Oxford to Cambridge

Joining up surface water and drainage management planning

Non-technical summary

Project background, purpose, approach and conclusions

Overview

This project explored how local authority-led surface water management planning can be more effectively aligned with Drainage and Wastewater Management Plans (DWMPs) produced by water and sewerage companies. It aimed to better align existing plans and responsibilities by improving coordination between them, focusing on strengthening how current arrangements work, rather than merging them into a single process or set of documents.

The Environment Agency's Oxford to Cambridge (OxCam) team commissioned the project as part of the Integrated Water Management Programme to support place-based working and help organisations work together more effectively across the water system. It was delivered collaboratively with West Northamptonshire Council and Anglian Water Services. Bedford Borough Council and Central Bedfordshire Council, alongside Defra and Environment Agency staff, including Flood Risk Management and DWMP leads, formed part of the wider project team, providing assurance on the approach and helping to ensure that the learning could be applied more widely.

The project identified barriers to collaboration and developed a place-based approach that focuses on local needs, risks and opportunities, while setting out how organisations can work together to deliver shared objectives. It used existing data on known flooding issues to do this.

This approach supports a shift from parallel planning towards coordinated, place-based delivery, supporting improved alignment of priorities, investment, and outcomes.

Integrated Water Management (IWM) Programme

The main output is a Collaborative Approach for water planning. It is a structured approach made up of 10 stages, supported by guidance. It includes 3 partnership pathways, described as 'emerging', 'growing', and 'mature', reflecting different levels of collaboration. This is supported by a final report that explains how the approach was developed and presents the project findings, including wider learning recommendations. This approach does not replace existing plans; rather, it sits alongside them, providing a shared structure for discussion and decision-making. The focus of the project was on improving ways of working rather than technical design, delivery, or funding. The challenges addressed, such as fragmented planning, misaligned investment cycles, limited coordination and partner capacity and gaps in data, are widely experienced across England. Although developed with partners in the OxCam area, the approach is designed to be scalable, transferable, and applicable across different geographies.

The water policy landscape is changing quickly. During the project, the government published the White Paper, 'A new vision for water', which sets out plans to reform how water is managed. The proposed changes place a stronger focus on better coordination, long-term planning, and more joined-up working across organisations. However, flooding is not expected to be included within the 2 emerging planning frameworks.

The relationships and ways of working fostered through using the Collaborative Approach are vital. By continuing to work together across different areas, organisations can achieve more joined-up decision-making and deliver better outcomes for people, the environment and water.

If you would like to find out more, please don't hesitate to contact us:
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Overview (continued)

The Environment Agency has published a new Surface Water Investment Model guidance to make surface water investment easier. It recognises that longer-term funding certainty is often needed to align with wider investment (e.g. highways, water infrastructure or other public realm improvements).

While our project did not focus on funding as a way of joining up plans, funding is an important enabler of collaboration. It is therefore encouraging to see recent efforts to address funding challenges.

Why was the project needed

- This project draws on the findings of the Rethinking Water Planning (RWP) project, which showed that full system-wide integration would be highly complex and resource-intensive for all organisations involved. Instead, RWP highlighted the potential to achieve greater impact through targeted, place-based improvements. In response, this project was designed to develop and test an approach that strengthens collaboration between partners, supports shared learning, and embeds more coordinated ways of working into routine practice.
- It also responds to the need to build on previous learning while supporting preparation for DWMP Cycle 2, which introduces broader expectations, including consideration of whole drainage systems, interdependencies, and multiple benefits.
- The need for the project is reinforced by the nature of surface water flooding, which does not fall under a single organisation's remit. Rainfall can overwhelm drainage systems, flow over land, and interact with sewer networks, creating risks for communities and the environment. As a result, the responsibilities of Lead Local Flood Authorities and water and sewerage companies are closely interconnected. However, differences in planning processes, cycles, and objectives create barriers to effective coordination. This project addresses that gap by improving alignment between partners, enabling more effective management of shared risks and delivery of interventions that provide multiple outcomes.

Drainage and wastewater management planning

A relatively recent addition to the planning landscape, DWMPs are long-term strategic plans prepared by water and sewerage companies (on 5-year regulatory cycles) to manage drainage and wastewater systems over at least a 25-year horizon.

They set out how companies will maintain, improve and adapt their networks to meet future pressures, including population growth, climate change and environmental requirements.

Government guidance for DWMPs makes them a statutory requirement and recent DWMP 2 government guidance emphasises the importance of stakeholder engagement, with a clear focus on transparency, collaboration, and integration with wider spatial and environmental planning processes.

