

The Catchment Management Declaration update



The University of Cambridge Institute for Sustainability Leadership

The University of Cambridge Institute for Sustainability Leadership (CISL) is a globally influential Institute developing leadership and solutions for a sustainable economy. We believe the economy can be 'rewired', through focused collaboration between business, government and finance institutions, to deliver positive outcomes for people and environment. For over three decades we have built the leadership capacity and capabilities of individuals and organisations, and created industry-leading collaborations, to catalyse change and accelerate the path to a sustainable economy. Our practitioner orientated research builds the evidence base for action.

Anglian Water

As the company charged with supplying drinking water to the driest part of the UK, Anglian Water understands the value in every drop. We also know that if we are to make the most of this most precious resource others need to value it too. Love Every Drop is a movement to put water at the heart of a whole new way of living. We have committed to stopping pollution, cutting carbon, and eliminating waste. We want to lead the way in raising awareness of the value of water, reducing the amount we all use and helping our region to become the most water- efficient in the UK. It's working too: despite our population having grown by a third in the last 30 years, today we still only have to put the same amount of water into supply as we did in 1990.

Business in the Community (BITC)

The Prince's Responsible Business Network is a business-led membership organisation made up of progressive businesses of all sizes who understand that the prosperity of business and society are mutually dependent. BITC uses its Responsible Business Map to guide members on a journey of continuous improvement, working across the whole responsible business agenda. From community engagement to employment, diversity and the circular economy, BITC offers expert advice and specialist resources, driving best practice by convening, sharing learning and recognising great performance across its influential network.

Thames Water

Thames Water is the UK's largest water and wastewater services provider, covering the urban landscape of our capital city through to the rural reaches of the Cotswolds. We supply almost one third of the nine billion litres of water used by people and businesses in the UK each and every day, while removing and treating over four billion litres of sewage for 15 million customers. Delivering excellent services to these customers is at the heart of our company's culture. We are committed to protecting and enhancing the natural environment we rely on to deliver these services, acting as a socially responsible and sustainable business, now and in the future.

Rivers Trust

The Rivers Trust is the umbrella organisation for 60 local member Trusts. Rivers trusts are the only group of environmental charities in the UK and Ireland that apply the Ecosystem Approach at the catchment scale dedicated to protecting and improving river environments for the benefit of people and wildlife. We are full members of Blueprint for Water, Wildlife and Countryside Link and are co-administrators of the Catchment Based Approach (CaBA).

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Copies

This full document can be downloaded from CISL's website www.cisl.cam.ac.uk/publications

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Summary

On 29 May 2018 the Catchment Management Declaration was launched at the Water Summit attended by His Royal Highness The Prince of Wales to gather commitment and action for a multisector approach to catchment management.

Over 60 organisations from the public, private and third sectors came together to agree to step up action to address the increasing pressures on UK water through improved catchment management.

A Catchment Leadership Network was established consisting of over 110 signatories from leaders in business, agriculture, regulation, academia, government, the public sector and civil society.

The Catchment Leadership Network aims to drive a step change in the level of activity on catchment management by:

- supporting strategic business engagement in catchment management;
- identifying and addressing barriers, gaps and enablers that will catalyse a sustainable model for catchment management in the UK and Ireland;
- strengthening institutional capacities and enablers, including financial mechanisms and governance approaches to engage in catchment management;
- capturing, learning from and applying best practice; and
- facilitating and showcasing the delivery of exemplar cross-sector catchment management schemes and partnerships.

This report provides a short update on the progress of signatories and demonstrates action undertaken over the last year. For example, collective catchment management action including: the delivery of market mechanisms to fund activities; applying 'soft' engineering measures to support natural flood management; and tackling misconnections that cause direct water pollution. Several barriers to progress were identified including regulation, funding, evidence, and institutional structure and skills.

