every six years under WFD regulation, whilst the Water Industry Asset Management Plan (AMP) cycles are based on five-year cycles.
- There are a number of different processes in place for planning within the water industry. Figure 1 illustrates the large number of plans influencing NbS and planning cycles in England.
- The optioneering and option development processes under each plan are distinct, limiting opportunities to take a joined up, catchment-scale approach.
- Lack of catchment scale thinking.
- Ofwat’s data table structure requires interventions to be categorised in a different way to the WINEP driver structure, with limitations to those schemes providing multi benefits and targeting multiple drivers.

“A lot of our work relies on being able to work collaboratively and draw together different stakeholders with different interests (e.g. flood risk, water quality, soil health). Blockers around integrated policy or single issue focused drivers are therefore common in our experience.”

“There are also issues around siloed planning outside of the water industry – by nature NbS deliver multiple benefits, but policies and environmental planning occur in silos, e.g. flood risk management schemes, local authority biodiversity schemes.”

“NbS deliver multiple benefits, but environmental planning and regulation tend to occur in siloes this is difficult to promote multi-functional solutions that deliver benefits to different sectors. Joined up planning across sectors is important as well as consistency of approach.”

Comment received from the MNbS online survey (2024)

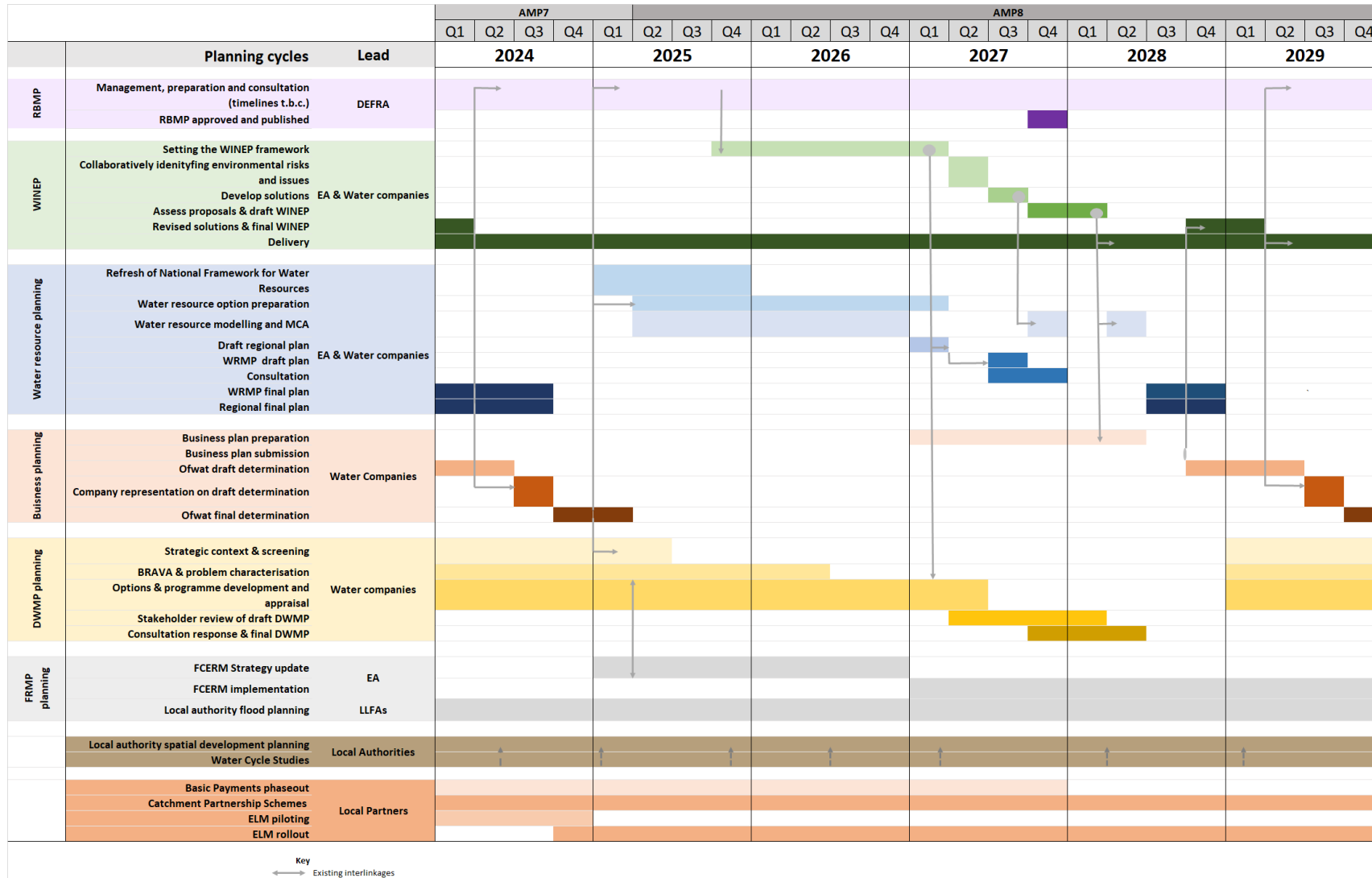


Figure 1 Existing plans influencing NbS and planning cycles (England) (Mott MacDonald, 2023)

Case study 3 – Sustainable drainage systems (SuDS) provide a useful illustration of the consequences of lack of joined up thinking between sectors in England. There are often multiple organisations within a town or city with different drivers to create SuDS, resulting in a mosaic of schemes owned and maintained by different groups. This limits efficiency in delivery and maintenance, potentially hindering best practice and achievement of the full potential of these schemes. CIWEM’s policy position paper on SuDs also notes that highways plans should “have greater cognisance of the need to manage both surface water flood risk and water quality, making best use of highway corridors and verges to manage and treat water sustainably at the surface” (CIWEM, 2024).

