WATER IN THE PARK

SUMMARY REPORT

A report detailing the key challenges, gaps and opportunities identified following a review of evidence and partnership working across six CaBA Catchment Partnerships that span the South Downs National Park.

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May 2025

Acknowledgments

We would like to thank all the partnership hosts, partners, catchment officers and EA catchment co-ordinators who gave up their time voluntarily to contribute towards this project and our understanding of the value, benefits and challenges faced by partnerships operating across the South Downs National Park.

We would also like to thank Cath Jackson from the South Downs National Park Authority whose passion for working collaboratively to improve nature and the water environment across the park ultimately led to the delivery of this piece of work.

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Executive Summary

At a national scale, undertaking a catchment-based approach to restoration, enhancement, and resilience within the water environment is supported in government policy and is highlighted as a key process within Protected Landscape Partnership Management Plan guidance. The South Downs National Park recognises the importance of the catchment-based approach within it's Climate Action Adaptation Plan and is currently undertaking a review of its Partnership Management Plan within which water is seen as a key issue, underpinning the requirements for sustainable nature recovery.

At it's core, the catchment-based approach embeds collaborative working at a river catchment scale, aiming to deliver a range of environmental, social, and economic benefits and protecting precious water dependant environments. The mechanism for this collaboration is Catchment Partnerships.

The South Downs National Park spans six Catchment Partnerships across three counties, accounts for 25% of the total land area and includes parts of nine major rivers. These Partnerships are hosted, or co-hosted, by e-NGOs who universally recognise the benefits that Partnerships have the potential to deliver whilst acknowledging a diverse array of constraints to their success. Alongside the hosts, a total of 83 organisations are represented across the Partnerships, including statutory bodies, regulators, e-NGOs, water companies and academic institutions, with 20 of these actively engaged across multiple areas. Whilst, combined, 89% of these partners believe their Partnership is working effectively all host organisations felt that there was greater potential to achieve their full aspirations and the needs of the catchments.

Each partnership receives £15,000 per annum in Defra funding via CaBA, however, this has remained static since 2011, equating to £8,751 in 2025. All hosts indicated that it was not enough to cover the costs of running or developing their partnership effectively and that additional income to support this was complex to achieve (Catchment Partnerships not being constituted entities) and varied by interest in, and characteristics of individual areas.

Commissioned by the South Downs National Park, this report, and the accompanying appendices and infographics identify the key challenges, gaps, and opportunities to build upon the achievement and success of Catchment Partnerships to date, emphasising the importance of evidence and capacity for effective project delivery. This report also highlights the state of the water environment across the Park, and wider catchment areas, and the existing collaborative approaches to improve water quality and manage natural resources.

Contextual data relating to water quality, quantity, and monitoring were assessed alongside qualitative data collected from interviews with Partnership hosts and questionnaire responses from a diverse range of partners. Gap analysis was conducted, identifying limitations in monitoring and project delivery, and what barriers exist, or are perceived, within partnerships that hinder effectiveness, growth, and delivery of partnership goals.

Analysis of this data shows there are a wide range of pressures on the water environment, including sewage, chemicals, modifications, sediment, and pressures on water resources resulting in 90% of river and lake waterbodies, 75% of transitional and coastal waterbodies and 55% of groundwaters failing to achieve good ecological status under WFD across the area. However, analysis of both contextual and qualitative data highlighted 214 projects that have been completed since Catchment Partnerships were formed in 201 and it is likely there are many more which have not been captured. Many of these projects are providing multiple benefits and, to date, have seen action taken across 147 surface waterbodies.

Through responses to questionnaires it has been possible to understand the data requirements of Partners and assess these against monitoring programmes currently underway. This has identified gaps in data collection but also highlights that gaps exist in knowledge and awareness amongst partners of data what is available. There is considerable effort in establishing and maintaining Citizen Science approaches to data collection which now accounts for over half of all monitoring points across the six Catchments.

A common theme across all Partnerships was the need for additional, long-term, sustainable funding, supporting the resources required to co-ordinate and deliver collaborative approaches to nature recovery, climate adaptation, and healthy rivers. Those organisations represented bring a wealth of experience and knowledge and show high levels of motivation and passion to deliver improvements, contributing over £145k of in-kind support per annum across the combined area. Whilst funding was the most prevalent of constraints, this analysis has also revealed that support in creating plans and strategies, analysis of data, and cross Park collaborations could also assist in achieving partnership goals.

It is clear that the six Catchment Partnerships across the South Downs National Park have much in common, a great deal of learning to share, and some inspiring examples of catchment projects. It has not been the remit of this work to make individual recommendations but we highlight where opportunities for further discussion would most likely deliver additional benefit to the mutual aims of all six Partnerships.

Contents

Background

The South Downs National Park Authority is in the process of preparing for a review of its Partnership Management Plan. Water is a key issue within the Park, particularly because it underpins, and is a key element within, nature recovery. The catchment-based approach is supported in government policy, recognised as a key process within Protected Landscape Partnership Management Plan guidance, and identified as an important action within the SDNPA's Climate Action Adaptation Plan.

Having listened to partners and learned from the Authority's experiences, some key issues have been identified which prevent delivery within catchment partnerships; primarily a lack of evidence and capacity.

- Evidence. To create costed and deliverable projects granular evidence is required about what actions need to be undertaken where.
- Capacity is required to build community involvement, identify and work with landowners, and design costed deliverable projects.

Both evidence and capacity are required before projects can be finalised and delivered.

To begin to address this, the Authority commissioned an evidence based summary of water issues in the Park, alongside a practical high level analysis of catchment partnerships across the Park to identify where plans are in place and where resources are required.

This report summarises the results of this work, with a focus on cross-park challenges, gaps and opportunities.

The Catchment Based Approach

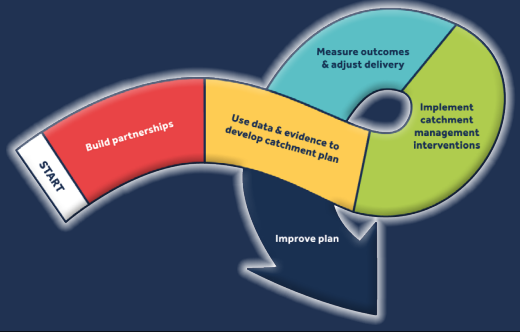
The Catchment Based Approach (CaBA) embeds collaborative working, through Catchment Partnerships, at a river catchment scale, delivering a range of environmental, social and economic benefits and protecting our precious water environments for the benefit of us all.

The CaBA partnerships each undertake integrated management of land and water, addressing each river catchment as a whole and delivering crosscutting practical interventions on the ground. These result in multiple benefits including improvements to water quality, enhanced biodiversity, reduced flood risk, resilience to climate change, more resource efficient and sustainable businesses and, health and wellbeing benefits for local communities as they engage with and take ownership of their local river environment.

In the UK this is championed by the Catchment Based Approach (CaBA).

"...an inclusive, civil society-led initiative that works in partnership with Government, Local Authorities, Water Companies, businesses and more, to maximise the natural value of our environment. The Catchment Based Approach (CaBA) embeds collaborative working at a river catchment scale, delivering a range of environmental, social and economic benefits and protecting our precious water environments for the benefit of us all"

The first pilot CaBA Catchment Partnerships, which included the Adur & Ouse and the Wey Landscape Partnership, situated in the South Downs National Park, were formed in 2011 with the aim of increasing river health at scale, and in partnership. There are now over 100 across England.



Background

The Area

The South Downs National Park spans six Catchment Partnerships (Figure 1), that cover areas of Hampshire, East and West Sussex and Surrey.

Using the Catchment Based Approach, we included the entire catchment area for each partnership, regardless of the extent of coverage within the SDNP. The area of focus covered 6500km^2 (25% of which is within the SDNP), encompassing nine major rivers and a total of 11,000km of watercourse, and 234 distinct waterbody areas.

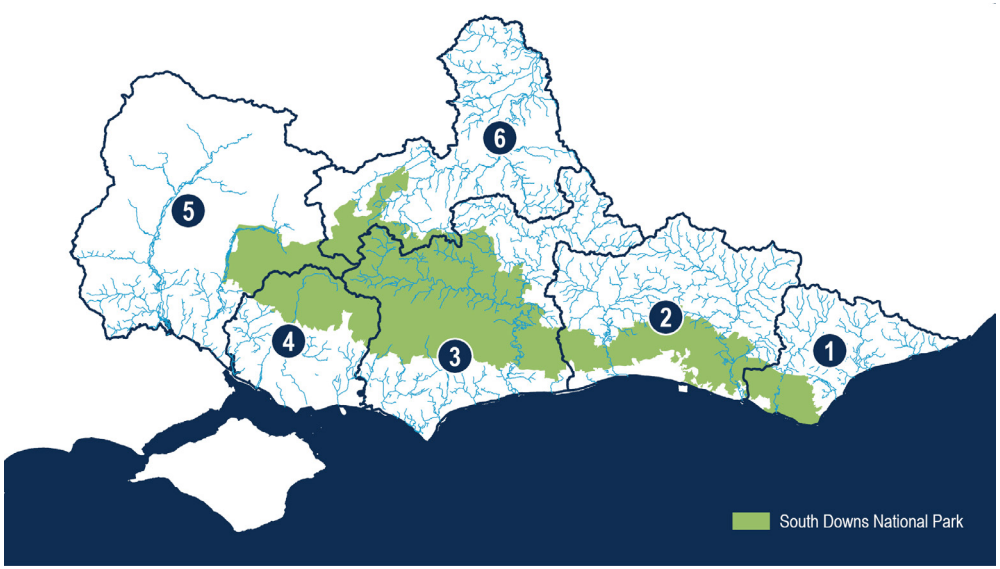


Figure 1: Map showing the location of the six catchment partnership boundaries and South Downs National Park

