



Environmental Monitoring Strategy

Pang Flagship Chalk Stream Partnership



February 2026

Working in partnership

Action for the River Kennet (ARK)
Berkshire, Buckinghamshire and Oxfordshire Wildlife Trust
Environment Agency
Lower Pang and Kennet Farm Cluster
Natural England
Tidmarsh Flyfishing Syndicate

Pang Valley Flood Forum
Ridgeway Farm Cluster
Sulham Estate
Thames Water
The Englefield Estate
Barn Elms Fishery

Upper Pang Valley Farm Cluster
West Berkshire Council
Yattendon Estate
Mend the Gap
North Wessex Downs National Landscape
West Berkshire Countryside Society

Document control

Author	Pang Flagship Chalk Stream Partnership – Environmental Monitoring Working Group	Status	Final draft for comment
--------	---	--------	-------------------------

Version	Editor	Reviewer	Sign Off	Date
V0.1	James Hubbard	SP, VR		
V0.2	James Hubbard	SP, VR		17/12/2026
V0.3	James Hubbard	SP, VR, AH		21/01/2026
V0.4	James Hubbard	SP, VR, AH		09/02/2026
V1	James Hubbard	EMWG all members		17/02/2026



Fig. 1 – Water vole surveying on the Pang (Top), sharing riverfly monitoring methods at a public event in Pangbourne (bottom-left) and flow gauging on the Pang by Thames Water.

Contents

Executive Summary.....	3
Introduction	4
Environmental Monitoring Strategy Framework.....	5
What we have achieved in 2025 / 2026	5
Where we are now.....	6
Our Principles.....	6
How we will deliver the Partnership's Environmental Monitoring Strategy	9
Roles and responsibilities	9
Supporting and funding monitoring proposed by EMWG attendees.....	9
Supporting and funding monitoring proposed by other PFCSP Working Groups	10
Themes & Sub-themes.....	11
Glossary.....	11

Executive Summary

This Environmental Monitoring Strategy was produced by the Pang Flagship Chalk Stream Partnership's (PFCSP's) Environmental Monitoring Working Group (EMWG) to set out how we plan to collect, collate and apply evidence to support the restoration of two chalk streams, the River Pang and Sulham Brook. This strategy sets out our ambitions and approach to how environmental monitoring will support evidence-based decision making in partnership for 4 years from the start of 2026 to 2030, and meet high level targets for the Partnership's concluding date in 2035. We will achieve this by collaborating and coordinating efforts with key stakeholders including statutory organisations, citizen scientists, researchers, environmental groups, local landowners and the agricultural community, welcoming new members where our goals align and maintaining a degree of flexibility for the EMWG to direct action. We will encourage the sharing of knowledge and methods between stakeholders for mutual benefit to build consensus and a unified evidence base for action, and support project delivery by partners of the PFCSP.

Introduction

Chalk streams are a globally important, unique, and diverse habitat. Out of the 260 chalk rivers worldwide, 85% are in the UK. Healthy chalk streams feature incredible biodiversity and can be home to some of our most iconic river species, providing habitat for grayling, wild brown trout, otters, water voles, kingfishers, rare invertebrates like the winterbourne stonefly, and keystone plants such as stream water crowfoot.

However, like most chalk streams, the River Pang and Sulham Brook face challenges from pressures brought about by human activity. Physical modification, land use change, wastewater, agricultural and road runoff, abstraction, and invasive species all influence river health and are prevalent in these catchments. Future pressures including climate change and growth are likely to interact with and accentuate these pressures. Developing a cohesive understanding as a partnership of these pressures covering their relative impact and prevalence is key to targeting action and assessing its efficacy in improving the health of our chalk streams.