Barrier 3 - Challenges with consenting and permitting & regulation

Depending on the nature of the project, many NbS will require various permits and consents before implementation. There are different authorities responsible for different elements of the planning process relevant to NbS implementation (e.g. local planning authorities for planning, Environment Agency for permits/flood risk, lead local flood authority/internal drainage board for drainage). This division of responsibilities means that there is not a “joined-up” or consistent approach to obtaining the necessary consents.

Examples of some of the permissions and permits required for some NbS and associated barriers are summarised below:

- **Permission from landowners:** This can involve formal contracts and agreements associated with:
 - Temporary access to land for construction: Not a requirement but land access and agreements can take long time to finalise and is difficult to predict.
 - Long-term land use changes and/or access for monitoring and maintenance: These agreements can take long time to set up and there are challenges to align these with current 5 - year funding cycle within the water industry.
- **Environmental Permits under Water Resources Act 1991:** Many NbS can require consent from the Environment Agency, often determined by where the work will take place; on or near a main river, on or near a flood defence structure, in a flood plain, on or near a sea defence. Obtaining the necessary licence can take months.

When working in rivers, a delay of a few months can result in missing the period in which work can be carried out (due to ecological constraints), and needing to wait until the next year, which can have significant impacts on landowner engagement, and achievement of outcomes within the regulatory timeframe.

Often the schemes that require these additional consents are those which are likely to result in the best improvements for a river and its wider catchment, such as improving continuity through weir removal.

Due to some of the challenges around consenting, these types of projects may be avoided in favour of more simple in-channel work such as gravel introduction and flow deflectors which have more localised benefits.

- **Environmental Permits - Discharges to surface water and groundwater:**

Environmental permits may be needed if you discharge liquid effluent or wastewater to surface water or groundwater.

Many NbS types fall within the bespoke permit category, which includes Operational Technique Agreements (OTAs). OTAs are used to add flexibility into the permitting of NbS, such as treatment wetlands. The use of OTAs facilitates NbS by working with uncertainty. As these are developed on a case-by-case basis and there is no standardised approach to OTAs, this can create inconsistencies.

Whilst bespoke permits are important enablers for NbS, there are also unresolved uncertainties around some rules which currently acts as barriers. For example, in England, treatment wetlands (if built or operated for or by a water company) may now be considered part of the waste treatment process, and therefore the operator must hold a waste treatment licence and be liable for pollution caused by the wetland. This is a major constraint for NGOs and landowners who are unwilling or unable to take on long-term liability. Although the Environment Agency have released a Regulatory Position Statement to allow organisations such as Rivers Trusts to construct and operate wetlands without becoming a licenced waste treatment processor, this is not an actual consent, so there is some trepidation from NGOs and landowners to develop further wetlands.

- **Ordinary watercourse consent or Land Drainage Consents:** Under the Land Drainage Act 1991, consents may also be required for work on ordinary water courses (e.g. streams, ditches, drains and sluices). Consents are issued by Local authorities or internal drainage boards. The key barrier here is around the time it can take to obtain the necessary licence.
- **Planning permissions:** may be required where NbS involve construction of structures or are part of a larger development. Flood risk assessment may also be required as part of planning applications or obtaining other consents. With planning permissions, there is also an obligation to meet the objectives of Biodiversity Net Gain (BNG). This objective is for development to deliver at least a 10% increase in biodiversity value relative to the pre-development biodiversity value of the onsite

“National consistency of approach within regulators. Even in our region different Environment Agency offices would take a differing approach and this is seen to a greater extent with the approach taken with other water companies. Often the individual views of the local team make have a significant impact on success.”

Comment received from the MNbS online survey (2024)

habitat. This increase can be achieved through onsite biodiversity gains, registered offsite biodiversity gains or statutory biodiversity credits. Concerns have been raised regarding the lack of BNG metrics for certain NbS, such as constructed wetlands. For example, in the BNG framework floodplain grazing is highly regarded and therefore wetland creation in these areas often leads to BNG requirements. This then requires additional habitat to be included which has implications in terms of design, land availability, feasibility and cost-effectiveness.

Challenges with consenting can result in delays to scheme delivery, compounding some of the issues above in relation to timescales, landowner engagement and delivery of outcomes. Consenting requirements of a single scheme can be onerous, and a larger scheme could cover multiple local authority areas and have more, or uncertain requirements.

Key themes:

- Time constraints, uncertainty and inconsistency within the permits and planning processes have been raised as barriers to planning and implementation of some NbS.
- Variability between approaches taken by different LPAs due to ways of interpreting guidance and requirements.
- Lack of certainty on consenting requirements for NbS, for example, many local authorities are unclear on how to engage with Biodiversity Net Gain (BNG) requirements.
- Uncertainties around the standards required for NbS designs.
- The evidence required for consenting of relatively small, low risk schemes can also be disproportionate.
- Lack of standardised approach to OTAs, that can accommodate some degree of flexibility to account the diverse nature of NbS.
- Time consuming process to agree OTAs.
- Risk adverse nature of regulators limiting uptake of some NbS, for example, the use of wetlands for treatment of discharge from storm overflows.
- Current legislation such as the Urban Wastewater Treatment Directive makes it challenging for flexible permitting to be used. The current regulatory framework governing the water sector makes it challenging for regulators to allow flexibility to support decisions that allow innovative solutions and NbS.

Case Study 4 - Permitting and Regulation (Wales)

In Wales permitting requires compliance with phosphorus targets at discharge points instead of in-stream catchment locations, so catchment approaches are not possible within this permitting regime. Alongside this, there is no established policy in Wales underpinning CNB and catchment permitting, so both barriers likely act together to limit catchment approaches.

There are currently a number of ongoing trial wetlands in Wales, which have the potential to support a suitable regulatory framework to enable creation of more treatment wetlands in the future.