Key	Partnership	Host Organisation(s)
1	Cuckmere & Pevensey Levels	South East Rivers Trust
2	Adur & Ouse	Ouse & Adur Rivers Trust
3	Arun & Western Streams	Western Sussex Rivers Trust
4	East Hampshire	Groundwork South
5	Test & Itchen	Wessex Rivers Trust & Hampshire & Isle of Wight Wildlife Trust
6	Wey Landscape	South East Rivers Trust & Surrey Wildife Trust

Scope of Work

The project was focused on two main strands:

1. Collating and summarising contextual data on the state of the water environment in all the catchments across the SDNP including:
   - Water availability and quality
   - What features/factors are protecting and putting pressure on it?
   - What is being monitored, how, and where?
   - What projects have been delivered and where?
   - What limitations are there in the data, what don't we know?
2. Collating and summarising qualitative and quantitative information from Catchment Partnerships, including:
   - Current priorities/objectives
   - How effective are Partnerships in relation to delivering projects, working together, engagement, representation of stakeholders/skills and sharing visions?
   - What are the barriers to implementing plans (e.g. capacity, funding, partnership working, data limitations)?

Through the collection of this data and information, it was possible to identify gaps where additional support or adaption could be beneficial to increase the impact of Catchment Partnerships and enable their goals to be met.

Outputs

- Individual infographics were created for five Catchment Partnerships, and a short report for one Partnership (Cuckmere & Pevensey Levels) providing standardised data summaries for their area of operation along with identified challenges, gaps, and opportunities. These were complimented by an overview infographic combining information from across all six catchments.
- Provision of data and resource packs to each Catchment Partnership, summarising and referencing the information used in the formation of the infographics.
- A presentation of the infographics and outputs from data and information gathering to Catchment Hosts and other key stakeholders across the South Downs National Park.
- A short report summarising the methodology, key findings, gaps and opportunities for across the park.

What we've done

Our assessment used qualitative and quantitative evidence to capture and analyse information about the partnerships and the water environment in which they work. The information collected was grouped into the following five themes:

- **Who are the partnerships?**
- **Where do they work?**
- **What are their challenges?**
- **What is being done?**
- **What are the gaps?**

Qualitative Research

Interviews

Semi-structured interviews were conducted with all partnership hosts and some of the Environment Agency (EA) Catchment Coordinators between December 2024 and March 2025, in order to gain insight into how the partnerships are being structured and administered, what their successes and challenges are, which data hosts and partners are using to make decisions for catchment improvements, and thoughts on how their Partnership could be improved and developed.

Partner Questionnaire

An anonymised online questionnaire was prepared and sent to participants of the six Partnerships including the hosts, partners and EA catchment coordinators. The questionnaire included a mixture of open-ended and closed-ended questions designed to capture information and opinions regarding the following main themes;

- **About the partner** (their organisation type, where they work, their role in the partnership and time given to partnership activities
- **Partner priorities and projects** (organisational priorities, projects and alignment with partnership priorities)
- **Data & Evidence** (what data they use, need and share with other partners)
- **The Partnership** (views on its effectiveness , value to the partner, if barriers exist and if the structure is suitable for catchment-scale delivery of projects/initiatives)

Partners were given 3 weeks to respond to the questionnaire and a total of 37 responded, which represented 45% of partners across the six partnerships (see Appendix B).

Quantitative Research

Spatial data

We utilised a range of open source datasets to assess the current state, pressures and actions being undertaken across the study area. This included but is not limited to:

- **Catchment Data Explorer** (WFD status, pressures and trends)
- **Environment Agency monitoring data** (water quality, and fish and ecology)
- **Citizen Science monitoring data** (AGOL, Cartographer and stand-alone portals)
- **Habitats** (land cover, priority habitats and protected sites)
- **CaBA hosted datasets** (consented discharges, storm overflows, abstraction licenses)

Literature Review

We also reviewed evidence from literature retrieved from online searches that included topics relating to water quality, water resources, ecology, catchment planning, river and habitat restoration, and monitoring. Each search was undertaken at both a management catchment and waterbody scale. Key reports and management plans included but are not limited to:

- **Catchment Partnership Management Plans**
- **Catchment Abstraction Licensing Strategies**
- **Water Resource and Drainage and Waste Water Management Plans**
- **Strategic Flood Risk Assessmnts and Water Cycle Studies**

Projects

Data on projects that have been or are currently being delivered across the study area were retrieved from online searches, information provided in the partner questionnaire and feedback from the partnership host. Each project was assigned to one or more surface waterbody catchment or listed as catchment wide and were categorised based on their primary objective(s) (e.g. NFM, river restoration, engagement).

Gap-Analysis

We used the data gathered to assess:

- **Where spatial and topical gaps exist in monitoring and project delivery**
- **What data is used by partners against what is available**
- **What the main barriers are to Partnership working**

The Partnerships

Partnership Hosts

All six Partnerships are hosted by e-NGOs, including the Rivers Trust (5 catchments), the Wildlife Trusts (2 catchments) and Groundwork South (one catchment). Two Partnerships (Wey Landscape Partnership and Test & Itchen Catchment Partnership) are co-hosted by local Rivers Trusts and Wildlife Trusts in both instances, the hosts felt that this brought broader expertise and helped share resourcing when there is limited funds.

Host organisations reported that the role brought benefits to their individual organisations through raising their profile, developing relationships with a broader range of partners, and broadening knowledge of catchment issues. However, there was general agreement from all hosts that a lack of funding and resources to support the development of Catchment Partnerships was limiting their ability to maximise the impact they were able to achieve.

Environment Agency Catchment co-ordinators

All Partnerships have an assigned Catchment Coordinator from the Environment Agency (EA), although the majority of these cover more than one catchment, to support Partnership work, help develop projects and ensure the princpals of CaBA are maintained. Hosts and Catchment Coordinators both reported different levels of engagement, activity and collaboration, some of which was resource driven from internal pressures within the EA. All recognised the benefits of the Catchment Coordinator role and highlighted that efforts were being made to maximise these relationships.

TOP FIVE PARTNERSHIP PRIORITIES

Five of the Partnerships have an active Catchment Management Plan (CMP) in place, with the sixth (Cuckmere & Pevensey Levels) currently in development. Analysis of these existing CMPs highlight similarities in priorities across individual operating areas, the top five of these being:

1. **Improving water quality**
2. **Sustainable water management**
3. **Natural Flood Management**
4. **Protecting / enhancing habitats**
5. **Public/Community Engagement**

Structure

Each Partnership has a slightly different structure with all convening meetings at least four times per year. Presence at meetings varies across Partnerships depending upon their structure, and whilst most have an identified steering group to assist in guiding direction, these vary between just the hosts and Catchment Coordinator to those consisting of identified primary stakeholders. For example, the Adur & Ouse Catchment Partnership convenes a steering committee of 12 organisations each quarter with a range of other workshops, meetings and consultations open to all partners held throughout the year, whereas the Arun & Western Streams Partnership convenes meetings four times a year open to all Partners.

The Wey Landscape Partnership has a wider membership of 180 locals, community groups and others who meet once per year to hear about partnership work whilst East Hants Catchment Partnership has strong links with local (community-based, non-sector) experts contributing to catchment planning and knowledge.

Catchment Officers

Four of the Partnerships (Adur & Ouse, Arun & Western Streams, Wey Landscape and Cuckmere & Pevensey Levels, have a dedicated catchment officer (employed by host organisations), although these vary in their FTE, with only one being a full-time role. There was recognition from both the Hosts and partners that limited resources within the structure of the Partnerships was a constraint to their impact.

Sub-groups

All Partnerships convene working groups to progress specific topics, projects or priorities (including topical subgroups, Task & Finish Groups, and river or area based groups). These groups often work outside of the main Catchment Partnership, are chaired by partners other than the host, and are dynamic in their structure and longevity.

The Partners

A total of 83 organisations are represented across the Partnerships, 20 of which are actively involved across multiple areas. **Regulators, statutory bodies and water companies were present on all partnerships,** although their input and engagement varied according to specific characteristics of the catchment. For example, catchments with a high number of designated sites, or where water company abstraction points were potentially having detrimental impact, see higher level of engagement from some stakeholders than those catchments where these pressures are considered less relevant.

89%
of partners agreed that their partnership was working effectively

Of the 37 partners who answered the questionnaire, 45% of them indicated that they are working at the catchment scale, showing alignment with the CaBA.

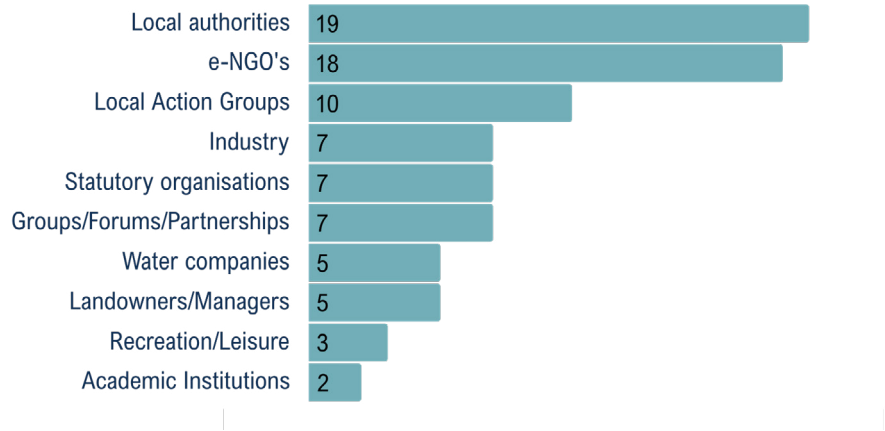


Figure 2: Chart showing the number of partner organisations by type that are represented across the six partnerships.