The Catchment Leadership Network has developed a two-phase programme of work to address these barriers and common challenges across catchments. Phase 1 aims to work with specific catchment projects to identify issues and formulate, implement and test solutions. Phase 2 will draw upon these test cases to assist and scale up the delivery of further catchment projects and to engage in relevant policy mechanisms.

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Water is at the heart of our environment and our lives. It is the vital resource that we rely on at home but also for our businesses and it is the resource that could be the most impacted by the climate challenge that we all face today.

Peter Simpson, Chief Executive, Anglian Water



Leadership for collective catchment management

In 2018 The Prince of Wales presided over the launch of the Catchment Management Declaration, a collaborative initiative to champion multi-sector management of natural assets and resources.

The Declaration, responding to the UK government's 25 Year Environment Plan, aimed to create connections between existing initiatives and drive practical actions. The Declaration, guided by six principles, acknowledged that change cannot be achieved by regulatory tweaks, or any single sector or government agency working in isolation. Therefore, signatories were challenged to engage across sectors to deliver best practice for the catchment systems in which they operate and depend.

The Declaration marked the start of a programme of work to strengthen multi-sectoral engagement in catchment management.

The Catchment Leadership Network (CLN) convenes the Declaration signatories in order to draw on their collective knowledge and interest in catchment management, thereby helping to scale practical action. Led by the Cambridge Institute for Sustainability Leadership (CISL), the CLN Advisory Group is comprised of the original Declaration convenors: Anglian Water, Business in the Community (BITC), Nestlé, Thames Water, The Rivers Trust and Yorkshire Water, together with the Department for Environment, Food and Rural Affairs (Defra), the Environment Agency (EA) and Natural England. Aspects of the Advisory Group work are supported by a grant from The Prince of Wales's Charitable Fund.

The Catchment Management Declaration - six principles

1.

We recognise that water is a valuable and shared resource on which we depend and impact both directly and indirectly; we will take responsibility to progress sustainable water management, from where we are at present, for all.

3.

We will support the improvement of existing governance frameworks to facilitate delivery through mechanisms such as the Catchment Based Approach.

5.

We will reconvene in 12 months, in the first instance, to share progress, best practice and to demonstrate positive action.

2.

We will support action at both catchment and regional scale to deliver multiple benefits through cross-sector partnership and collaboration, recognising that the environment is a system upon which we all depend.

4.

We will work together to increase the awareness of citizens on their role in delivering water stewardship and encourage positive action.

6.

By signing, we commit to including delivery against this Declaration throughout our business operations so that the principles form part of how we will deliver our environmental intentions.

Current signatories





Report back from the signatories

In April 2019 signatories were invited to update the wider CLN on their progress against the Declaration principles and reflect on the challenges they had faced.

The Catchment Leadership opportunity

Signatories held a common aspiration for good catchment 'health' and recognised that this could not be achieved without a collective approach. The opportunity the CLN provided for knowledge sharing and solution creation was noted, as was the potential impact of a unified voice on influencing policymakers and regulators. The CLN, via its collective power, was also seen as valuable for engaging new stakeholders and stimulating investment. Key sectors identified that will be important to engage include local authorities, the food and beverage sector, housing and infrastructure developers, and impact investors.

On the ground

Of the 25 responding signatories, over 80 per cent are currently involved in delivering catchment-based solutions, with the remainder planning to be within two years. Signatories collectively named over 50 UK-focused catchment-based schemes. Although few of these schemes are operating at the entire catchment scale or engage all relevant stakeholders, most are embedded in the Catchment Based Approach (CaBA). The highest number of projects reported were undertaken by the water and sewerage sector. The catchment projects highlighted via the survey cover the breadth of England, though Northern Ireland, Scotland and Wales are currently underrepresented (Figure 1).







The mechanisms signatories are using to drive catchment-based solutions

The survey identified a range of interventions and mechanisms being deployed across the UK that are supporting catchment management; these are outlined below.