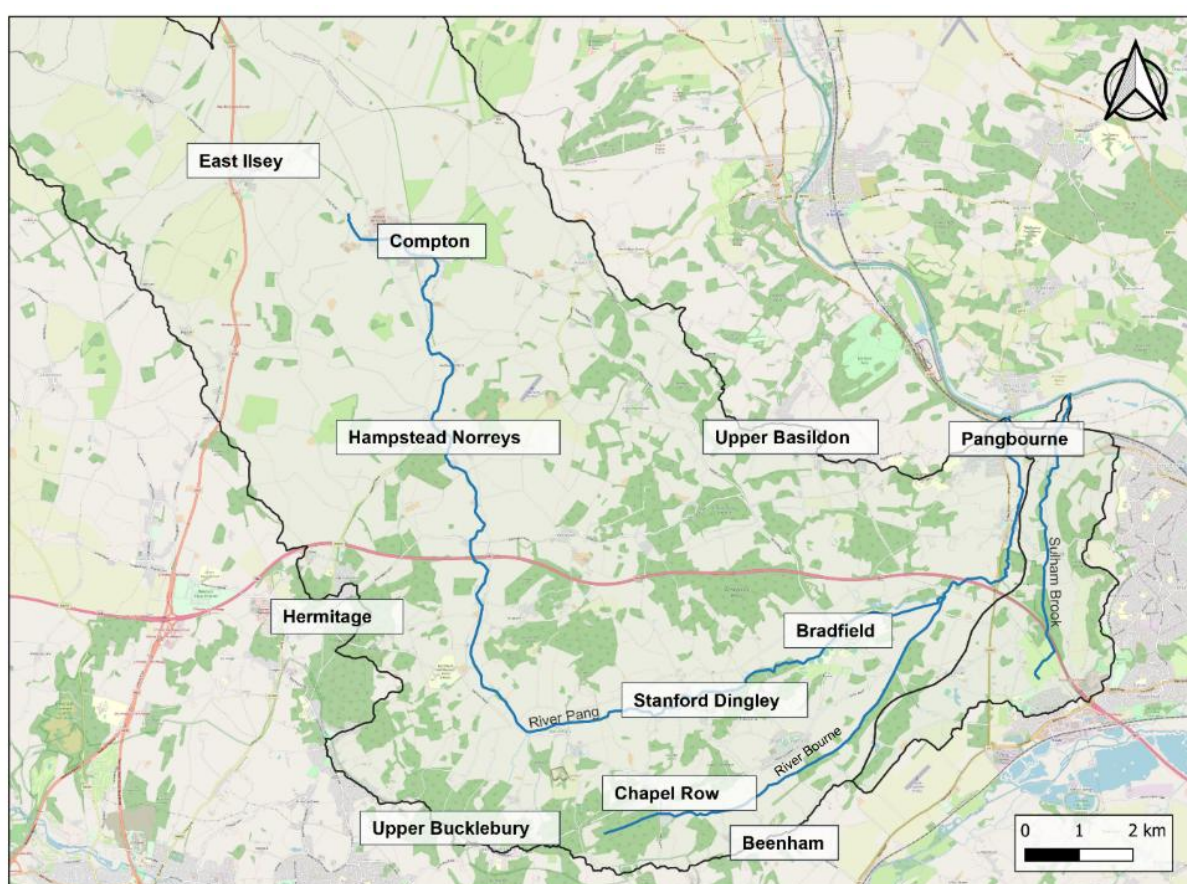


Fig. 2 – The River Pang and Sulham Brook catchments and local villages.

The Pang Flagship Chalk Stream Partnership (PFCSP) is part of the national Flagship Chalk Streams programme, a ten-year funded initiative to show what is possible when partners work together to coordinate and implement innovative approaches to restore chalk streams to health at the catchment scale. The River Pang and Sulham Brook were nominated as a Flagship catchment in 2022 following from the [Catchment Based Approach's Chalk Stream Strategy](#). Please see our Website, Terms of Reference and Working Group terms for further information on the PFCSP and its activities.