Surface water planning

Surface water management planning is led by local authorities through Local Flood Risk Management Strategies (LFRMs) and Surface Water Management Plans (SWMPs).

LFRMs are statutory documents, under the Flood and Water Management Act 2010, and reviewed periodically, while SWMPs are non-statutory studies that assess local flood risk and identify potential interventions.

Unlike LFRMs, SWMPs are produced on a case-by-case basis, often driven by local priorities (flood risk) or funding, rather than a consistent national cycle. As a result, their timing, scope, and level of detail vary significantly, with some areas having up-to-date, detailed plans and others relying on older or more limited evidence.

In addition, lead local flood authorities are required to produce Section 19 reports. It is a formal investigation into a flood event, to explain what happened, clarify responsibilities, and help prevent similar flooding in the future.

However, the variability in surface water planning can make coordination with frameworks such as DWMPs more challenging, contributing to inconsistencies in how flood risk and drainage are managed across different locations.

Project aims and objectives

- The project aimed to support more effective joint planning for surface water flood risk and drainage by better aligning local authorities and water and sewerage companies. It sets out to develop practical, collaborative approaches to enable the joint planning and delivery of multi-partner interventions, tested through a case study in West Northamptonshire.
- The intention was that the learning and evidence developed would inform partner plans, support the future embedding of co-benefits interventions into business-as-usual activity, encourage closer working between water and sewerage companies and local authorities, and influence future DWMP guidance and development.

What the project did

The project was delivered through 4 main activities:

Task 1: exploration
Task 2: approach selection and design
Task 3: testing
Task 4: refining the approach

Task 1: Exploration

An information review, focused on our project partners Anglian Water, West Northamptonshire, Central Bedfordshire and Bedfordshire Councils was carried out to identify existing relationships, opportunities for closer joint working, gaps in available evidence, alongside key risks.

Existing plans, strategies, and evidence were reviewed to understand how surface water, drainage and wastewater planning currently operates and where similarities already exist. This includes but is not limited to the LFRMs, SWMPs, Section 19 reports and DWMPs.

This activity also explored how organisations work together in practice by conducting interviews with project partners.

Task 2: Approach selection and design

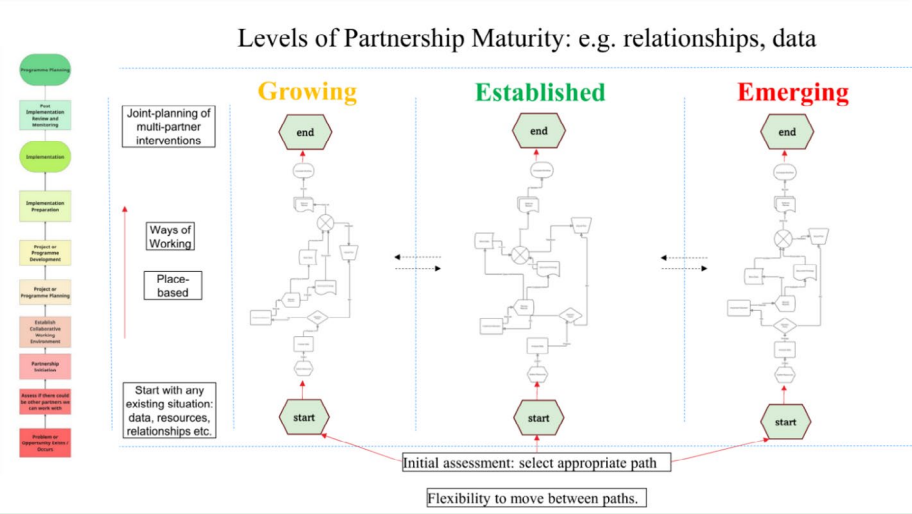
Different approaches to joint planning were explored, including a review of existing guidance, policy, and best practice across England, alongside discussions with the project partners.

For example, we looked at:

- Mansfield Sustainable Flood Resilience
- Blue Green Newcastle

From this, a Collaborative Approach emerged.

The emerging Collaborative Approach was developed from core good practice identified through early work, bringing together activities that are common to effective joined-up planning. It recognised that organisations start from different positions, with varying levels of partnership maturity, ways of working, data quality, and available resources. In response, it has been designed as a flexible framework with a clear core approach, supported by three variations to reflect different stages of maturity. Structured as practical workflows and decision trees, it was developed to help partners navigate the process, move between stages where needed, and adapt their approach over time.