Market mechanisms such as **payment for ecosystem services and natural capital trading** fund land managers to implement management interventions (eg no till farming, land offsetting, slurry storage and chemical sprayer calibration). Outcomes include reduction of nutrient losses to water bodies, carbon sequestration, and improvements in soil and biodiversity. To date these mechanisms have typically been established and operated by water and sewerage companies. However, the difficulty of linking payments to behaviour change often means results are dependent on on-going payments.

Farmer-to-farmer mentoring schemes differ by attempting to highlight the implicit value-add to a farm's business resulting from changes in farm practice. Other funding mechanisms include grant schemes.

Natural flood management schemes use 'soft' engineering measures, with wider catchment benefits, to slow flows during flood events. One example provided by United Utilities had a modelled threefold return on investment against a single storm event, and a 15-fold return over 30 years.

Direct funding of conservation or restoration schemes allows diverse stakeholders to fund and engage in environmental restoration, such as peatland restoration or river channel improvements that provide wider catchment benefits.

Nutrient management plans from the EA and Natural England specify limits on the levels of nutrients entering the waterways, and are a potential barrier to development of housing and infrastructure. **Nutrient-neutral housing** aims to offset nutrient increases from housing developments by funding equivalent nutrient reduction, usually by land managers (eg farmers). Funding tends to be channelled through planning authorities, and examples in action include the River Mease Developer Contribution Scheme, the Hampshire Avon, Poole Harbour, the Wye, the Solent and the Clun. Whilst existing schemes are typically in place in designated conservation areas, there is potential to expand the approach to nondesignated sites. In a similar vein, **water body nutrient offsetting** mitigates increases of nutrients in discharge from treatment works, by procuring equivalent nutrient reductions from land managers. An extension of this at the catchment level is **flexible permitting** or **catchment nutrient balancing**. Typically implemented by land managers, these deliver to an overall catchment target for nutrients based on nonasset solutions, eg buffer strips and cover cropping. Implementation delivers additional benefits for biodiversity and soil. Catchment permit schemes are in place or being considered in other catchments including the Eden and the Poole Harbour catchments, and are made possible through close co-working between the EA and the water and sewerage companies.

Planned green and social prescribing schemes aim to reduce the levels of pharmaceuticals in the environment through interventions that promote lifestyle changes and disposal practices. Shifting from a pharmaceutical-based management of non-communicable diseases such as depression and Type 2 diabetes, to primary care in the community, can lead to a reduction of residual pharmaceuticals within a catchment.

Misconnections, incorrectly connected domestic and commercial drains that cause direct water pollution, can be addressed by using **community volunteers** on 'outfall safaris' to identify pollution hot spots. Predominantly run in urban areas, polluting outfalls are flagged to the water company for follow-up and then to the local authority for enforcement if the property owner does not rectify voluntarily.

Wider public awareness campaigns relating to (un)flushables, drains (Yellow Fish – only rain should go down the drain campaign), water consumption and pesticides (eg metaldehyde slug pellets), also benefit overall catchment health.



Signatories' work in practice - example 1

Moors for the Future Partnership – Derwent Valley, Peak District National Park and South Pennines (provided by Severn Trent Water)

Reservoirs in the Derwent Valley area suffer from discoloured water due to environmental degradation of the surrounding moors. The discolouration is processed out of drinking water supplies through the Severn Trent treatment works, a costly solution for bill payers.

Severn Trent invested £1.2 million in the collaborative Moors for the Future Partnership to support the restoration of bare peat soils within the Peak District National Park and South Pennines. This investment has reduced soil runoff, reduced water discolouration, sequestered carbon and delivered biodiversity benefits through habitat improvement. To date, restoration work extends to over 30 square kilometres of the most degraded upland landscape in Europe.

www.moorsforthefuture.org.uk



Signatories' work in practice - example 2

Collaborative public health project – Bath and North East Somerset (provided by Wessex Water)

The increasing use of medicines raises concentrations of pharmaceuticals in the environment (PiE), particularly in water sources such as rivers. Of the three potential sources of PiE – patient use, improper disposal and the production of medicines – this project targets the first two.