Barrier 4 – Trust and Communication

There are some recognised issues with trust and communication between water companies and regulators. In addition, a lack of public trust in both the water industry and regulators has become an increasing problem in the last few years, resulting in greater scrutiny of the sector and driving interventions like the Independent Water Commission review.

There are also recognised issues with loss of trust between landowners (agriculture), River Trusts and Water Companies as a direct result of changes in policy. This relates to the recent withdrawal of catchment nutrient balancing options post PR24.

The lack of trust will in many cases strengthen existing barriers to NbS. For example, regulators might be less inclined to adopt a flexible permitting approach, and the lack of trust between sectors and regulators contributes to barriers to wider adoption of multi-sector approaches and joined-up planning.

Challenges around communication and trust were noted in several responses to MNbS online survey in 2024, for example:

“Trust between industry and regulators (and customers/public) is a massive issue. Without trust, regulators are both unable and unwilling to seriously consider more flexible permitting arrangements that could facilitate greater delivery of NbS.”

“From my personal experience there seems to be a lack of clear messaging from regulators and sometimes conflicting messaging within regulatory bodies.”

“Policy legislation and trust is key right now...”

Barrier 5 - Regulatory timeframes

The water industry business planning timescales, which vary across the UK, are insufficient to plan and develop collaborative schemes, particularly when the approach to doing so is reliant on timely issuing of regulatory guidance in the run up to a price review. Further, the timescales for delivery of the required targets and outcomes are often not appropriate for NbS. This is true in the five-year AMP cycles seen in England and Wales but is particularly problematic in Northern Ireland where funding is determined on a year-by-year basis, minimising opportunities for truly long-term planning.

Barrier 6 - Lack of incentivisation for NbS

Within the water industry and other organisations that lead/drive forward NbS, regulatory incentivisation is likely to be key. However, for collaborating with landowners, financial incentivisation is likely to be more important. Policy uncertainty around Environmental Land Management (ELM) schemes, in particular the Sustainable Farming Incentive (SFI) has not helped give farmers the confidence that this is a viable income stream.

The complexity of administrative processes has been highlighted as a barrier for Natural Flow Management (NFM) schemes, with issues relating to evidence requirements, payment, inspections and rigid, complex agreements.

Key themes:

- Lack of statutory requirements, guidance and mechanisms for NbS.
- For water companies, which are highly regulated, often the need to meet a regulatory requirement by a specific date can drive a bias towards conventional engineered solutions which are seen as more certain.
- A lack of guidance in implementation of policy can hinder NbS development. For example, in Wales there is no guidance on tertiary treatment using wetlands, and no NbS permitting framework for intermittent assets or agreed/formal permitting approach.

Comments received from the MNbS online survey (2024):

“Regulatory time-frames are not helpful - one of the reasons why PR24 will not deliver the aspired for transformation of WINEP delivery from individual outputs to catchment outcomes is that there was simply insufficient time between WINEP publication and PR24 business plan submissions to develop approaches to catchment outcomes in partnership with other stakeholders.”

“To me, the biggest blocker is the lack of planning time water companies have built in for some of their proposals (i.e., they've put their proposals in as implementation measures, rather than investigation) - scoping, collaborating etc is needed to sell the ability of their programmes to delivery to the regulators.”

Barrier 7 - Perceived and real risks

This includes perceived and real risks of achieving outcomes, and in maintenance and operation. Risks perceived by regulators and lead organisations can hinder planning and development, risks perceived by the public and landowners can impact delivery.

An often-cited barrier to NbS is (perceived) lack of evidence of their effectiveness, and the subsequent risk of NbS not delivering the intended outcomes.

Because NbS are often delivered on third party land, or are more innovative solutions, there are also considerations around who is responsible or accountable for a number of aspects such as:

- Risk of failure to deliver intended outcomes, either related to the performance of an NbS scheme, or uncertainties around continued operation of schemes on third-party land.
- Risk of failure of a physical feature/asset which could simply result in loss of the asset or could have more significant consequences, such as a risk of flooding. This is both a real risk to the responsible organisation, as well as a perceived risks to landowners who may be concerned that they would be liable for assets built on their land failing.
- Responsibility for maintenance, usually for physical features delivered as part of NFM, SuDS, river restoration or wetland projects.

Currently, there is little/no regulation or consideration of the above in policy, resulting in uncertainty which hinders the development of NbS. This uncertainty exists both for those planning schemes (e.g. water companies) and third-party landowners.

The MNbS Policy & Regulation Enablers

During phase 1 of the MNBS programme, eight key policy and regulatory enablers related to policy and regulation for mainstreaming NbS have emerged from discussions and targeted workshops with a range of partners and stakeholders from a variety of sectors. These are summarised in Figure 2.



Figure 2. The eight policy and regulation enablers for MNbS.


The enablers have been grouped into one of the following three broad themes:

- Policy and regulatory frameworks
- Upskilling and capacity building
- Multisector coordination and collaboration (explored further under the MNbS collaboration workstream)


The key enablers are presented below under relevant themes and are summarised here from the perspective of the MNbS Policy and Regulation Workstream. Whilst most enablers presented relate to changes to policy and regulatory frameworks, enablers related to both upskilling and capacity building, and multi-sector coordination and collaboration, have also been identified.

The phase 1 of the MNbS programme coincided with the start of transformational reform of the water regime in England, shaped by the the Independent Water Commission's (IWC) recommendations and delivered through forthcoming water legislation. AMP9 (2030-35) will be delivered in this transformed regulatory landscape. This creates both challenges and opportunities. For each enabler presented below, any related recommendations from the IWC are also summarised. Where applicable, a summary of opportunities to strengthen the IWC's recommendations are also provided.