Environmental monitoring is a critical component ensuring the partnership meets its goals, and that projects effectively deliver improvements against our objectives within the Pang and Sulham catchments. The

partnership's Environmental Monitoring Working Group (EMWG) aims to ensure that evidence is targeted and reliable, and that monitoring is coordinated between all relevant parties with clear paths for both existing and newly gathered evidence to improve chalk streams in our catchments and beyond. The purpose of this document is to detail our strategy from 2026 to 2030 for how environmental monitoring will support the partnership and its members to act in an informed manner and learn from our actions to improve the condition of the River Pang and Sulham Brook and help the PFCSP to achieve its objectives.

Environmental Monitoring Strategy Framework

What we have achieved in 2025 / 2026

In 2025 the PFCSP established five working groups to deliver and support partnership action that achieves its objectives and coordinates the delivery of partnership works. The EMWG produced this strategy, and is actively [supporting the other working groups](#) towards action to improve the Pang and Sulham catchments.

The EMWG has made steps towards building this collaborative approach over the financial year 2025-2026. Key outcomes achieved and planned for this period are outlined below:

- Initiated monthly meetings of the EMWG targeting specific [themes](#), across Water Quality, Ecology, and Physical Habitat Restoration.
- Developed local citizen science monitoring networks.
- Drafted this Environmental Monitoring strategy based on input from core partners and relevant national initiatives.
- Identified sources and availability of environmental data collected within the catchment and where it is held.
- Begun developing data sharing practices and agreements.
- Supported other PFCSP working groups to develop projects based on evidence.
- Identified outstanding research questions and known unknowns that will develop understanding of catchment pressures, to request relevant support from statutory organisations and academics.

Outputs from the EMWG to coordinate monitoring in 2025/26 include:

1. This Environmental Monitoring Strategy
 - a. To be supported by a plan outlining monitoring of local habitat restoration and floodplain reconnection.
2. Table of collated monitoring
 - a. Identifying and detailing active and past monitoring in the Pang and Sulham catchments to avoid duplication and signpost partners towards existing data.
3. 'Book of Knowledge'
 - a. A public facing page on the PFCSP website offering an overview of Environmental Monitoring themes, resources and associated projects.

Further resources are shared internally on an ongoing basis within the EMWG, using SharePoint to signpost to information that supports partner projects and strategic decision making.

Where we are now

As of January 2026, partners generally monitor independently within the catchments and gather data into siloed hubs to support independently delivered projects. While information is often accessible with the correct knowledge, it is not always clearly signposted or communicated and can lead to divergent opinions on the state of river health and the primary issues locally. Equivalent data has rarely been compared between partners across either its methodology or findings, leading to duplication of effort and limiting a cohesive cross-partner and catchment wide understanding of challenges and next steps. There remains a need for more integrated planning and delivery of monitoring, and a collaborative approach to aligning monitoring activities that builds collective evidence into partnership action.

Our Principles

1. All monitoring should have the potential to support or initiate actions that improve the health of the River Pang and Sulham Brook.
2. The partners will ensure monitoring is not duplicated without reason, by consolidating a collective understanding of existing monitoring coverage and knowledge gaps.
3. Monitoring undertaken by the PFCSP should be developed in a collaborative fashion and endorsed by the EMWG.
4. Monitoring should pragmatically compromise between best practice and cost-effectiveness.
5. Monitoring should minimise any potential negative impact on the wildlife and be conducted following suitable risk assessments, biosecurity to mitigate spread of invasive species, and health and safety protocol.
6. Monitoring should fit within national schemes or protocols where possible and practicable, to be consistent and accessible outside of the catchment.



Fig. 3 – Electrofishing with Action for the River Kennet, citizen scientists and the Environment Agency