All Partnerships recognised gaps in stakeholder representation which should be addressed, the most prevalent of these being landowner/manager representation (53% of repondents to questionnaire). However, it was also widely recognised that this is a difficult sector to find representation across the broad span of agricultural activity within and across catchments (e.g. no individual group exists which represents all land management activities). Where landowner representation was present this was through individuals or lead organisations for catchment based cluster farms.

There was also a desire to see increased presence from recreation and leisure, local action groups and water companies (36% of respondents), and academia and local/district authorities (28% of respondents).

Of those partners that responded to the questionnaire, 89% felt the partnerships were working effectively. Respondents also highlighted a high degree of support for their Partnership(s) and their hosts, and agreed there is alignment between their organisation and the objectives of the Catchment Based Approach, with 'Surface and Groundwater Quality', river and floodplain restoration, collecting evidence and data, and water resources (including flooding, drought and NFM approaches) being of highest priority for partners. Coastal habitat restoration and species introduction were considered the least relevant to their priorities

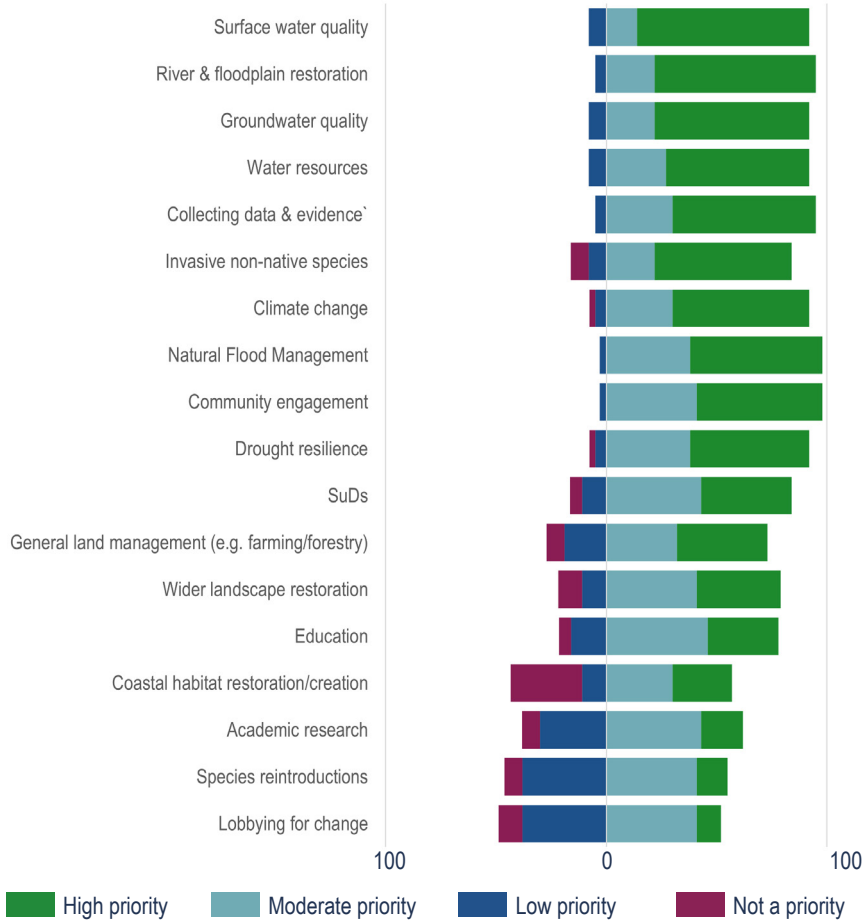


Figure 3 Chart showing the % of partners prioritising catchment-based issues

The Partnerships

The benefits of partnership working

Partners were asked if they felt the partnership had increased or decreased value on a range different subjects including project delivery and collaborative working. Responses highlighted that organisations felt Catchment Partnerships provided access to a wider range of knowledge and expertise, opportunities for funding and support in project development and delivery, and working collaboratively on catchment based issues, with **86% indicating their organisation is willing to collaborate and co-create projects**.

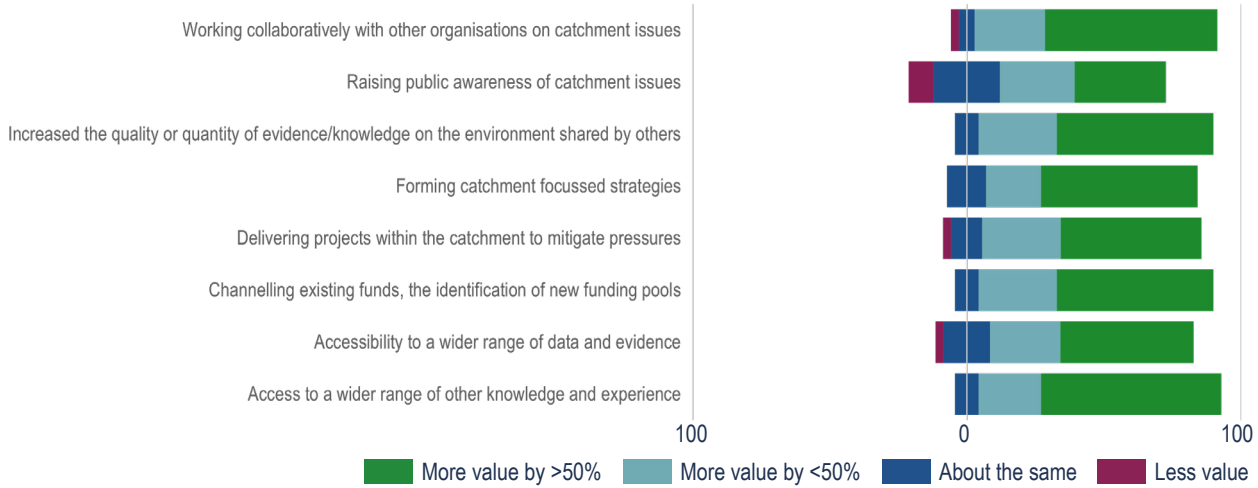


Figure 3 Chart showing the amount of value, or otherwise partners felt the partnership gave to them and/or their organisation.

> "As an organisation it has given us a greater insight into bigger catchment issues and the thinkings and priorities of other organisations."

> "I really like the fact that the partnership gives every hands on resident/volunteer the opportunity and access to speak with experts. That is a very special convening power."

Funding

All Partnerships receive the CaBA funding of £15k to run and develop the partnership.

This equates to an average of £16 per km² of catchment area across the park.

However, this funding has been static since their formation in 2011 and therefore, accounting for inflation across the same time period, represents a payment equivalent of £8,751 per annum in 2025. **All hosts indicated that it was not enough to cover the costs of running or developing their partnership effectively.**

Three Partnerships receive additional funding from water companies where their catchment priorities have strong alignment. This funding and additional water company resources focused on driving forward catchment delivery is considered to be of major importance to the impact of those Partnerhips. One Partnership (Adur & Ouse) has received support from the South Downs National Park for the initial recruitment of their catchment officer, however this is a one off payment and the long term future of this role is uncertain.

It has been difficult to ascertain levels of funding for project delivery outside of these core stakeholders, however there are examples of Catchment Partnership delivery of projects through other mechanisms such as the Watercress and Winterbournes project hosted by the Test & Itchen Partnership and primarily funded through the National Lottery Heritage Fund.

In-kind contributions

We calculated that **partners contribute more than £145k of in-kind support to the Partnerships for partner meetings alone**. That means that across the area for every £1 of the CaBA funding an additional £1.61 of in-kind match funding is received.

In addition, partners spend time on general Partnership administration (answering emails, reading missives, answering consultations), subgroup work, and travel time to attend meetings. Therefore the true value of in-kind support, which often extends beyond Partner time, isn't quantifiable and neither is the value of expertise and experience partners add to the outputs of the Partnerships.

Where they work

The partnerships work across diverse catchments that share similarities in landscape character, habitats, and rivers.

Agriculture is the main land use across catchments, covering 62% of the combined area. The sector both relies on, and influences, the provision of clean and plentiful water and is, therefore, a key stakeholder in catchment planning. Over **one third of land is under environmental stewardship** and **15 farm cluster groups** are working to make environmental improvements across the parks catchments.

Woodland is the second most extensive land use covering approximately 20% of land, with the Wey, and Arun and Western Streams catchments having the highest coverage (23% and 29% respectively). Over half (59%) of the catchments woodlands and 25% of woodland located in the floodplain are under sustainable management.

Whilst the majority of catchments are largely rural, **urban conurbations cover 14%** of the combined area, with East Hampshire and the Wey catchments having the highest cover of developed land (27% and 19% respectively). Like agriculture, urban areas rely on and influence the water environment, with drainage runoff, misconnections and modifications all having an impact.

Forty percent of the area is protected by landscape designations that are recognised for their natural beauty and/or distinctive character. This includes the South Downs National Park and four Areas of Oustanding Natural Beauty.