Theme - Policy and regulatory frameworks


| Enablers - Policy and regulatory frameworks | Opportunities to strengthen the IWC recommendations & key considerations for a transition process for PR29 |
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|  <p>Enabler 1 – Long-term strategic direction and targets Without clear long-term policies, regulatory frameworks will continue to prioritise short-term, engineered solutions over long-term, sustainable approaches provided by NbS. This enabler is looking at strengthening NbS requirements across all sectors by introducing mandatory “nature-first” approaches and NbS targets. NbS need to be embedded into legally binding, cross sectoral national strategy (water, land use, agriculture, energy and others) with integrated, measurable and aligned targets. This could be in the form of a National Water Strategy as recommended in the Independent Water Commission’s report.</p> <p>MNbS Recommendations:</p> <ul style="list-style-type: none"> ● Strengthen NbS requirements across all sectors, by incorporating NbS into national policies, environmental regulations and land-use plans/frameworks. ● Set targets for NbS implementation across all sectors that impact the water environment, with mechanisms for implementation at catchment scale. ● Implement mandatory “nature-first” approaches in the appraisal of options (across all sectors). ● Introduce a formal hierarchy for interventions to prioritise input control and NbS solutions. ● Integrate NbS outcomes into river basin and flood management plans. ● Introduce a requirement to consider the overall outcome needed for the catchment, providing greater opportunities for uptake of NbS. | <p>Whilst many of MNbS recommendations will require transformation of the regulatory landscape, there are clear opportunities to align PR29 with post-IWC reform priorities, to ensure the £billions of future investments in AMP9 are fit for a future integrated and outcome-based regime. In particularly there are opportunities to ensure that the PR29 guidance includes:</p> <ul style="list-style-type: none"> ● Mandatory nature-first approaches in the appraisal of options. ● A mechanism to implement a formal hierarchy for interventions to prioritise input control and NbS solutions. ● Endorsement of the Common Value Framework (CVF) developed by MNbS within PR29 and acceptance of CVF as standard appraisal evidence. <p>The National Water Strategy¹ referenced in the IWC final report, broadly aligns with the recommendations set out in Enabler 1, however, embedding a nature-first clause, NbS targets, and a requirement to consider the overall outcome needed for the catchment, would provide greater opportunities for uptake of NbS across all sectors, particularly for PR29.</p> <p>A review of current environmental targets would also be needed to ensure that implementation of water quality targets can be applied across sectors.</p> <p>Related IWC recommendations (rec):</p> <ul style="list-style-type: none"> ● Rec 1 - Long-term, cross-sectoral, and systems-focused National Water Strategy. ● Rec 2 - New Ministerial Statement of Water Industry Priorities (MSWIP). |

¹ [Independent Water Commission Final Report](#)

| Enablers - Policy and regulatory frameworks | Opportunities to strengthen the IWC recommendations & key considerations for a transition process for PR29 |
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|  <p>Enabler 2 - Improve regulatory frameworks to enable outcome-based, flexible delivery</p> <p>The existing regulatory framework presents multiple barriers to mainstreaming NbS, including fragmented planning, misaligned policies, lack of incentives, inconsistent permitting processes, short regulatory timeframes and limited flexibility. We need a broader perspective that enables resilience of the water system as a whole and which values the resilience provided by nature-based solutions.</p> <p>MNbS Recommendations:</p> <ul style="list-style-type: none"> ● Take a holistic/system approach to planning where there is a requirement to consider the overall outcome needed for the catchment, providing greater opportunities for increased uptake of NbS (linked to Enabler 1). ● Improve regulatory frameworks to support delivery of NbS, enabling regulators to exercise some degree of discretion. ● Reform legislation, making it less prescriptive about how outcomes should be achieved. ● Change policy and planning processes to drive greater consistency in Local Planning Authority approvals in relation to NbS. ● Publish standard OTA/permit templates for commonly used NbS. ● Exclude or limit some NbS from BNG requirements, e.g. farm wetlands and constructed treatment wetlands. ● Extend regulatory planning and delivery cycles beyond five years, thereby aligning price controls with NbS maintenance and benefit realisation horizons. | <p>Whilst many of the IWC recommendations align with Enabler 2, there are a number of recommendations coming out from MNbS, which can help to further improve the regulatory landscape and enhance opportunities for greater uptake of NbS during the transition process and post water reform.</p> <p>An example is IWC’s recommendation 14, on the concept of constrained discretion, where regulators would have discretion to determine how best to deliver outcomes. This has the potential to help accelerate innovation and increase uptake of cost-effective solutions, including NbS. Ahead of PR29, it is crucial that regulators agree a clear definition of “constrained discretion” and clarify the boundaries of how it will be applied to catchment and nature-based solutions in AMP9.</p> <p>Whilst this will require regulatory reform, there are opportunities to build on and improve on already relatively well-established regulatory discretion, such as Operating Technique Agreements (OTAs). There are opportunities to work with regulators to establish standard OTA & permit agreements for typical NbS, such as constructed wetlands to enable a greater uptake of these in PR29.</p> <p>Related IWC recommendations:</p> <ul style="list-style-type: none"> ● Rec 3 – Systems Planning Framework with new regional system planners ● Rec 4 – A 5/10/25 year approach to investment planning ● Rec 9 - Update and reform the UWWTR 1994. Framework to support regulators to approve innovative and nature-based solutions. ● Rec 14 – ‘constrained discretion’ |