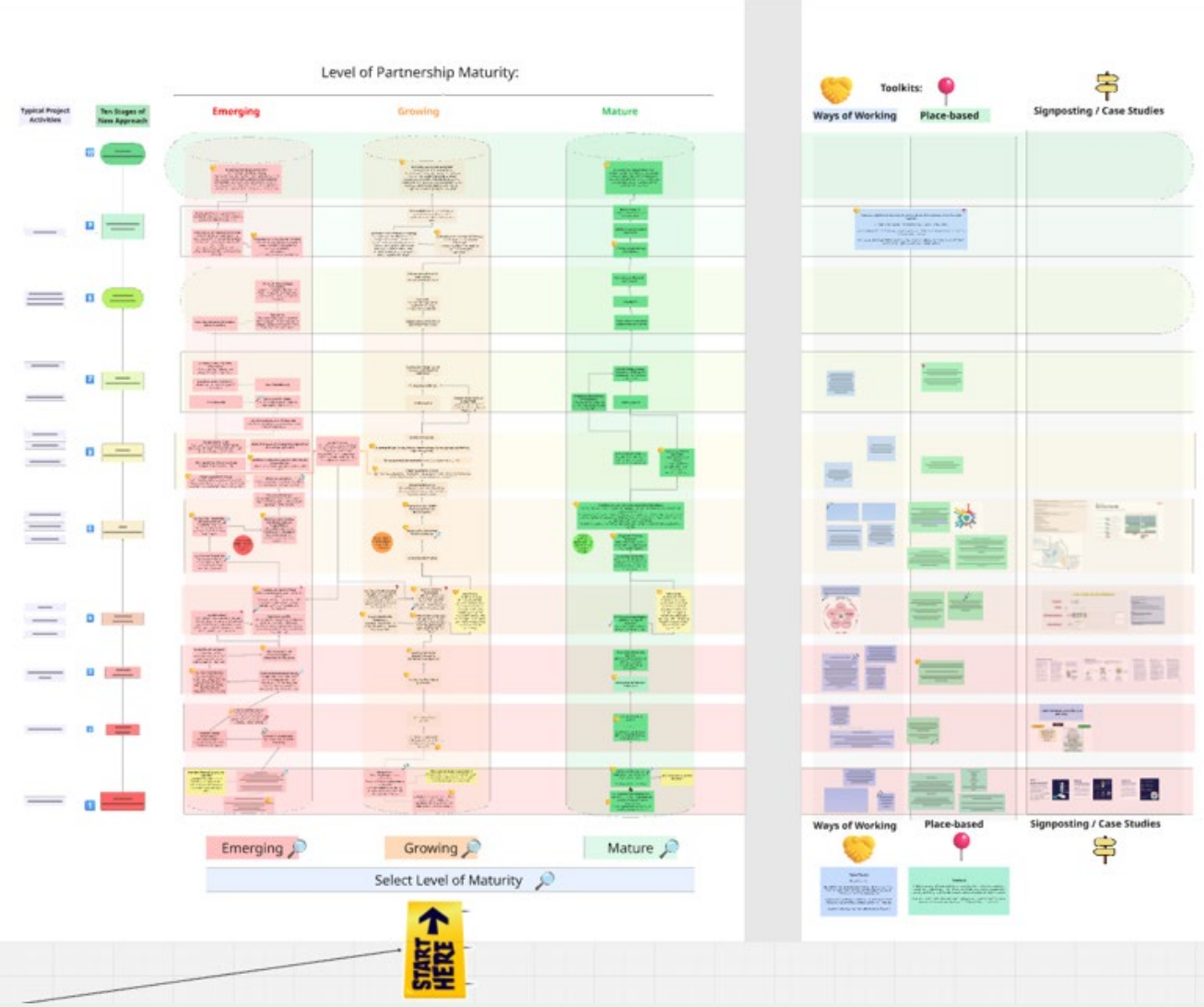


Task 3: Testing

- a series of activities (indicated in the Collaborative Approach) were undertaken, bringing partners together to review evidence, agree priorities, and explore shared objectives
- due to resource constraints, not all stages of the framework were tested
- existing data on known flooding issues helped identify 3 locations of interest
- over time, discussions narrowed the focus on the Far Cotton and Delapre drainage catchment within Northampton
- by following the steps in the Collaborative Approach, partners identified the types of solutions that could deliver shared benefits in a place, for further exploration
- the trial focused primarily on testing ways of working rather than progressing detailed designs or delivery
- this allowed us to explore how the approach could be applied in practice, including identifying strengths and weaknesses through a structured trial
- the trial provided valuable insight into how the approach supports collaboration and highlighted areas for further refinement