A total of **1500km² of land is designated** as being locally, nationally or internationally important for nature conservation and/or contains habitats of principle importance that require conservation.

This land drains into a diverse water environment of approximately **11,000km of watercourse** across the six catchments including nine major rivers (Cuckmere, Sussex Ouse, Adur, Arun, Western Rother, Meon, Itchen, Test, and the Wey), shorter coastal rivers and rifes, Wealden ghyll streams, modified tidal rivers and internationally important chalk streams.

Chalk rivers, streams and rivulets account for approximately 700km (6%) of watercourse length and are a feature within all catchments. However, many are under varying degrees of pressure from abstraction, modification, urbanisation and water quality and whilst some are protected (The Test & Itchen), and 36 included in recent Chalk Stream strategies, **many are less well known or located in short sections of sub-catchment headstreams, remaining undesignated and at increased risk of deterioration.**

Alongside the rivers and streams there are **over 1000 lakes**, **126 priority ponds,** and **nine internationally important wetlands** designated as Ramsar sites with the highest concentration to the west of the area. These areas contain our rarest and most unique wetland types including peatland, marshes, wet meadows, former gravel pits and intertidal habitats.

There are **two major aquifers** in the South Downs National Park (the chalk and greensand) which serve many of the areas rivers and wetlands as well as **providing drinking water to over 1.2million people**.

Five of the six catchments drain directly to the English Channel and account for 400km of coastline which is highly valued economically as both a tourist destination and industrially through its ports and harbours. Approximately **45% of the coastline is managed/maintained for coastal/ flood defence** and one of the primary threats to our intertidal habitats in the face of climate change.

The Solent supports **117 marine species of conservation importance** and **four Marine Conservation Zones** are situated adjacent to the coastline which are designated to safeguard nationally important, rare, or threatened habitats and species within the UK's territorial and offshore waters. The marine environment also plays a critical role as a migration route to rivers for species such as sea trout, Atlantic salmon, and eels.

Linking the freshwater rivers to the marine environment, the intertidal harbours and estuaries contain **50km² of mudflat, 7.8km² of saltmarsh, and 3.6km² of seagrass**. These areas are all biodiversity hotspots which also provide additional protection against localised flood risk.

21% of land covered by **Priority Habitats**

446 km² of **Statutory Protected Sites**

4 **AONB's**

7 **Protected Rivers/Canals**

700 km of **Chalk Streams**

9 **RAMSAR Wetlands**

2 **Principle Aquifers**

400 km of **Coastline**

What are their challenges?

In this section we consider the evidence of shared challenges which face the six Catchment Partnerships. We also touch upon other data which were analysed where there may not be commonality between the six Catchment Partnerships, but could be a focus for efforts for specific Partnerships. Where possible we have listed partnership relevancy, however, the accompanying data package and Appendices can be used to develop and infer more.

Water Framework Directive (WFD) Status

There are 234 waterbodies across the six catchments that are assessed under the Water Framework Directive, including 169 rivers, 20 lakes, 16 Transitional & Coastal waters (TRaC), and 29 groundwater bodies.

90% of rivers & lakes

75% of TRaC waterbodies

55% of groundwaters

are failing to achieve good status under the WFD assessment

WFD data also shows that there has been an overall decline in cross park ecological status of Rivers and Lakes between 2014 and 2022, with an increase in waterbodies rated 'Bad' and 'Poor', and decrease in those achieving 'Moderate' or 'Good'.

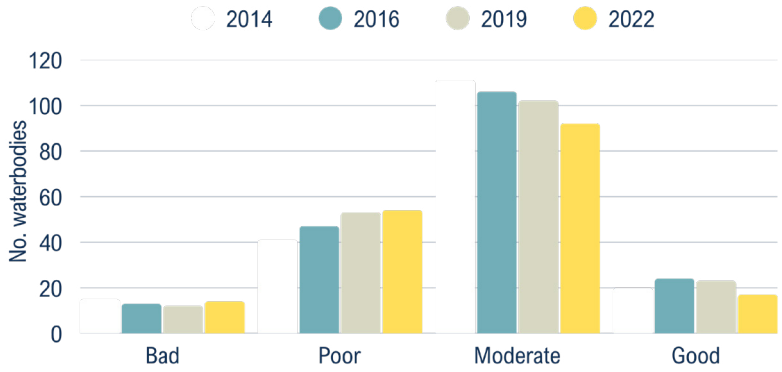
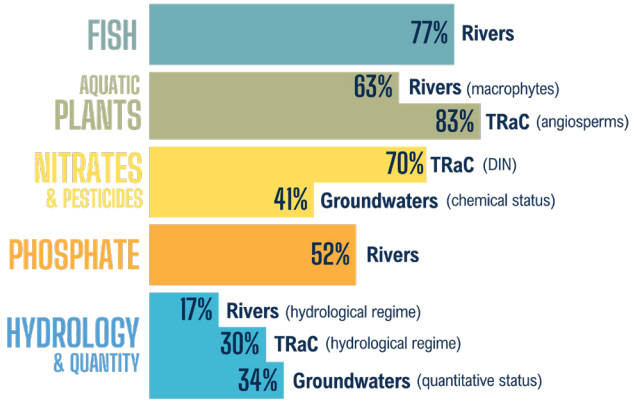


Figure 4 Chart showing the number of rivers and lakes meeting each WFD status over time.

However, these failings are not even across the area. Four of the Catchments have waterbodies at Good Ecological Status (GES), with the Test & Itchen having the highest proportion (31%), whilst two of the catchments (Adur & Ouse, Cuckmere & Pevensey Levels) have no river or lake waterbodies reaching the required GES.

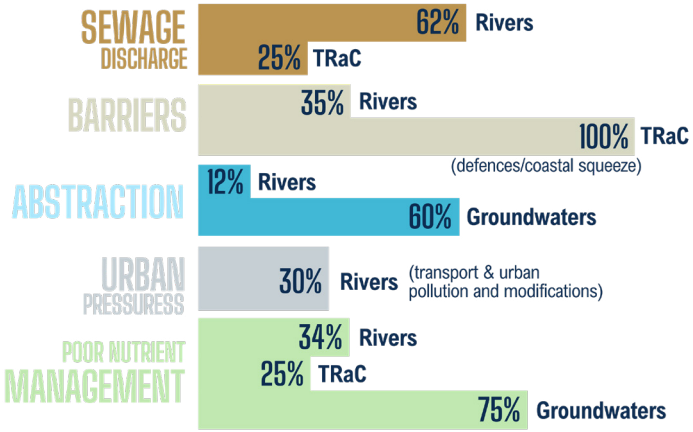
WFD Top 5 failures

We looked what elements were driving waterbodies to fail under WFD. The top 5 included:



WFD Top 5 causes of failure

Data relating to the causes of WFD failures based on investigations and judgement by the Environment Agency was also assessed and ranked. The Top 5 causes included:



WFD Chemical Status

Currently all waterbodies in the UK are failing WFD for chemical elements, largely due to changes in the monitoring and there now four groups of global pollutants (uPBTs) causing these failures, the introduction of these chemicals make comparisons of data with previous years impossible.

What are their challenges?

Going beyond WFD

Whilst data related to WFD monitoring forms a major part of the information used by partners the analysis undertaken has shown that, across the catchments, **52% of waterbodies had been monitored less than the required amount in 2024**. Therefore additional data and evidence has been analysed alongside WFD data to provide a clearer picture of the state of water across those catchments interacting with the South Downs National Park. The key data assessed is summarised below with a full list shown in Appendix A**.**

Modifications and barriers

Analysis of the Amber Barrier Atlas, River Obstacles data and investigations into barriers present in the Wey and Test and Itchen catchments revealed that approximately 2500 river obstacles are present along watercourses across the park. These can inhibit migratory routes for protected species including Sea Trout (Salmo trutta), Atlantic Salmon (Salmo salar), and European eel (Anguilla anguilla). All fish species migrate to a certain degree throughout their life stages and it is likely that these barriers prevent natural dispersal across a wider range of species than those considered flagship to the river systems. In addition, these barriers impact the natural flow and function of the river and increase the risk of eutrophication through reductions in dissolved oxygen.

Invasive non-native species

Non-native invasive species (INNS) pose a signifiant threat the water environment by outcompeting native plants, increasing flood risk by both destabilising river banks and impeding flow, and can damage important infrastructure. Data from NBN gateway and Catchment Management Plans showed that INNS were widely distributed across all catchments and species including signal crayfish, floating pennywort and topmouth gudgeon were contributing to some rivers not meeting the required WFD status in all catchments other than East Hampshire.