| Enablers - Policy and regulatory frameworks | Opportunities to strengthen the IWC recommendations & key considerations for a transition process for PR29 |
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| <div data-bbox="219 284 383 459" data-label="Image"> </div> <p data-bbox="421 316 1086 416">Enabler 3 - Water industry focused NbS “sandbox” where regulators will temporarily derogate regulations</p> <p data-bbox="203 459 1086 715">A recurring theme through discussions with key partners and stakeholders has been around the risk-averse nature of the current regulatory system, limiting the use of NbS. This has also been highlighted in the IWC Final Report, where recommendation 14 calls for, the adoption of the concept of ‘constrained discretion’ for the regulator in England, and recommendation 83 advocates for the setup of a programme of experiments or sandboxes, where regulators identify projects where they will waive regulations and measure the results.</p> <p data-bbox="203 751 521 778">MNbS Recommendations:</p> <ul data-bbox="203 823 1099 1265" style="list-style-type: none"> ● Engage with regulators to explore how a NbS sandbox could work in practice, such as identifying the type of NbS that would be considered, approval process and finance. ● A proportion of sandboxes (IWC Rec 83) are specifically aimed at the water industry, allowing the delivery and monitoring of NbS in a regulatory environment more conducive to innovation. ● Explore setting an investment ceiling for sandbox work, to manage overall risk. For example, this could be a percentage of the total WINEP budget. ● Use NbS sandboxes prior to PR29 to enable a step change in the uptake of NbS in comparison to previous AMP cycles. Investigate making this a recurring opportunity in each Periodic Review. ● Engage with other sectors that have already adopted regulatory sandbox approaches. | <p data-bbox="1128 280 2033 536">Whilst being fully supportive of IWC’s rec 83, the MNbS programme recommends that a proportion of this is specifically aimed at the water industry. This would allow the water industry to deliver and monitor NbS in a regulatory environment more conducive to innovation, under the supervision of the regulator but without being blocked by existing regulatory rules. Making this as a recurring opportunity in each Price Review, would also help provide a well-established funding route for innovation and ensuring a long-term commitment to fund these projects that will help capture a sound evidence base for NbS.</p> <p data-bbox="1128 571 2033 730">NbS sandboxes have the potential to enable a step change in the uptake of NbS in PR29 in comparison to previous AMP cycles. This will help strengthening the evidence base for NbS, which is an essential step towards full adoption of mandatory “nature-first” approaches in option appraisals (Enabler 1). It is therefore crucial that regulators enable the uptake of sandboxes prior to PR29.</p> <p data-bbox="1128 767 2033 863">A clear funding route for NbS sandboxes for PR29 is also needed. Learning from AMP8 A-WINEP schemes should be applied and adopt a similar funding mechanism for NbS sandboxes in the next AMP-period (AMP9).</p> <p data-bbox="1128 903 1518 930">Related IWC recommendations:</p> <ul data-bbox="1128 975 2033 1310" style="list-style-type: none"> ● Rec 14 - In England, the review of the legislative framework should take forward the concept of ‘constrained discretion’ for the regulator. ● Rec 15 - In Wales, a strengthened constrained discretion framework should build on the discretion already enabled by the sustainable development principle within the Well-being of Future Generations Act. ● Rec 83 - The UK and Welsh governments should introduce structured regulatory sandboxes to support innovation uptake. ● Rec 84 - The regulator in England and Wales should consider whether innovative funding mechanisms for the water industry are sufficient and effective. |


| Enablers - Policy and regulatory frameworks | Opportunities to strengthen the IWC recommendations & key considerations for a transition process for PR29 |
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|  <p>Enabler 4 - Embed a catchment resilience-first approach in long-term water resources planning</p> <p>Many of our catchments are in poor condition in terms of both water availability and water quality. This enabler is looking at including a resilience first approach in long-term water resource planning. It reflects the lack of NbS being considered and/or selected in water resources planning (e.g. the WRMPs) process, and the needs for strengthening the links between water quality and quantity when assessing and managing water resources. NbS has a crucial role in supporting functioning natural systems and help build long-term catchment resilience to current and future hazards and challenges, such as extreme weather events, droughts, increased water demand and pollution. By embedding a "catchment resilience first" approach in regulator WRMP guidance and method statements, funding and planning decisions, water companies would have an obligation to consider solutions that mitigate the risk (for both water quality and quantity) at source (i.e. in the catchment) rather than solely treatment solutions or solutions looking at developing new sources of water.</p> <p>MNbS Recommendations:</p> <ul style="list-style-type: none"> ● Embed the concept of catchment resilience into national policies, water industry guidance and land-use plans/frameworks. ● Introduce a catchment resilience driver in the WRMP process to move away from the main focus on deployable output (DO) in long-term water resources and provide a mechanism for identifying and value catchment resilience (including both quantity and quality as key factors in planning). ● Introduce a catchment resilience driver in the WINEP programme. ● Introduce a formal hierarchy for interventions, to prioritise input control and NbS solutions. ● Ensure WRMP guidance on best value planning aligns with the MNbS Common Value Framework. | <p>IWC's rec 66 calls for a new statutory resilience standard to be adopted for the water industry in England and Wales, primarily focusing on the supply chain and asset side. The MNbS programme recommends that the proposed resilience standard goes further, with standards that will help build systems and catchment resilience. This will require a multi-sector approach where resilience standards apply to all sectors impacting on the water environment. This will help unlock opportunities for NbS as a vital component in building resilience within the catchments and asset systems.</p> <p>There are opportunities to address the lack of investment in long-term catchment resilience as part of PR29, by introducing a catchment resilience driver in the PR29 WRMP process, with the long-term view of expanding this concept across all key sectors. There is therefore an urgent need to explore options to enhance investments in catchment resilience for PR29, such as specific catchment resilience drivers. Discussions with our partners and key stakeholders have included suggestions such as a need for catchment resilience investments being triggered in situations where the DO deficit or surplus is relatively small in a water resources zone (WRZ). As an intermediate enabler before more long-term enablers are in place, setting a fixed target for implementing NbS to reduce catchment risk and increase catchment resilience, has also been raised as a viable option.</p> <p>Adjusting Outcome Delivery Incentives (ODI) to reward resilience and multi-benefit outcomes, would also be a crucial step. MNbS strongly recommends this is implemented ahead of PR29.</p> <p>Related IWC recommendations:</p> <ul style="list-style-type: none"> ● Rec 1 - Long-term, cross-sectoral, and systems-focused National Water Strategy ● Rec 2 - New Ministerial Statement of Water Industry Priorities (MSWIP) ● Rec 3 – Systems Planning Framework with new regional system planners ● Rec 66 - Statutory resilience standards |