Key outputs from the workshops included:

- development of a shared understanding of risks and opportunities
- identification of Far Cotton and Delapre area in Northampton as a suitable case study, where surface water flooding risk aligned with both local authority priorities and water and sewerage companies objectives to reduce surface water entering the sewer network.
- identification of high-level options, including nature-based solutions



Task 4: Refining the approach

- the final stage brought together learning from across the project and refined the Collaborative Approach
- workshops were held with project partners to gather feedback and further refine the Collaborative Approach, with insights informing the final version
- workshop themes included data sharing, technical integration, stakeholder engagement and collaboration

A Collaborative Approach for water planning: how it can be used

The Collaborative Approach is a ten-stage framework designed to sit alongside existing project lifecycles and funding processes. It is organised into 3 maturity pathways and provides prompts, suggested actions and links to further information to facilitate the alignment and joining up of planning activities.

It has been designed to help staff and teams work across boundaries, functions, and responsibilities with a shared understanding. It has been designed for those involved in drainage and surface water planning in water and sewerage companies and local authorities. The approach is comparable to a step-by-step guide that organisations can refer to and follow as they establish and develop a partnership.

It is flexible and easy to use. It can be used at any stage of a project including mid-way through with organisations engaging at different points depending on their needs, capacity, and the maturity of their working relationships. It can be applied at different scales, from addressing local, project-level issues to supporting large scale programmes.

Designed to be proportionate, the approach can be scaled to fit available resources.

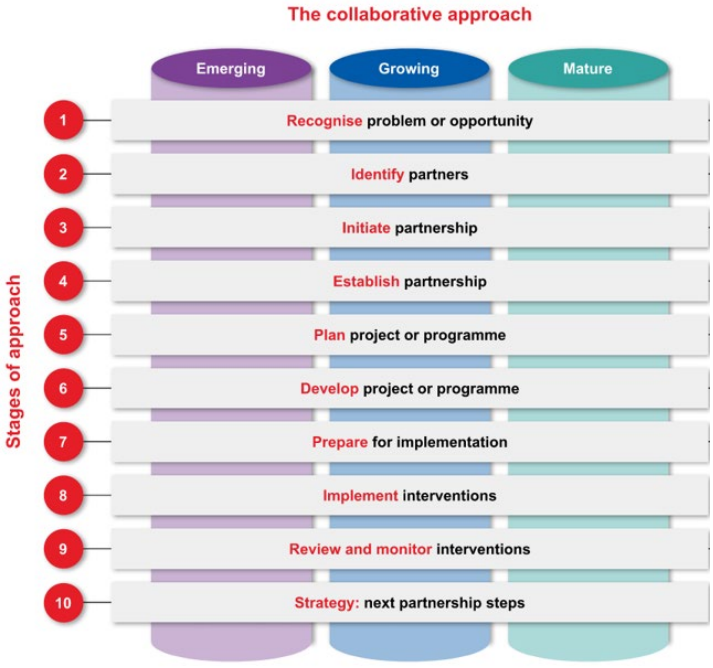
It also supports better decision-making, even where data is incomplete by promoting better use of existing information and more open discussion of uncertainty and limitations, rather than requiring new data systems.

The Approach does not replace DWMPs, SWMPs or LFRMs. Instead, it provides a shared framework that supports early discussion and a common understanding, even where plans, strategies, and evidence are at different stages of development. In doing so, it helps better align and integrate these planning activities together more effectively. It recognises that organisations operate to different timescales and funding cycles, and encourages open discussion of these constraints.

Although the approach was tested in the OxCam Growth Corridor, it has been developed to be used more widely across England.

It could also be adapted to support collaborative work with other plans and programmes, such as the Water Resources Management Plans (WRMPs) and the Water Industry National Environment Programme (WINEP), which set out how water and sewerage companies will manage water supply over the long term, and required environmental actions they must deliver, respectively. This means it can be useful to a wide range of people and can help anyone involved in developing solutions that deliver multiple benefits.

The Collaborative Approach supports the direction set out in the government's White Paper, 'A new vision for water', by helping deliver a more joined-up and integrated planning system across the water sector. The Collaborative Approach provides a practical way to do this by enabling water and sewerage companies, local authorities and partners to work together early, align evidence and priorities, and link plans such as DWMPs and local flood strategies. It also supports more coordinated optioneering across organisations, reducing duplication where similar issues are currently considered separately, and encouraging a more place-based approach to developing and assessing solutions. In doing so, it supports the White Paper's aim of consistent, system-wide planning by providing a practical approach that works across different scales, aligns priorities, reduces inefficiencies, and enables solutions that deliver multiple benefits.