Environment Agency Event Duration Monitoring data

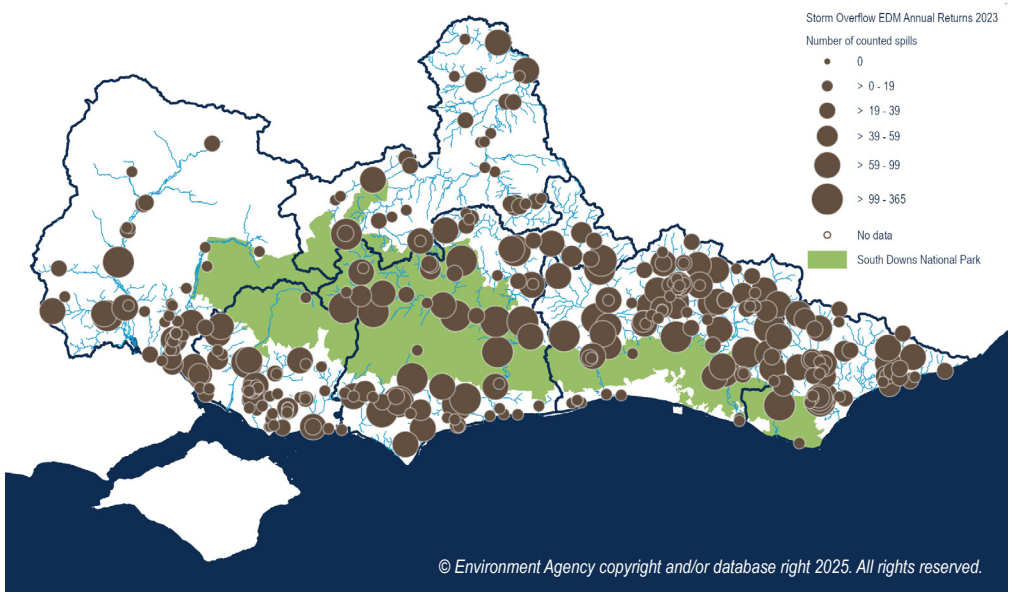


Figure 5 Map showing counted spills from Combined Storm Overflows in 2023

We assessed Event Duration Monitoring (EDM) data between 2021 to 2023. This revealed over 400 Storm overflows across the area, of which **341 spilled for a total of 169,000 hours in 2023** which equates to over 7000 days. However, this data does not provide information on discharge volume and, as such, it is not possible to assess the true impact of these discharges from the available data.

What are their challenges?

Environment Agency Licensed Discharge points

A total of nearly 6000 licensed discharge locations were identified, of which the greatest proportion discharge into rivers 55% (3200), followed by into land / infiltration systems 2100 (35%). A total of 4926 of these are associated with sewage, with the largest proportion relating to non-water company operations (82% of sewage discharge points). The remaining discharge points are primarily related to Trade/Industry and agriculture.

Environment Agency Category 1 & 2 Pollution Incidents

The Environment Agency records four levels of pollution incidents, assessed and categorised according to the persistence (time), extent (area affected), and seriousness of impact. This assessment considers the effects of pollution on aquatic life, ecology, fisheries, human health, drinking water abstraction, and amenity. Category 1 Pollution incidents have a major impact on the environment, people or property. Category 2 have a significant but lesser impact, and Category 3 & 4 are considered to have a minimal impact.

Data of all cross park catchment pollution incidents were assessed from 2011 to 2024, and revealed a total of 191 incidents with an average of 14 per year. The pollutant type associated with these incidents is recorded and indicated that, across the whole time period the majority of incidents attributed to sewage (all sources) (30%), oils and fuels (23%) and agriculture (9%).

Chemicals

There are an increasing number of other chemicals of concern being focused on across the water environment including “forever chemicals” and pharamaceuticals. Little information is available on the broad spectrum of these pollutants, however, some action is being taken and research conducted to understand their distribution and abundance across the area.

The Rivers Trust led ‘Chemical Cocktail Campaign’ tested a number of rivers and their research showed that “77% of English river sites where PFAS were found would fail proposed new EU safety standards for surface water”. Their data also showed that chemicals proven harmful to wildlife have been found across 55 rivers and lakes and 34 groundwater sites across the six catchment areas.

A 2024 study which looked at presence of pharmaceutical pollution in UK National Parks sampled sites in SDNP on the Western River Rother, River Arun, River Ouse and River Cuckmere. Active Pharmaceutical Ingredients (APIs) were noted in all National Parks. All the SDNP rivers showed high levels of Metformin (a type 2 Diabetes drug the presence of which on the River Ouse was higher than any other samples from all National Parks in England), antihistamines including Fexofenadine and Cetirizine, along with Caffeine and a range of other APIs. These substances pose a serious threat to fish and aquatic health, with some leading to morphological changes, increased stress levels and changes in population dynamics.

On the River Wey the South East Rivers Trust tested for 35 chemicals and found that 62% were present, whilst chemical testing on the chalk rivers of the Test & Itchen catchment found 231 chemical pollutants present including pharmaceuticals, plant protection products and industrial chemicals.

Turbidity

Water Resource Management Plans from water companies were used to identify waterbodies at risk of turbidity, indicating high levels of suspended sediment. This focused on the rivers used for water supply including the River Ouse, River Cuckmere, River Itchen, River Arun, Western Rother, River Wey, and River Tillingbourne. This highlighted that 29% (River Ouse, River Wey) were prone to turbidity. Interestingly, despite being considered the most erodible catchment in England, the Western Rother, located in the Arun & Western Streams catchment, was not highlighted in these data.

What are their challenges?

Water Quantity

Continuous river flow data is important for catchment-based planning as it aids understanding of the availability and distribution of water resources and how these are influenced by natural and human activities. However, across the six catchments **there are 56 river flow gauging stations** based on the National Flow Monitoring Archive (Figure 6). These are located across 45 river catchments which accounts for just 27% of all river waterbodies across the parks catchments.

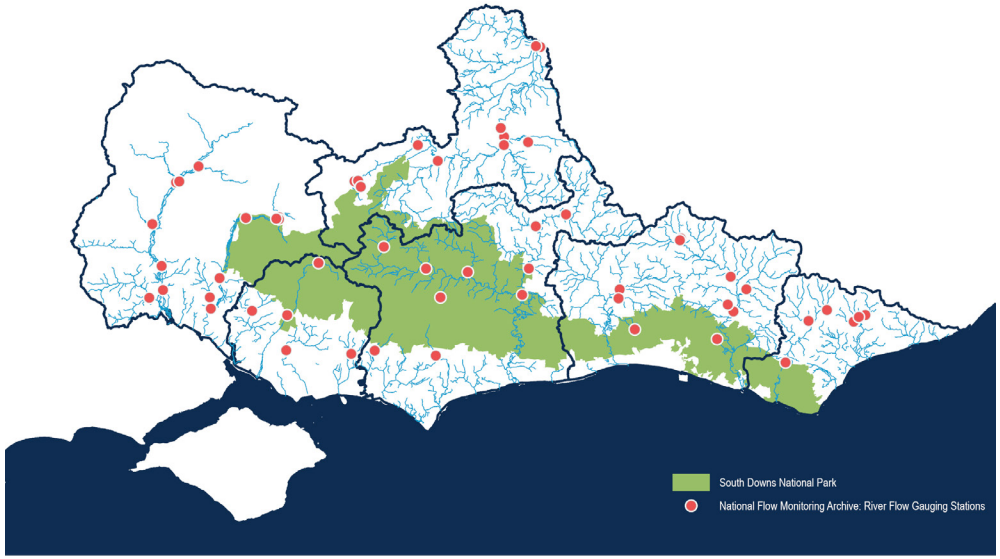


Figure 6 Map showing the distribution of river flow gauging stations across the six catchments based on data obtained from the National Flow Archive (2025).

Water Scarcity

Increase water demand from a growing population and changing work patterns following the Covid-19 pandemic, combined with the reliance on the aquifer for supply, and with changing rainfall patterns means the **South East of England is one of the most water stressed areas of the UK**. A number of different metrics were assessed to understand the extent of water availability, usage and loss.

Water Usage

The average water usage per household was identified through Water Company Water Resource Management Plans. On average people across the six catchment partnerships use around **146 litres of water per day** which is slightly higher than the national average of 142 litres per day and even higher than that used elsewhere in Europe. The 25 year Environment Plan sets targets to reduce average water consumption to 140 litres per person per day, however, water companies across the area have more ambitious targets of 100 litres per day (Southern Water, South East Water, Portsmouth Water) and 110 litres per day (Thames Water) by 2040. With **estimated shortages of upto 1 billion litres per day across the region** these reductions are likely to be crucial to maintaining the balance between public supply and environmental requirements.

Water loss – leakages

Water Resource Management Plans from Southern Water, South East Water and Portsmouth Water were used to look at water leakage across the regions they cover (NB data for the Thames Water area was not available). This suggests that a**round 200 million litres of water are lost each day across the supply area,** equivalent to one Olympic sized swimming pool. Leakage reduction forms a significant part of water company investment in supply infrastructure with all those analysed targeting a minimum 50% reduction by 2050.

peope use an average of

146 litres

of water per day across the parks catchments

What are their challenges?

Water Abstraction

Catchment Abstraction Management Plans

Water available for abstraction at a waterbody level was assessed using Catchment Management Abstraction Plans (CAMs data) which outline water availability through a range of flow scenarios (Q30 high flows, Q50 moderate flow, Q70 low flow, Q95 very low flow). Looking across all catchments revealed that **50% of waterbodies did not have water available for additional abstraction during Q70** with this figure rising to 91% in Q95 flow conditions. Even in more stable flow conditions (Q50, Q30) 10% of waterbodies remain unviable for additional abstraction.

Chalk streams are under particular threat from abstraction, including 8 (22%) of the 36 named chalk streams across the parks catchments. There has been a high level of research into the potential impact on these environments from abstraction with mitigation plans and abstraction reductions forming a focal point in these areas.

Environment Agency Water Abstraction Licenses

Total licensed abstraction volumes were calculated for all abstraction points, and suggested the maximum allowable daily abstraction amount is in the region of 1,500 billion cubic meters. However, data on whether the full extent of these licensed abstractions is utilised was not available and therefore it is not possible to define an accurate level of abstraction. This analysis also highlighted that **water company (public supply) abstraction licenses account for 30% of water removed from the environment** with other sources of note being industrial, commercial and public services (30%) and agriculture (30%).