| Enablers - Policy and regulatory frameworks | Opportunities to strengthen the IWC recommendations & key considerations for a transition process for PR29 |
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|  <p>Enabler 5 - Embed a catchment resilience-first approach in flood management</p> <p>Nature based solutions, including natural flow management (NFM) solutions, and sustainable drainage systems (SuDS), all have an important role in reducing flood risk. Further, the types of NbS that are delivered for flood management also often deliver additional benefits to the water environment such as improved water quality and drought resilience. One of the key barriers for large-scale implementation of NbS as part of local and regional flood risk strategies are uncertainties around long-term maintenance of NbS.</p> <p>MNbS Recommendations:</p> <ul style="list-style-type: none"> ● Embed the concept of catchment resilience into national policies, water industry guidance and land-use plans/frameworks. ● Ensure that DWMP guidance on best value planning aligns with the MNbS Common Value Framework. ● Implement mandatory nature-first approaches in the appraisal of options in urban planning and development processes. ● Implement a clear, funded and mandatory mechanism for SuDS/blue-green infrastructure (in England) in new developments that sets standards and provides for adoption and maintenance, for example Schedule 3 of the Flood and Water Management Act 2010 and apply learning from the Welsh experience of implementing Schedule 3 of the Flood and Water Management Act 2010. ● Apply learning from the Water Environment and Water Services (Scotland) Act 2003 with regards to maintenance of SuDS. ● Ensure that the approval and adoption mechanism applied to new developments applies equally to retrofitted SuDS. | <p>The recommended Systems Planning Framework with new regional system planners (IWC Rec 3) has the potential to improve collaboration between Local Authorities, Flood Action Groups (FAGs) and landowners to better capture opportunities for NFM mitigation measures. Similarly, this could be a useful mechanism for better collaboration between sectors, such as the water industry, local authorities, highway agencies and the agricultural sector, to address the lack of long-term catchment resilience.</p> <p>Ahead of PR29, there are opportunities to address the lack of investment in SuDS and NFM schemes in current DWMPs. Changes to the PR29 DWMP Guidance are needed to enable a step change towards more green or blue-green solutions. Aligning the DWMP guidance on best value planning with the MNbS Common Value Framework will also enable more NFM, considering the additional benefits these interventions provide.</p> <p>Legislative changes are urgently needed to enable a clear, funded and mandatory mechanism for SuDS/blue-green infrastructure and retrofitted SuDS ahead of PR29.</p> <p>Related IWC recommendations:</p> <ul style="list-style-type: none"> ● Rec 3 – Systems Planning Framework with new regional system planners ● Rec 66 - Statutory resilience standards, covering system, infrastructure and supply chains, should be developed and adopted for the water industry in England and Wales. ● Rec 10- Government should consider legislative changes to drive a more coherent approach to ‘pre-pipe’ solutions to stop pollutants and rainwater entering the system. Mandatory requirement for SuDs in new developments (England) and consideration for retrofitting of SuDs. |


| Enablers - Policy and regulatory frameworks | Opportunities to strengthen the IWC recommendations & key considerations for a transition process for PR29 |
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| <ul style="list-style-type: none"> ● Enable funding of retrofitted SuDS to address drainage and wastewater issues, through changes to DWMP guidance and the Capex-leaning water industry investment model. ● Implement a mechanism for SuDS to be adopted and maintained by the same bodies, irrespective of who the SuDS ‘developer’ is (e.g. housebuilder, sewerage undertaker, highways authority or local authority), for example by the Local Authorities. ● Ringfence a proportion of funding to Lead Local Flood Authorities (LLFA) and Local Planning Authorities (LPA) for NbS. ● Introduce a mechanism for better collaboration between Local Authorities, Flood Action Groups (FAGs) and landowners to better capture opportunities for NFM mitigation measures in LLFAs. ● Streamline funding application processes (e.g. Landscape recovery scheme) to become more proportionate to the application and projects. ● Fast-track and standardise permitting for NbS schemes through pre-approved templates and guidance. ● Implement statutory resilience standards across all sectors, not just the water industry, and include catchment resilience as well as asset resilience. | |

Theme - Upskilling and capacity building

| Enablers - Upskilling and capacity building | Opportunities to strengthening the IWC recommendations & key considerations for a transition process for PR29 |
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|  <p>Enabler 6 – Local Planning Authority (LPA) expertise and consistency</p> <p>There are different authorities responsible for different elements of the planning process relevant to NbS implementation. Planners in local authorities are sometimes lacking in resources and expertise to provide timely, reliable advice on NbS schemes. There is also variability between approaches taken by different LPAs due to ways of interpreting guidance and requirements. This can lead to missed opportunities for collaborative solutions to catchment scale needs.</p> <p>MNbS Recommendations:</p> <ul style="list-style-type: none"> • Change in policy and planning processes to drive greater consistency in LPA approvals in relation to NbS. • Publish standard templates for commonly used NbS, to help with consistency and efficiency in the planning process. • Better coordination with other sectors to identify cross-sector opportunities for NbS, including NFM and SuDS. • Better guidance for local planning authorities on how to consider NbS projects in planning applications. | <p>This enabler has the potential to make the approval process for NbS investments significantly more efficient, which can enable a larger uptake of NbS. Whilst the regional system planners (IWC Rec 3), could improve this further, particularly in relation to better coordination between sectors, there are opportunities to address some of these ahead of PR29. Of particular importance is to improve consistency on how to consider NbS projects in planning applications as well as improve LPA expertise and resources.</p> <p>Related IWC recommendations:</p> <ul style="list-style-type: none"> • Rec 3 – Systems Planning Framework with new regional system planners |