Table 1 – The EMWG’s key functions and timeline for action from 2026-2035

Functions	2026-2027	2028-2030	2031-2035	2035
To foster collaboration and engagement between partners undertaking environmental monitoring	Ensure membership provides local expertise across water quality, ecology, physical habitat restoration and hydrology themes. Establish monthly themed meetings with attendance from statutory bodies, citizen scientists, and academics.	Establish regular collaboration with research institutions to support addressing research questions and synthesis of diverse data sources.	Sustained partnerships with professional and academic institutions producing shared / published findings from catchment investigations.	Fully integrated monitoring network with shared protocols across partner organizations and citizen science groups.
To develop mutual sharing, trust, and tiered confidence in data collection approaches	Establish data sharing agreements and appropriate access arrangements between Partnership members. Publish an index of active and past monitoring to identify duplication.	Adopt a transparent weighting of data quality and confidence levels, following from national initiatives and guidance such as CaSTCo.	Establish a framework for tiering data confidence applied consistently across all environmental monitoring activities and corresponding decision-making.	Standardise data quality assurance systems supporting evidence-based catchment management.
To signpost relevant evidence and facilitate data sharing between working groups	Publish a ‘Book of Knowledge’ on PFCSP website to offer a public-facing overview of environmental monitoring themes, resources, and projects. Embed SharePoint as the internal evidence sharing route for EMWG members.	Periodically update public-facing resources sharing partnership findings and state of River Pang and Sulham Brook with local stakeholders and community.	Make evidence platforms accessible to key partners and public where permissions allow, with real-time data visualization and reporting capabilities.	Make catchment-wide decisions using an accessible and integrated evidence base.
To lead investigations into environmental factors and develop the evidence base	Undertake a gap and overlap analysis for determinands. Prioritise research questions collaboratively. Establish baseline monitoring for 3 habitat restoration and floodplain reconnection projects planned.	Publish and promote findings from investigations with partners and public. Review and reprioritise research questions.	Disseminate case studies from the catchment and promote learnings to support findings of national schemes. Review and reprioritise research questions.	Use a single evidence base to support development and design of new habitat and catchment restoration schemes. Evidence the measurable impact of restoration schemes.

Functions	2026-2027	2028-2030	2031-2035	2035
To coordinate monitoring to reduce redundancy and increase alignment	Establish communication between existing citizen science coordinators. Align citizen science methods where practical. Identify spatio-temporal overlap and gaps across all initiatives.	Co-ordinate all monitoring activities so that there is complementary coverage across catchments and seasonal cycles.	Continue coordination of monitoring activities.	Deliver an efficient, coordinated monitoring system to maximise value of all partner contributions.
To provide evidence supporting planning and evaluation of partnership project impact	Establish the process for Project Managers to consult the EMWG on monitoring requirements. Develop a monitoring plan for habitat restoration and floodplain reconnection.	Collect and report on the impact of 3 groundworks projects using co-ordinated monitoring programmes. Assess and report the environmental impacts of Partnership projects.	Apply a standardised evaluation framework across all Partnership-funded projects. Demonstrate efficacy in improving environmental outcomes.	Publish a portfolio of evaluated projects to demonstrate the environmental improvements achieved and inform future restoration work.
To propose and prioritise spend for environmental monitoring	Establish a transparent process for EMWG members to propose monitoring with assessment of merits and alignment with PFCSP objectives.	Demonstrate the value of monitoring targeted interventions and project outcomes.	Allocate monitoring resources based on evidence of impact and catchment priorities.	Deliver a valuable and cost-effective monitoring programme that supports the Partnership's objectives.

How we will deliver the Partnership's Environmental Monitoring Strategy

Our strategy will be spearheaded by the Environmental Monitoring Working Group (EMWG). The EMWG feeds into the PFCSP through the Steering Group and stakeholder meetings. The EMWG currently and will continue to bring together key organisations and individuals to lead on investigations and support work that improves the health of the River Pang and Sulham Brook. The EMWG will maintain representation of key organisations and broaden expertise across each of our themes and sub themes.

As of January 2026, our EMWG meetings have had attendance from 10 organisations, 2 independent experts and 3 experienced citizen scientists.

The EMWG welcome collaboration that aligns with our aims and our vision of applying evidence to support the restoration of the River Pang and Sulham Brook to healthy habitats, regardless of experience of partners, and encourage knowledge sharing through membership of the EMWG. The EMWG meets online once a month with a targeted theme at each meeting (EMWG members join for those that are relevant), and every 6 months will meet in person at a location in the catchment. **Please contact the EMWG host if you historically / actively / plan to monitor the environment within the River Pang and Sulham Brook catchments.**

Roles and responsibilities

The EMWG operates with 4 distinct roles: A host and administrator, Core Members, General Members and Consulted Experts.