Sources of drinking water abstraction points across the six catchments were assessed, including Surface Waters, TRaC waters and groundwater. This revealed that 60% of drinking water for public supply across the area is sourced from Surface Waters (e.g. rivers, reservoirs), and 40% from groundwater sources (e.g. bore holes and aquifers).

Flooding

Flooding across the catchment areas comes from multiple sources, from fluvial and coastal to groundwater and surface water, exacerbated by their combined impact. Over 10,000 homes were identified as at risk from river flooding and, where appropriate, flood defences are managed, maintained or upgraded to ensure this risk is minimised into the future.

Assessment of areas at risk of surface water flooding was undertaken using the 1% AEP and indicates that 4% of urban environments are at risk across the combined catchments. It is not within the scope of this report to assess multiple scenarios or to understand how changes to rainfall patterns resulting from climate change will alter these figures, however it is considered likely that increasing rainfall intensity will inundate the surface water drainage systems (primarily designed to a 3% annual probability) more frequently, increasing the extent and impact of surface water flooding across the area.

Flood risk assessment also considered the 200 sewer catchments highlighted in water company Drainage and Wastewater Management Plans (DWMP) (data from Thames Water was not available) and showed that 31% of these were at moderate to high risk of flooding in a 1:50 storm event (2% AEP). The DWMP process has been designed to mitigate these issues, identifying and delivering solutions to reduce sewer flooding and CSO discharge.

Climate Change

Climate change poses a significant threat to the water environment with impacts felt through worsening floods, droughts and sea-level rise. Wetter winters and unseasonally intense rainfall events increase the frequency and extent of flood events, and can increase run-off and erosion which impacts water quality and both freshwater and coastal ecosystems. Changing rainfall patterns have implications for water supply and river ecology, particularly to vulnerable chalk streams, through adjustments to groundwater recharge. This risk is exacerbated by sea level rise and increased flooding by sea water, potentially increasing saline intrusion into the groundwater system. More chaotic weather patterns have consequences for agriculture, increasing demand for irrigation, and use of pesticides and herbicides. A warming climate increases water temperature across all water environments, impacting the viability of fish species and intensifying eutrophication.

Rising sea levels and storm surges alter coastal processes, causing a loss in intertidal habitats where landward migration is restricted by modifications and human land use.

What is being done

It was an important part of this analysis to highlight the level and variety of project delivery either completed or currently underway across the Catchments. Partnerships and their members have been making progress in mitigating the pressures on waterbodies and recognising the extent of these activities whilst identifying cross-catchment synergies, gaps, and approaches will assist in developing future plans across the South Downs National Park. This section presents the information provided by partnerships and research by the authors but does not detail every project or initiative undertaken across the area.Tables showing the projects and monitoring undertaken across the six partnerships is provided in Appendix C.

Projects & Initiatives

214

Projects identified across the six catchment partnerships

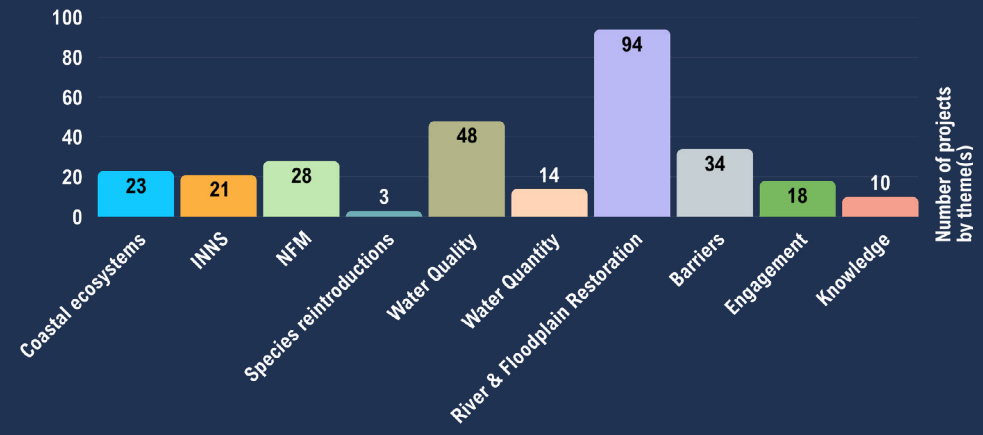
It has been difficult to define what constitutes a catchment partnership project, many of those delivered are done so by partners within the Partnerships even if they are not recognised as Partnership projects. This is unsurprising considering the limited resources available to Partnerships whilst those organisations involved highlight a willingness to work together. Therefore, in reality there are few projects which have been truly led by the Catchment Partnerships, but many which were supported, conceived, or developed within the framework of the Partnership and all deliver across their primary objectives.

In order to understand the extent of catchment delivery, a (non-exhaustive) assessment of projects delivered across the Partnerships since 2011 was undertaken. This revealed **214 projects across the area** which meet a wide range of Partnership priorities.

Many projects are delivering multiple benefits (e.g. for flooding and water quality, or river restoration and water retention), however, of the majority (95%) focussed on river / floodplain restoration (94 projects), water quality (48 projects), barriers to fish passage (34 projects) and Natural Flood Management (28 projects).

We identified **project delivery** across **147 surface waterbodies** and **88 of all projects spanned multiple sub-catchments.**

Figure 7: Chart showing the number of projects meeting different catchment-based priority themes



FLAGSHIP PROJECTS

CHALK STREAMS
COASTAL
WATER QUALITY
WATER QUANTITY
INNS
NFM
EVIDENCE
BARRIERS

CHALK STREAMS RESILIENCEPROGRAMMES TEST & ITCHEN INNS STRATEGY
THE WEY FWD DOWNS TO SEA CLEAN WATER PARTNERSHIP
RIVER INVERTEBRATE FINGERPRINTING WILDER OUSE SUSSEX BAY
WATERCRESS & WINTERBOURNES REGENERATIVE FARMING INITIATIVE
BENEFICIAL USE OF DREDGED MATERIALS WATER RECYCLING
SMART RIVERS ADUR ADAPTATION PROJECT INNS ON THE
SOLENT BIOSECURITY PLANNING LEWES WINTERBOURNE CUCKMERE
WATER CO. NITRATE & PESTICIDE REDUCTION PROGRAMMES
SUSTAINABLE ABSTRACTIONS INVESTIGATIONS CHAPRON
WATER RANGERS TILLINBOURNE TO GOOD STORM DISCHARGE
SUSSEX OUSE INNS STRATEGY CASTCO REDUCTION PROGRAMME
MORPH HAVANT THICKET RESERVOIR COCKSHUT RESTORATION

Data & Evidence

One of the key benefits highlighted by Partners through the questionnaire data was the increased quantity, quality and availability of data and evidence from across the catchments (88% of respondents). Analysis of available information from regulators and Citizen Science initiatives indicate that, since 2020, data has been collected from over 2,300 surface water monitoring points covering 114 WFD waterbodies (55% of surface waterbodies). Over half (54%) of these points were monitored through Citizen Science projects which accounts for 22% of all surface water data collection, indicating the extent and importance of these initiatives in developing understanding of catchment pressures and the mechanisms for improvement.

Data Usage

Whilst the collection of large amounts of data provides a range of tools to Partners in delivering their priorities, it is important to understand if, how and which data is utilised. From questionnaire responses the top five most used data sets were highlighted as

- **EA WFD Monitoring Data**
- **CaBA Data Package**
- **EA River Habitat Surveys**
- **Rivers Trust Sewage Map**
- **Sediment & Pollution Models**

Alongside these national sources it was clear that Partners also rely on the data collected through local citizen science initiatives in their planning with **Riverfly being the most widely used across all catchments and partners**.

Analysis of the data used against its availability revealed that, in most cases, the supply of data could be improved to meet the demand. For example, whilst **70% of partners use WFD evidence only 48% of waterbodies had the required monitoring in 2022**, similarly 43% of partners use River Habitat Survey data but only 15% of sub-catchments have been surveyed since 2020. This aligns across the citizen science data as well with 54% of partners using riverfly data whilst coverage sits currently at 21% of waterbodies surveyed since 2020. There were also no riverfly monitoring points on the Cuckmere and Pevensey Levels catchment.

Therefore, **there is a gap in the presence of up to date information** relating to that which partners currently use and this could be considered a priority in forming next steps in developing catchment initiatives.

It is also worth highlighting that there is a wide range of citizen science initiatives operating across the area. We identified a total of 21 different citizen science projects which collectively cover sampling across 114 WFD surface waterbodies. These initiatives collect data across a range of themes including water quality, invertebrates, INNS and general river observations (Figure 8). These projects are using a variety of methodologies and equipment and their maybe the potential to standardise this across the park, boosting data availability and alignment across the South Downs National Park.