| Enablers - Upskilling and capacity building | Opportunities to strengthening the IWC recommendations & key considerations for a transition process for PR29 |
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|  <p>Enabler 7 - Information-based policy instruments to increase landowner participation and raise awareness within local authorities and the public.</p> <p>Local knowledge is crucial to identify cost effective NbS and having access to accessible and affordable advisory service that eases this process could help increase the uptake of large-scale NbS. This could include provision for advisory services such as a catchment/NbS coordinator with the primary role of identifying catchment needs and objectives, advising landowners and local authorities, coordinating implementation of measures, communicating across administrative levels (local, regional and national).</p> <p>MNbS Recommendations:</p> <ul style="list-style-type: none"> • Ensure provision for advisory services that help coordinating needs and opportunities across sectors, primarily targeting local authorities and the agricultural sector. • Establish a NbS coordinator within the proposed regional systems planning framework (IWC Recommendation 3 - Systems Planning Framework with new regional system planners). | <p>As above, there are opportunities in relation to IWC Rec 3, where the new regional systems planners have a role in the direction of public funding streams, such as agricultural grants. It is however crucial to acknowledge that for this to work effectively there must be mechanisms in place that enables an increase in landowner participation and uptake of measures, and this will require funding for interventions such as advisory services.</p> <p>Related IWC recommendations:</p> <ul style="list-style-type: none"> • Rec 3 – Systems Planning Framework with new regional system planners |

Theme - Multisector coordination and collaboration

| Enablers - Multisector coordination and collaboration | Opportunities to strengthening the IWC recommendations & key considerations for a transition process for PR29 |
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|  <p>Enabler 8 - A coordinating organisation at sub-regional or regional scale to help align planning</p> <p>Mainstreaming of NbS could benefit from a coordinating organisation at a sub-regional or regional scale that brings together key organisations to collectively address shared environmental challenges and align funding with regionally agreed priorities within a more unified approach. This would also help align the different planning frameworks currently in place.</p> <p>This is aligned with multiple recommendations coming out of the IWC, for example, recommendation 3 - Systems planning framework with new regional system planners responsible for integrated and holistic water system planning.</p> <p>MNbS Recommendations:</p> <ul style="list-style-type: none"> • The coordinating organisation would have a leading role in: <ul style="list-style-type: none"> ○ Collating information on investment needs as well as planned investments across all sectors. ○ Leading co-development of options that could address multiple needs and provide benefits across systems. ○ Identifying conflicting strategies and opportunities and identify ways forward to resolve these. | <p>The recommended Systems Planning Framework with new regional system planners (IWC Rec 3) has the potential to provide an effective mechanism to bring together key organisations, identify shared environmental challenges and opportunities to address these together adopting larger-scale NbS. There are opportunities to ensure that these concepts are implemented already as part of PR29, with regulator support and endorsement for co-developed options that address needs across sectors.</p> <p>Related IWC recommendations:</p> <p>Rec 3 – Systems planning framework with new regional system planners responsible for integrated and holistic water system planning.</p> <p>Rec 6 - The national coordinator of the systems planner in England, and the national systems planner in Wales, should take on responsibility for ensuring consistency in scenarios, assumptions, and metrics for water industry planning across the new planning framework.</p> <p>Rec 7- The systems planner, with the support of the economic regulator, should require, support, and scrutinise a strengthened approach to option development and cost-benefit analysis across water industry planning frameworks. This applies to England and Wales</p> |

Consultation responses

During Phase 1, the MNbS programme has also provided responses to many of the recent consultations and call for evidence from the UK Government. Most relevant to this workstream are our responses to:

- **The Independent Water Commission Review of the water sector (aka the Cunliffe review) (April 2025)**

In our response to the IWC consultation, we reiterated the outcomes of the MNbS programme to date, including the barriers and enablers outlined in this report. Fundamentally, NbS have a key role to play in addressing current and future pressures to our water environment. They are multi-functional and can provide multiple benefits – tackling flooding, drought and water quality issues, supporting biodiversity, delivering social value and contributing to the climate adaptation and resilience of other land uses. However, systemic barriers currently hinder wider adoption of NbS and the full realization of their benefits.

The final IWC recommendations largely align with the enablers identified by the Policy & Regulation workstream of the MNbS programme. We particularly welcome recommendation 1, which calls for long-term, cross-sectoral, and systems-focused National Water Strategy for England and Wales, respectively. However, we would like to have seen more reference to NbS and clearer recommendations on specific mechanisms to promote wider uptake of NbS, particularly in the short-term as it is likely to take some time to implement the recommendations in the IWC final report, and these are unlikely to be in place for PR29 planning.

As part of the next phase of the MNbS programme, we have the opportunity to influence the PR29 planning process and help ensure this includes strengthening requirements for inclusion of NbS within both water resources and wastewater management planning.

- **The Land Use Framework (April 2025)**

MNbS fully supports the recognition in the Land Use Framework consultation of the need to make space for nature recovery and water, and we consider that NbS are key to delivering both. However, there are systemic barriers preventing the use of NbS and hybrid solutions. These include fragmented, siloed and sometimes incompatible planning and investment priorities, lack of standardisation, and conflicting and unsupportive regulation. These barriers are

hindering greater adoption of NbS and therefore prevent greater value being delivered for customers, society, economy and the environment.

The MNbS programme response to this consultation set out the enablers to implementing NbS, as identified through the MNbS programme to date, and specifically where they are relevant to the scope of the Land Use Framework.