Wessex Water has estimated it will cost £2.2 billion to achieve an approximately 80 per cent reduction of PiE at treatment works serving populations over 10,000 people. The project therefore looks to address the problem before it enters the system. One

approach encourages consumers to dispose of unused medicines via pharmacies instead of disposal down sinks or toilets. The second pathway uses social interventions, such as exercise, purpose and social interaction, to reduce the prescription and use of pharmaceuticals for non-communicable diseases such as depression or Type 2 diabetes. Benefits extend beyond the environment, with social benefits for both community and individual.

www.wessexwater.co.uk/environment/managing-our-impact/ investigations



Signatories' work in practice - example 3

Total catchment partnership to achieve Water Framework Directive improvements – River Stiffkey, Norfolk (provided by the Norfolk Rivers Trust)

The Norfolk Rivers Trust has implemented a total catchment partnership approach to achieve an improved rating for the River Stiffkey catchment under the EU Water Framework Directive (WFD).

The project aims to improve water quality and quantity within the catchment via a comprehensive catchment plan that identifies problems and solutions, and sets out action plans for targeted zones in the catchment. The problems identified include river morphology, phosphate levels and warming of the water, with solutions including

Catchment Sensitive Farming practices, re-meandering of the river channels, and delivering Integrated Constructed Wetlands (ICW) below sewage works.

EA seed funding will help deliver improvements along the River Stiffkey with benefits for the rural community and economy, helping to meet EU Transitional Waters Standards. The works programme is estimated to cost upwards of £7 million, with works ongoing to 2027.

https://norfolkriverstrust.org/rivers/river-stiffkey

Barriers and solutions identified by signatories

The survey identified a range of barriers which fall broadly under five main themes: uneven share of responsibilities, regulation, funding, evidence, and institutional structure and skills. By working with signatories to identify these barriers, the CLN is now better positioned to bring together relevant stakeholders to create solutions, adding value to the catchment management landscape.

The beneficiaries of a catchment area's natural capital assets and services span multiple sectors, however, the **responsibility to restore and maintain** these do not. The water and sewerage sectors are regulated to deliver environmental obligations through the Water Industry National Environment Programme (WINEP). However, they operate within a shared space where the negative contributions by other sectors are not regulated to the same degree and ultimately add to their obligations. The multi-sector adoption of nature-based solutions and catchment-scale targets could help reframe the context for all sectors in terms of their impacts, dependencies and risks. Enabling this will require regulatory barriers to be addressed in parallel.

Multiple signatories highlighted that **more flexible regulation** could enable the shift away from hard asset approaches. A regulatory approach seeking 100 per cent guarantees in meeting targets will necessarily result in asset-based responses with the technical evidence needed to guarantee targets. Flexibility on guarantees in exchange for development and testing of alternative non-asset responses, co-funded by multiple sectors, delivering a broader range of benefits is an evolutionary step forward supported broadly by stakeholders. A policy position extending beyond water into broader nature-based solutions, balancing top-down requirements with local needs, would create an enabling environment for greater piloting of catchment management. Effective catchment management needs to be informed by an appropriate **evidence base** that reduces the uncertainty around targeting efforts and delivering benefits, helping to inform a compelling business case. However, it may be the accessibility of evidence rather than lack of it that is the barrier, a problem resolved by improving access, transparency and consistency.

Funding for catchment schemes was identified as often insufficient, short term, and/or restrictively tied to delivering core corporate obligations. For example, the CaBA funding operates on an annual basis, which was seen to have constrained partnerships, reduced legitimacy, limited activity and prevented long-term planning. Similarly, short funding periods for trusted farm advice has meant short-term contracts for advisors, and this has hindered long-term relationship development with farmers. The long term Catchment Sensitive Farming partnership has demonstrated what a long term approach can achieve.