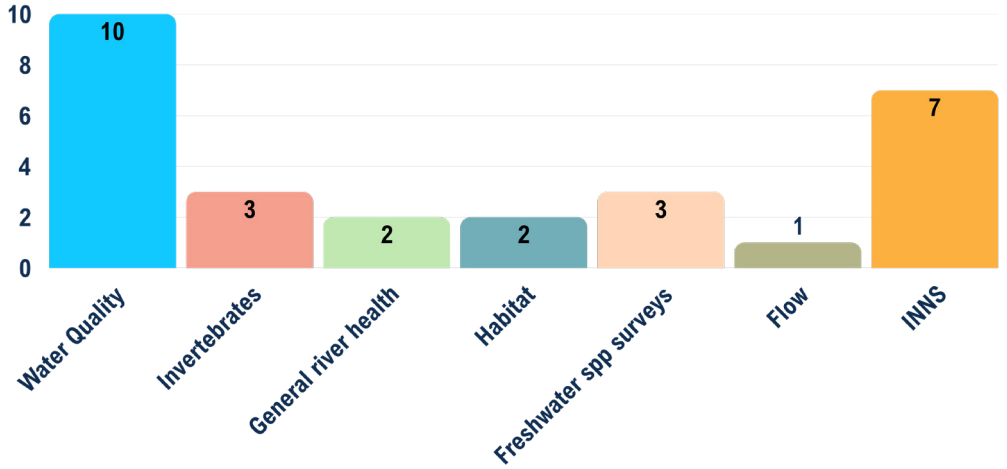


Figure 8: Chart showing the number of projects meeting different catchment-based priority themes

This is of particular relevance as responses to the questionnaire revealed **a number of citizen science (and other) data sources were available but not known about or utlised by Catchment Partners**. For example, the Angling Trust Water Quality Montioring Network has active monitoring points across all six catchments, however 15 partners were not aware of this data, and a further 4 wanted the scheme implemented in their catchment. Freshwater watch volunteers were also active across all catchments, yet 95% of partners did not utilise the data that was being collected. Whilst this may reflect the partners view on reliability of these datasets, it does highlight that there is an extensive network of volunteers engaged with their water environment and who could be harnessed by partnerships for more focussed evidence collection.

> “Just completing this survey has flagged a large number of data sources of which I wasn’t aware of”

Data analysis and partnership engagement has highlighted areas where additional support could help fill gaps, boosting catchment scale delivery across the South Downs National Park and wider catchment areas. These relate to a range of different elements including the structure and resourcing of partnership, common challenges and data usage. Below summarises these gaps, identifying differences and common areas for support between the partnerships.

Barriers To Partnership Working and Delivery

Feedback from the partner questionnaire highlighted that **over half (55%) of respondents felt that there were barriers to partnership working**, and a further 19% stated that barriers 'may' exist. In terms of what these barriers are 75% (15 responses) answered 'funding', followed by 'time / resource' at 45% (9 responses) and 'No. / diversity of partners' and 'priority alignment' 40% of responses each (8 responses).

Funding & Resources

- Hosts from five of the six partnerships stated that **funding was a major barrier to delivery**, with partnership activities having to be supported by in-kind time which is not sustainable.
- The hosts from these same partnerships also reported that they did not have enough resource to fully service the needs of their partnership, or develop plans and action for catchment delivery.
- The CaBA funding of £15k has not increased since the pilot catchments were started in 2011. Along with inflation, the financial environment is more challenging with, for example, unpredictable cost increases for materials and contractors. It was agreed across all partnerships that the CaBA funding does not cover the costs to adequately resource partnership activities, such as development and updating the CMP, maintaining websites and data, or building projects for delivery.

> "Most funding is for project implementation, not management and leadership"

- Host organisations (all environmental charities) carry the primary responsibility to drive and resource their partnerships. Whilst the two partnerships who co-host benefited from 'sharing the load', the shared CaBA funds were not sufficient to cover the time needed.
- Host organisations are often expected to develop projects and apply for funding, and as the partnership isn't an entity in its own right (i.e. they can't apply for funding as a partnership) if often falls on hosts to undertake, and project manage, this work, often in their own time.
- Host organisations differ in size, and their ability to hold and carry catchment scale projects vary. Many grant funds pay in arrears (putting pressure on cash flow), do not fund development or application time, and often fail to provide sufficient overhead recovery for the lead organisation.
- There is little development of funding sources outside of CaBA and water companies, due in part to lack of capacity to develop these strands.
- Catchments in areas where water companies have a particular business interest are benefitting from additional funding. This funding is not guaranteed and is granted with different conditions from each water company. Some hosts also reported a lack of clarity over ongoing contributions from all sources, making it more difficult to plan ahead.
- A small number of respondents to the questionnaire indicated concern that the water company funding input may influence or direct partnership work, however, host recipients of this funding were largely content with these collaborations, understood and considered partner concerns, and had set boundaries to maintain autonomy. All had engaged with partners about this funding.

> "in an ideal world where resources and time abounds, there would be the opportunity for periodically scoping wider interests."

Structure

- Half of the partnerships have a dedicated Catchment Officer who helps support running and development of the partnership, however, only one (Adur & Ouse) has a full-time staff member. This resource is vital to help develop partnerships objectives and plans.
- The majority of partnerships have maintained a 'four partnership meetings per year' approach favoured since their inception. This works well to grow shared interests, build relationships and collaboration, but as the partnerships develop, focused time which goes beyond meetings is required to drive partnership priorities and ambitions.
- **In person meetings help to build relationships and engagement**. They also allow space for partners to network as part of the meeting. For some of the larger catchments, meeting numbers are becoming limited by meeting room space. In person meetings also incur more travel, partner time and costs (i.e. petrol; parking; train travel) and increase the environmental impact of meetings. Online meetings allow a greater number of participants, allow the meeting to be recorded, shared and reviewed, and provide the option for other representatives to join without great time demand. They can, however, reduce networking opportunities or natural flow of discussions.
- Some partners felt that it was **difficult to maintain relevancy of meetings** and engagement of all partners when meetings involved a large number of organisations.
- Four of the 37 partners who responded to the questionnaire, indicated that they felt that catchment decisions were not representative of all partners, and that partnership actions were overly influenced by one or more party with vested interests.
- Responses to the questionnaire highlight that coastal issues are not a priority for the majority of partners. Developing collaboration between and across these areas will be vital in making space for lost marine habitats, particularly in the face of climate change.
- **Subgroups are useful in focusing, and rapidly progressing, particular areas of work**, be that with a topic, priority or area focus. They can provide extra value to the CP through in-kind contributions, and greater support from partners, along with increasing subject relevancy and engagement of partners with a specific focus.

> "The sheer size of the Catchment and number of members with very diverse interests and scale of influence do make it cumbersome"

EA Catchment Coordinator Support

- It was acknowledged that losses and changes to the EA team had, in some places, impacted on the support provided by the agency. The coordinators also pointed to this as a barrier, however, recent additions to the team means this should improve. Some coordinators suggested partnerships weren't always utilising EA funding.

The Partners

- A small number of partners stated that their organisational priorities do not align closely with their partnerships, whilst some have a specific and more focused geographic remit which may lead to less participation.
- The agricultural sector which, in terms of WFD, are suggested to be contributing to the failure of 52 WFD waterbodies, were identified as an under represented sector. **Bringing landowners and managers into partnerships provide opportunities for collaboration** and delivery, but also help all stakeholders understand constraints and opportunities for improvement
- **Hosts indicated that it may be beneficial for partner organisations to be more flexible about partnership representatives**, and that, on occasions, having more senior or subject specific staff attend meetings would help progress priorities and focus.
- In terms of organisations who span multiple catchments their engagement differs between partnerships, largely due to organisational focus and remit. Attendance and engagement with partnerships outside of their focus areas would still be beneficial, particularly for regulators, statutory organisations and national or regional charities or businesses.

Communities

- All Catchment Partnerships have ways of reaching the wider community, but few have well established links and engagement. The East Hampshire Partnership has strong community connections, and the Wey Landscape Partnership have a wider membership which is open to anyone. Many partnerships have Citizen Science activities which is also beneficial to boost local connections. There is a increasing interest from communities about river health and a number of small groups forming to tackle local issues. Providing mechanisms within the partnership structure to include these groups will likely create stronger links and more productive community support for initiatives.

Data & Evidence

Evidence Gaps

The Partnerships

- **Catchment Management Plans**. All but one (Cuckmere & Pevensey Levels) of the partnerships have active CMPs. However, some existing plans need updating if they are to comply with the wishes of CaBA. CMPs provide direction and prioritisation of focus to aid future catchment scale delivery, however, some partners feel that regurgitating these plans whilst also having their own organisational strategies does not provide benefit against the time and cost of producing them.
- **Monitoring plans**. Two partnerships (Wey Landscape and Test & Itchen) have monitoring plans. These can help to develop monitoring networks, identifying and filling gaps in data provision and need through organisational or Citizen Science led initiatives.
- **Data Sharing & Data Portals**. Questionnaire respondents largely indicted that they were able to share data, however, this is largely on an ad hoc basis and misses opportunities to reduce duplication and expand available evidence. StoryMaps from ESRI and linked to ArcGIS are utilised by three partnerships (Adur & Ouse, Test & Itchen, Wey Landscape) to present their CMPs and data. These provide a useful and rapid source of interactive digital data to engage with stakeholders and the wider community.
- **Data Analysis Resource**. Some partners reported that they had the data that they needed, but not the time or resources to analyse and interpret it.
- **Projects**. There are a great number of successful and noteworthy projects that we identified across all the partnerships, however, not all of them can be found on open sources. Whilst there are a number of reasons why all projects may not have available documentation this can reduce the impact and understanding of project outputs, and wider community appreciation of the environmental work which is being undertaken.

> “We have data but no capacity to turn this into a report so that people can understand exactly what the data shows”

Data Usage

Analysis of data used by partners highlighted a range of issues with data usage and access. Some of the data relied on by partnerships, including the WFD data, is not as comprehensive and up-to-date as might be expected. Through the questionnaire we asked the partnerships about which data they used, and were aware of. We also looked at the data to understand how reliable and accessible it is to the partnerships.