- **Exemptions Reform to the Environmental Permitting (England and Wales) Regulations 2016 (May 2025)**

A key emerging recommendation from the MNbS programme is the importance of greater regulatory flexibility to allow for solutions to water quantity and water quality problems that go beyond traditional “grey” solutions. We are therefore supportive in principle of the proposal for creating additional exemptions from EPR as we see that, if these exemptions were to apply to some types of NbS, then this could make it easier to implement NbS by removing or reducing some of the existing regulatory hurdles.

We also recommend that this proposal include identification and review of those activities that currently do not have any permits in place but have the potential to cause pollution. For example, discharges from highway outfalls are currently largely unregulated despite recent data suggesting that many are failing Environmental Quality Standards for several pollutants. This is an essential step in ensuring that the future permitting regime is fair and prevents environmental harm.

- **Reforming our approach to floods funding consultation (July 2025)**

In our response to this consultation, we welcomed the Government’s proposed reform to floods funding, including a new investment framework based on the objectives of being simple, flexible and strategic with emphasis on building resilience and adaptation to the changing climate. We are particularly supportive on the Government’s proposal to mainstream investment in Natural Flood Management (NFM). NFM has an essential role in building catchment resilience and, if effectively implemented and at a suitable scale, NFM solutions have the potential to deliver wider benefits to the water environment, including improved water quality and drought resilience, which are of direct relevance to the MNbS programme.

However, the recommendations from the MNbS programme proposed systemic changes driven by collaboration, evidence, and policy alignment to unlock the

potential for NFM to deliver resilient catchments, cost savings, and broader societal value. We need a broader perspective that enables resilience of the water system as a whole, and which values the resilience provided by nature-based solutions. This system needs to have a greater focus on outcomes and provide be greater clarity on the roles of the different sectors and actors within a landscape, including the roles of regulators. Adopting this recommendation for flooding would help alignment with recommendation 8² from the recent Independent Water Commission (“Cunliffe Review”) and support greater integration across both flood and water sector investment.

- **Private sector investment in nature recovery (August 2025)**

The MNbS programme welcomed the emphasis on clear long-term policies and regulatory frameworks that enable the long-term, sustainable approaches provided by nature-based solutions. In our response to this call for evidence, we stressed the importance of greater clarity on the roles of the different sectors in setting the foundation for nature recovery and wider adoption of nature-based solutions. Resilient and nature rich catchments will require multi-sector actions and mechanisms to ensure policies are implemented at the catchment scale. Again, the Independent Water Commission’s recommendations are helpful in recognising this need for a multi-sectoral approach.

Whilst proportionate and fair application of key environmental principles is essential, there is a need to recognise the limitations of, for example, the Polluter Pays Principle. The Polluter Pays Principle is a key principle of environmental law, however, fair allocation of responsibilities is complex, especially among multiple polluters and where data is limited. Enforcement is another limitation, and resource constraints can hinder pollution control from certain sectors. Unfair allocation of these fundamental principles can create barriers to nature recovery, innovation and missed opportunities for investment in nature-based solutions. There is a need to map out what is expected by each sector under the polluter pays principle and ensure there are mechanisms in place to monitor compliance. This will require improved understanding of each sector’s contribution and a review of overall monitoring strategy across our catchments. It might also require a review of current environmental regulation and mechanisms to deliver relevant strategic goals and targets.

Finally, a recurrent theme within the MNbS programme is the need to extend the regulatory planning and delivery cycles beyond five years, thereby aligning water

² Recommendation 8, The Independent Water Commission’s final report: The UK and Welsh governments should review the current water legislative framework and amend it accordingly

industry price controls with maintenance and benefit realisation horizons for nature-based solutions. This would help unlock opportunities for wider adoption, and more collaboration between sectors, because it would provide greater certainty regarding long-term funding of interventions and allow consideration of their full economic value.

Advocacy Strategy – the next step

Following the identification of potential policy and regulatory enablers for mainstreaming NbS, the next step is to develop these further in terms of identifying influencing strategies to promote the recommended policy and legislative changes. An advocacy strategy for each of the proposed recommendations is being developed further.

As a programme, our priority is to seek opportunities to influence the PR29 planning process and highlight any changes needed to strengthen the role of NbS in the next price review. The water system in both England and Wales is currently undergoing transformational reform. The Independent Water Commission’s final report was published in August 2025, setting out comprehensive recommendations to transform the water system. Whilst we are expecting the English and Welsh Governments’ full response to the Water Commission’s recommendations through forthcoming White and Green Papers, there are opportunities to act now on PR29, matching it with the ambitions of the Independent Water Commission.

A transitional mechanism will be required to ensure that PR29 matches the ambitions of the Independent Water Commission, aligns with forthcoming legislation, supports economic growth, reduces carbon and maximises societal benefit over AMP9. MNbS would welcome the opportunity to input the programme’s learnings, tools and evidence directly into the transition process, as well as the longer-term National Water Strategy. This will ensure that the £billions of future investments in AMP9 are fit for a future integrated- and outcomes-based regime. It would maximise the investment in catchment resilience and NbS, driving a strong, stable future for the water sector and nature.

The MNbS programme is uniquely placed to support Defra in this transition. Working with a wide range of stakeholders, we have developed recommendations, tools and evidence that can help to implement the changes outlined in the IWC. Many of these can be applied straight away, without requiring primary legislation.

Delivering the change the system needs, at pace

By acting now on PR29, we can begin addressing current weaknesses, including:

- An “alphabet soup” of overlapping plans (WRMPs, DWMPs, FRMPs, RBMPs, WINEP) which act in silos and can prevent best value options being selected.
- Short-term, carbon-intensive interventions instead of catchment-scale, multi-benefit solutions.
- Delayed adoption of nature-based solutions to provide resilience in the face of intensifying droughts and floods resulting from climate change.

Acting now will give the time needed to turn aspiration into visible results for resilient communities, regulators, customers and the environment.



Figure 3. MNbS Policy & Regulation Enablers