Water and sewerage companies noted that **institutional structures** were not always aligned with catchment-based solutions. Commercial frameworks are geared towards capital asset delivery rather than solutions such as integrated wetlands. More flexible, responsive funding and structures are needed to facilitate catchment-based solutions over and above regulatory and business plan commitments.

Finally, a lack of **specialist roles and experience** needed within organisations to deliver catchment-based solutions was noted, particularly in the areas of natural capital and agriculture. Better identification of (and recruitment to) skills gaps would help address this barrier.



The evolving policy landscape and catchment management

In his speech at the Water Summit, The Prince of Wales laid down the challenge for a "step change" in catchment management with "further and faster development of the catchment-based approach" with "new forms of partnerships, with active participation from regulators, Government and Local Authorities".

Since the summit the policy and delivery landscapes continue to evolve, influenced by many signatories and supporters of the Declaration. There are some key opportunities to improve the enabling conditions for catchment management, for example:

The BITC-led **Water Taskforce** continues to raise the profile of catchment management and gain cross-sectoral support to collaborate around shared problems on water and the natural environment. The **Courtauld Commitment 2025** initiative is significantly increasing business engagement in collective action water stewardship projects to reduce the impact of water use within their supply chains.

There has been a significant increase in the number of water companies investing in catchment-based solutions in partnership with other organisations. The **2019 Price Review** is just completed, this will see significant programmes of catchment management undertaken and greater investment over the next period (2020–25). In addition, we have seen the development of **regional water resource planning frameworks** that enable cross-sector planning and investment – including at the catchment scale. Emerging wastewater management plans provide further opportunities for collaboration and investment in catchment-based solutions.

The **Catchment Based Approach policy framework** continues to develop as a world-leading blueprint for collaborative catchment management. The 100+ Catchment Partnerships operating across England are convening a wide range of partners and delivering a large number of projects that offer significant returns on government investment (~£5 for every £1 invested). The Partnerships are also

playing an increasingly important role in delivering government policy. Working groups on Water Resources, Data and Evidence, Urban Catchment Management, Flooding, Agriculture, Biodiversity, Benefits, Integrated Constructed Wetlands, and third-cycle Water Framework Directive Planning all provide significant opportunities to advance integrated approaches to catchment management.

Both the environmental (the EA and Natural England) and economic regulators (Ofwat) have explored more flexible approaches to traditional regulation in order to enable the delivery of catchmentbased solutions and more innovative nature-based solutions, for example wetlands that provide tertiary wastewater treatment. Defra's abstraction plan also places a stronger focus on catchments in developing sustainable abstraction regimes. The third cycle of the **EU Water Framework Directive** will have an increasing emphasis on the role of catchment-scale planning and catchment-based solutions in river basin management plans.

Environmental Land Management Schemes (ELMS) are likely to replace the current basic farm payment and countryside stewardship schemes. These new schemes will place an emphasis on spending public money on public goods, based on natural capital valuations. If targeted appropriately, ELMS could provide a significant opportunity to deliver catchment-based solutions that deliver multiple benefits.

There are some key opportunities to improve the enabling conditions for catchment management

The focus of the CLN Advisory Group

The past year has seen some exciting progress in the development and implementation of catchment management projects, set within the context of a more supportive approach from business and an evolving regulatory framing. However, challenges remain, and further to the survey findings, targeted conversations within the CLN identified a range of issues common across catchments.

In response, the CLN Advisory Group has repositioned its focus to actively address these issues in a two-phase programme of work that will focus on nominated catchments.

Phase 1

- 1. Identify the issues and barriers hindering progress of specific catchment solutions
- 2. Formulate solutions
- 3. Work with the existing project team in nominated catchments (table 1) to *deliver* the implementation, testing and iteration of solutions.

Phase 2

Leverage Phase 1 knowledge and experience to improve the rate and scale of catchment-based solutions through two main work streams:

- 1. Using demonstrable solutions from Phase 1, assist the delivery of further catchment schemes around the United Kingdom, working with local delivery teams and catchment partnerships to help broker relationships and structure solutions
- 2. Feed into relevant policy through appropriate mechanisms.