- **Host:** Action for the River Kennet hosts the group (ARK - the Rivers Trust for the Pang and Kennet catchments), chairs the meetings and provides its administrative support. Please contact the host organisation for any questions regarding the EMWG.
- **Core Members:** Action for the River Kennet, Environment Agency (EA), and Thames Water (TW) are the EMWG's Core Members. Therefore, 3 of the 4 organisations represented on the PFCSP's Steering group are also EMWG core members, and attend all WG meetings. At least one core Member is also represented at each of the four other Working Groups. This cross-group representation supports informed decision making throughout the partnership for monitoring related matters.
- **General Members:** Most attendees are general members, attending EMWG meetings based on relevance of the theme to their own field of interest. General members represent the range of organisations involved in the PFCSP.
- **Consulted Experts:** Experts brought in from outside of the partnership to support decision making on monitoring on a case-by-case basis. Any attendee can invite relevant experts to the EMWG provided that the EMWG host remains informed.

Supporting and funding monitoring proposed by EMWG attendees

Any attendee of the EMWG can propose new monitoring within the EMWG. Monitoring options are discussed openly within the EMWG to assess their merits and how well they align with the PFCSP's aims, objectives and existing monitoring. The EMWG help to develop concepts for monitoring towards practicable plans and partnership projects that can be implemented to improve the River Pang and Sulham Brook. Depending on the reception from the group, the WG host will support the Project Manager to request funding from the Steering Group.

If there is monitoring that you believe is needed in the Pang and Sulham catchments please come to one of the monthly EMWG meetings where you can outline your planned monitoring, we can discuss alignment with the PFCSP's objectives and research questions, and the group can offer supporting information where available. You do not have to be a pre-existing member to propose monitoring.

Please note the PFCSP's Steering Group endeavours to prioritise external funding where available and look favourably on match funding to maximise the impact of the PFCSP's funds.

Supporting and funding monitoring proposed by other PFCSP Working Groups

The EMWG supports project delivery by partners in the catchment via the following process.

1. Project Managers attend monthly EMWG meetings to consult on desired monitoring, setting out requirements, timeframe and anticipated cost where known. Key information should be offered 2 weeks in advance of working group meetings, to ensure that appropriate expertise is available for input. The EMWG then discusses options, relative merits and delivery partners. Based on input the project manager decides on planned monitoring and requests funding from the Steering Group, supported by the host who represents opinions from the EMWG.
 - a. Requests for funding will benefit from supporting information across the following: Monitoring objective, target PFCSP research question, overview of methods, monitoring frequency and period, undertaking organisation / individual, cost, how results will be collated and evaluated, and any relevant projects. A simple template following the structure of the River Restoration Centre's Monitoring Planner will be provided to working group members.