Key learning and limitations

The project found that one of the primary barriers to effective joint planning is not a lack of tools, but the need for a clearer and more adaptable way of working. The main project output is therefore a flexible, collaborative approach to water planning, that provides a shared and structured framework to support early discussion and develop common understanding, regardless of scale, timing, or the maturity of existing plans and evidence.

We found that:

- tools, plans, and evidence are available, but are not always used as effectively as they could be. In some cases, people may not be fully aware of what is available, or they may use them inconsistently across different teams or organisations
- capacity, timing, funding arrangements, and reliance on informal relationships, often built through experience and regular contact, all affect how well organisations can work together
- early engagement between organisations when starting to make or update a plan provides the best platform for success, even when plans are not being produced at the same time
- clear discussion of roles, responsibilities, and constraints is essential for effective collaboration
- robust data management is also essential for effective collaboration because it ensures data is: usable (openly available or appropriately licensed), compatible (similar structure and architecture) and reliable (high quality and governed)

Roles, responsibilities and evidence

- clear understanding of roles, responsibilities, and evidence is essential for effective joint planning. The project found that while organisational responsibilities are defined, how they interact at a local level is not always well defined or understood. This can lead to uncertainty about leadership and ownership of issues. The framework encourages early conversations about what each organisation and individual can and cannot do, helping to manage expectations
- evidence and data play a key role in these discussions. Many organisations already hold useful information about flood risk and drainage, but it is often produced for different purposes. Differences in scale, format, and assumptions can make it difficult to use together

There are limitations to the work:

- only part of the Collaborative Approach was tested due to resource constraints
- only a small number of individuals outside the project team were involved. We engaged with staff from the Environment Agency as part of the Integrated Environment Programme, who have strong catchment knowledge and established relationships with environmental non-governmental organisations (eNGOs). We also worked with Anglian Water staff with responsibility for engagement on the DWMP. Engagement beyond this was limited, meaning wider input was not sought from eNGOs or other local authority departments, such as highways
- as this project was a trial, the project team supported delivery of the approach by leading workshops and carrying out some of the technical analysis required. If this approach is taken forward as part of business as usual activities, the organisations involved will need to either nominate a lead organisation or work together to lead the process

Recommendations and next steps

The main recommendations focus on:

1. **Embedding early collaboration into planning activities**
   - bring relevant organisations together at the earliest stage of planning and decision-making
   - use early engagement to identify shared priorities, constraints and opportunities before plans and investments become fixed
   - establish a common understanding of roles, responsibilities and governance arrangements from the outset
2. **Making better use of existing evidence and knowledge**
   - use existing data, local knowledge and technical evidence to support coordinated decision-making
   - improve the sharing and interpretation of information to develop a more complete understanding of local risks, challenges and opportunities
   - make better use of available evidence, recognising differences in scale, format and assumptions
3. **Applying a place-based approach**
   - focus on the needs and opportunities of specific locations rather than individual organisational priorities
   - consider how drainage, wastewater, flood risk, growth, environmental improvement and community outcomes can be addressed together
   - develop integrated solutions, including nature-based solutions, that deliver benefits across multiple objectives
4. **Aligning investment and delivery**
   - look for opportunities to coordinate investment programmes and delivery timescales
   - explore options for joint working and co-funded initiatives where these provide greater value and improved outcomes
   - reduce duplication of effort through coordinated planning and shared objectives
   - seek integrated solutions that deliver benefits for communities, infrastructure and the environment
5. **Using the Collaborative Approach for water planning**
   - use the Collaborative Approach to support joint planning for surface water and drainage management.
   - apply the Collaborative Approach proportionately, reflecting the maturity of partnerships and available resources
   - apply the principles of the approach beyond surface water and drainage management planning where they can add value
   - consider how the approach could support other place-based programmes, infrastructure planning and environmental initiatives
   - encourage wider adoption through sharing learning and good practice

Suggested next steps

- review current plans, programmes and projects to identify opportunities to apply the Collaborative Approach
- undertake further testing of later stages of the framework, including delivery and monitoring
- use practical application and ongoing learning to refine and strengthen the Collaborative Approach over time
- promote the approach across organisations, sectors and geographical areas to support more integrated water management and planning
- embed collaborative and place-based working into business as usual activities

The project

Other related documents



Project report PDF



Collaborative Approach PDF

Integrated Water Management Hub