Issue	Catchment	Catchment scheme	Key barriers
Phosphorus levels and small rural sewage treatment plants	Evenlode (Oxfordshire)	'Smarter Water Catchments' initiative – Thames Water	Perceived challenges with the end-to- end regulatory process surrounding WINEP and the Ofwat Price Review hindering the progression of nature- based solutions. While the primary focus is phosphorus, the expectation is that wider natural capital benefits will be delivered.
	Hampshire Avon (Wiltshire and Dorset)	Landscape Enterprise Networks (LENs) – Wessex Water and 3Keel	
	Eden (Cumbria)	Integrated catchment market-based approach and systems thinking – United Utilities	
	Cam, Ely Ouse and Broadland or CAMEO Broadlands (East Anglia, Norfolk and Suffolk)	Catchment system operator natural capital focused environmental planning – Anglian Water and The Rivers Trust	
Misconnections	Crane (London Boroughs of Harrow, Hillingdon, Hounslow and Richmond upon Thames)	'Smarter Water Catchments' initiative – Thames Water	Urban misconnections, where rainwater from domestic properties is directed into foul sewers and ends up in local waterways, contributes to river pollution and adds to the burden of sewage treatment works. Finding a solution to this problem has been challenging due to confusion over where the responsibility for resolving misconnections falls.

Table 1: Nominated catchments

The renewed focus of the CLN Advisory Group will help accelerate the identification and application of solutions to key barriers holding back progress of collaborative catchment management. The ambition is that these answers will inform action via the wider network of the CLN, thereby helping to promote catchment-based solutions at scale. The CLN will also continue to engage and collaborate with the key actors in this space, including the water and sewerage, private and third sectors, and local and national government.

In the Evenlode, Hampshire Avon, Eden and CAMEO Broadlands catchments these are:

- Identify improvements to the end-to-end regulatory process by:
- 1. Demonstrating how the process could evolve to return improved environmental outcomes
- 2. In collaboration with regulators, use the catchments as research and development sites to pilot an improved process relating to WINEP and the Price Review.
- Engage local authorities and developers to leverage interests and funding for biodiversity net-gain and nutrient offset payments.

In the Crane catchment these are:

- Review existing practice and recommendations for tackling misconnections (ie Chartered Institution of Water and Environmental Management, EA and Water UK National Misconnections Group) to:
 - 1. Assess need for updated guidance
 - 2. Understand which recommendations have been implemented and why others have not
 - 3. Identify a course of action to overcome inaction/failures.

CLN signatories with capacity to help deliver on this work are invited to contact the Advisory Group via Catchments@cisl.cam.ac.uk.

The final word

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As a founding member of the Catchment Leadership Network and Chair of BITC's Water Taskforce I see great value in creating cross sector collaborative projects to deliver solutions for challenges that we all share. That is why I was so pleased to play a part in developing the Catchment Declaration and the subsequent Catchment Leadership Network. It is good to see that signatories are reporting action against the six principles that we developed, and I hope in the next year we will see even more updates from across the UK demonstrating action within your own business operations and in the catchments that you operate in or influence.

The more we hear from you the more work we can do through the CLN Advisory Group and the Water Taskforce to remove barriers, share best practice and take catchment management to scale in the UK.

Peter Simpson, Chief Executive, Anglian Water







About the University of Cambridge Institute for Sustainability Leadership

The University of Cambridge Institute for Sustainability Leadership (CISL) brings together business, government and academia to find solutions to critical sustainability challenges.

Capitalising on the world-class, multidisciplinary strengths of the University of Cambridge, we deepen leaders' insight and understanding through our executive programmes; build deep, strategic engagement with leadership companies; and create opportunities for collaborative enquiry and action through our leadership groups.

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HRH The Prince of Wales is the Royal Founding Patron of CISL and has inspired and supported many of our initiatives.

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