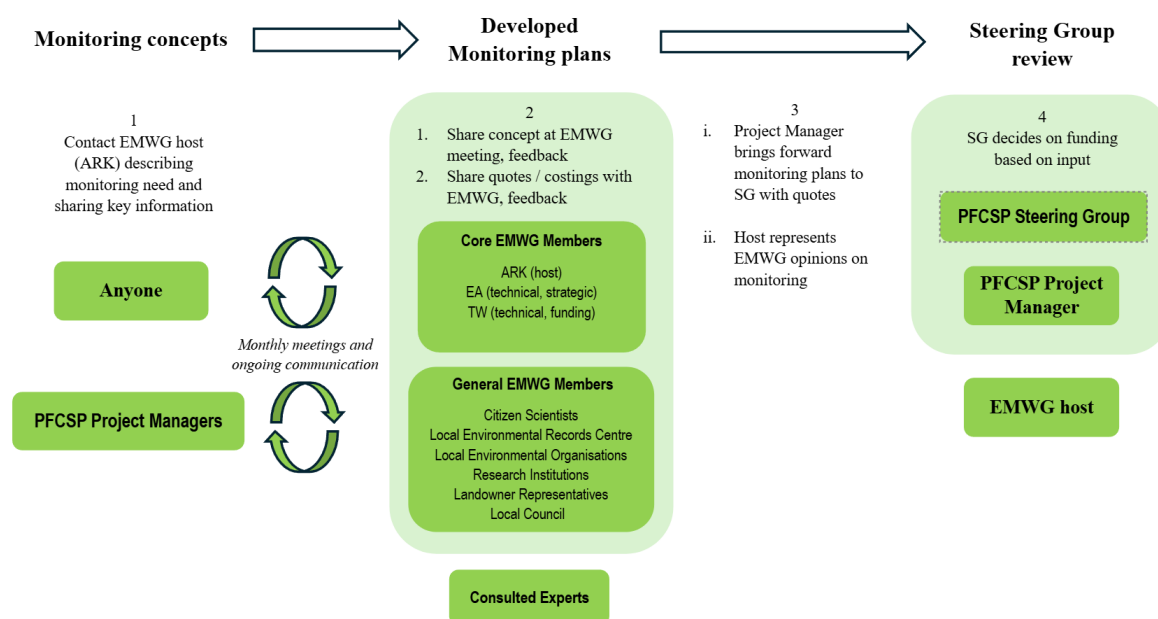


Fig. 4 – A flow diagram of how the EMWG operates to support and develop monitoring for funding by the PFCSP. Relevant parties are represented by dark green bubbles and sit within light green bubbles where they attend the EMWG and Steering Group meetings respectively. Cyclical arrows represent the sharing of information, feedback and review, while linear arrows show progression for any initial monitoring concepts to well-developed monitoring plans and funded action.

2. Conversely, where the EMWG identifies monitoring gaps in delivery projects under development by other WGs, the EMWG host can attend other WG meetings, liaise with other WG hosts directly or suggest other partners to support the group by flagging where relevant evidence already exists or where further monitoring may support works. Identifying opportunities in other WGs is facilitated by the active representation of EMWG core members in these WGs.

Themes & Sub-themes

The EMWG has collated Environmental Monitoring projects into high level themes and sub-themes below for ease of communication. These 4 themes are: Water Quality, Ecology, Physical Habitat Restoration, and Hydrology.

Usually, EMWG meetings will target a specific theme to ensure a shared understanding of topics between attendees. The PFCSP's public website will communicate more detailed and up to date information on themes and sub-themes and be refreshed at least annually by the EMWG host.

The EMWG have identified research questions following from these themes which will be prioritised in partnership in 2026. The EMWG will reassess and update research questions based on findings every 18 months.

Glossary

PFCSP: Pang Flagship Chalk Stream Partnership. Also referred to as 'the partnership'.

EMWG: Environmental Monitoring Working Group

WG: Working Group

River Pang & Sulham Brook: The two target catchments for the PFCSP, also referred to as 'the catchment' or 'the Pang and Sulham catchments'

ARK: Action for the River Kennet, the Rivers Trust for the Kennet and Pang catchments.

EA: Environment Agency

TW: Thames Water

CaBA: [Catchment Based Approach](#)

CaSTCo: [Catchment Systems Thinking Cooperative](#)



Working in partnership

Action for the River Kennet (ARK)
Berkshire, Buckinghamshire and Oxfordshire Wildlife Trust
Environment Agency
Lower Pang and Kennet Farm Cluster
Natural England
Tidmarsh Flyfishing Syndicate

Pang Valley Flood Forum
Ridgeway Farm Cluster
Sulham Estate
Thames Water
The Englefield Estate
Barn Elms Fishery

Upper Pang Valley Farm Cluster
West Berkshire Council
Yattendon Estate
Mend the Gap
North Wessex Downs National Landscape
West Berkshire Countryside Society