- **Water Framework Directive Montoring** was one of datasets most used by partners. Under the WFD assessment a minimum of 12 surveys should be undertaken each year. However, the cross-park data indicates that 52% of river waterbodies have not been subject to the minimum 12 data point monitoring in 2024, and 18% of river waterbodies have not been surveyed since 2000. This means that much of the data being used is outdated and unlikely to be an accurate reflection of current condition.
- **River Habitat Surveys (RHS)** are the Environment Agency standard for assessing the physical character and quality of river habitats aross the UK with summary results from surveys available as open source. Forty three percent of partners who responded to the questionnaire stated that they utilise this data, however, our assessment showed that **only 15% of river catchments have had one or more RHS surey undertaken since 2020,** meaning these data do not provide a comprehensive spread of information and, in some cases, are unlikely to remain relevant.
- **Riverfly Monitoring Initiative** (The Riverfly Partnership). Riverflies give a great proxy for river health, being sensitive to pollution, and also the main food source for fish. The Riverfly Partnership work across the UK using a standardised methodology to record presence and abundance of key groups of river invertebrates, and this is undertaken regularly by trained volunteers at registered sites. Riverfly outputs are used as a source of data by 54% of respondents to the questionnaire. **Only 21% of rivers in the cross park catchments are currently covered by Riverfly schemes**.
- **CaBA Data Hub** provides a curated catalogue of data, maps and applications suitable for supporting collaborative catchment management planning and is available free of charge to all partnership partners. The majority of data used in this report can be found within the CaBA data package. Over half (59%) of partners stated that they used this data, however, some partners stated that they do not have the GIS capabilities and/or time/resource to fully understand what the data shows.

- **Flow gauging** Given the fact that 50% of the catchments do not have water for additional abstraction under very low flows (Q70; Q95), and 10% even during stable flows (Q50, Q30), some are heavily impacted by current abstraction, and all have added pressures of climate change and increased water demand, understanding flow patterns is increasingly important. Only 27% of waterbodies across the catchments have continuous flow gauges, with a total of 56 over the 11,000km of rivers and streams in the area. This makes it more difficult to understand long term trends or flow patterns at the catchment scale or develop plans and projects focused on both flood and drought mitigation
- **Sewage.** The Event Duration Monitoring Data that is returned to the Environment Agency each year by Water Companies revealed 416 storm overflows are present across the six catchments, excluding those discharging off-shore. In 2023 alone, there were over 13,000 spills reported, with a combined duration of >168,000 hours. Whilst it can be expected that water company discharges account for the largest proportion of overall discharge, our data also showed that 81% of consented discharge licenses are not water company. When combined with sector knowledge of misconnections and mismanagement mean, this could be a significant contributor to water pollution.
- **Water Company data.** All water company partners who responded to the questionnaire stated that they use additional internal data to evidence their priorities which included data on river and ground water quality, level data, flow data, rainfall data, species data, and water resource and metering data. This data was not assessed as part of this project as it is not openly available, however, all water company partners stated that they are happy to share data with other partners if requested. It is unclear from our assessment to what degree, if any, partnerships have utilised water company information, however, the questionnaire data highlighted that some of the most frequently cited additional data that partners need aligned with data that water companies were collecting.

27%
of WFD river waterbodies have continuous flow gauges

81%
of consented discharges are not water company

- **Citizen Science.** Many additional and up-to-date data are provided through Citizen Science initiatives (over 50% of monitoring data identified across the park), some of which operate at a national level and use set methodologies. There was a large variety of methods and approaches to Citizen Science monitoring across catchments and not all partners either used or were aware of the diversity or availability of this information. **Creation of monitoring plans at a Catchment and cross catchment scale, based on understanding the relevance of data collected, and seeking to standardise methodologies across wider areas (cross-catchment) could provide benefits to cross park working.**

TOP FIVE dataset partners need

We asked if partners had all the data they needed to meet their organisational objectives, and 73% of partners who responded stated they 'no' or 'maybe. In terms of the gaps in data the top five data needed were..

1. **Improved water quality data**
2. **River and Habitat data**
3. **Septic tank/pollution sources**
4. **Flow/hydrological data**
5. **Species data (inc INNS)**

> "We need more hydrological information (e.g. more flow gauging), groundwater and soil moisture data, refined water quality data (e.g. beyond the physio-chemical and invert), fish population data, and we need it for the whole catchment."

Other Gaps

- **Invasive non-native species (INNS)** There is significant presence (abundance and diversity) of INNS across all catchment areas and this is predicted to increase into the future as new species colonise areas (e.g. the Asian Clam on the River Ouse). All **catchments have INNS strategies** at various degrees of development and delivery and it will be important to coordinate approaches across the region if the limited available funding is to deliver the level of biosecurity and control which is required.
- **Chemicals** There are a great number of chemicals in our water environment, which is an area of increasing concern, and there is a lack of understanding of the implications, lack of data and lack of regulation. The impacts of hormones on aquatic species is increasingly understood, and the amounts of these substances has also be recorded in excess of UK and EU levels. We identified several projects investigating the extent of chemicals in the water environment across the parks catchments, however monitoring is patchy and more extensive data to fully appreciate the extent of the issue and how we can work to reduce and remedy their impacts.
- **Climate Change.** The impacts of climate change are evident across the water environment and are predicted to worsen over the next 25 years. Climate change impacts are a high priority across partnerships and the majority are considering catchment scale approaches. However, plans tend to be topic focused (e.g. Flood Management) rather than holistic, catchment wide, multi-topic strategies. Aligning priorities and action is considered to be complex and the range of potential scenarios, data, models and approaches which exist constrain efforts to develop long term mitigation.
- **Chalk streams**. Chalk streams are particularly vulnerable to climate change and population growth, particularly in areas which rely on drinking water abstraction from aquifers). All of the catchments contain chalk streams, and there are large gaps in the knowledge and/or extent of many of these. . Some iconic chalk streams (e.g. the Itchen) have formal designation, however many others, are unprotected and under extreme pressure and filling gaps in knowledge and understanding along with directing funding to these areas will provide future resilience across all chalk stream The Big Chalk projects aims to link and mobilise work across the UK chalk geology and offers an opportunity to streamline and share approaches and mobile action.

Opportunities

This analysis of the six catchment partnerships, the data and evidence available to them, and the priorities which align them has shown areas where support may be of value in their future development, as well as support in the growth of the evidence base upon which projects are based. Each partnership is at a different stage of development and it is neither the remit, nor appropriate of this work, to suggest changes to them individually. However, there are synergies across the Catchment Partnerships where additional support may be of benefit to individual or, more specifically, as a cluster of Catchment Partnerships.

Whilst it is clear that the provision of appropriate and long-term funding is a critical component of building sustainable and effective partnerships, opportunities for support span a wide range of activities and could conceivably broaden membership, enable cost efficiencies at a cross-catchment scale and increase the accessibility and relevance of evidence bases relevant to decision making. These identified areas where support may be considered beneficial are outlined below and are intended as points for future discussion within, and across, the Catchment Partnerships and South Downs National Park Authority.

GENERAL PARTNERSHIP SUPPORT

CP1 Catchment Partnership Promotion

Partnerships would benefit from support to publicise and promote good work and good news. Many partnerships do not have their own social media channels and websites are often not maintained or updated regularly. Support in coordinated, cross partner, messaging could be beneficial in promoting partership work and attracting a more diverse membership.

CP2 Data/Technology Support

Support in the analyses and presentation of partnership/partner data, through training, building or supporting cross catchment GIS capabilities and data sharing platforms (both internal and external) will enable a more evidence led approach to developing and delivering catchment scale initiatives

CP3 Cross Park Collaboration

Provide a forum for the parks catchments partnerships to share learning, support each other and streamline resources and approaches to reach common goals. This group should focus on developing cross catchment alignment where it is appropriate and strategically necessary to do so. This could include closer working with Water Companies across areas which do not form part of their strategic priorities.

The Wey Landscape Partnership have built strong relationships with the Mole catchment, in part through the Water Rangers citizen science intitiative which spans both catchments and allows for cross catchment collaboration.

FUNDING AND RESOURCE

F1 Additional funding/resource support

Additional funding to support partnership priorities based on the needs of individual partnerships and their current stage of development. Examples could be support for a more consistent and appropriate FTE staff resource or seed funding for the development of ideas, strategies and business cases. There appears to be catchments where funding is harder to realise and financial support could be prioritised to those where the range of funding or interest in catchment management is more limited.

F2 Funding sources

Support in identifying and taking advantage of a wider range of funding mechanisms. Developing cross catchment funding priorities to reduce competition between organisations in a geographically similar funding area

F3 CaBA Funding

Build a collective of catchment organisations at a local and national level to advocate for greater government funding support.

The Test & Itchen Catchment Partnership used the resource, knowledge and expertise of their partners to develop the Watercress and Winterbourne project which was awarded funding from the National Heritage and Lottery Fund.

Opportunities

STRUCTURE

S1 Structural adaptation from learning

Consider and investigate different partnership structures from a national perspective to understand and learn of successful models which aid delivery and increase partner engagement. Currently all partnerships have a slightly different structure and approach and further discussion between hosts and their partners (as part of a cross-park group) to disseminate best practice would likely be beneficial.

S2 Sub-groups

Some partners highlight that in large catchments containing a wider range of stakeholders, current structures may be biased towards large organisations or stakeholders, or to priorities within their areas of interest. Where relevant, hosts may wish to consider forming 'strategic' and 'hands-on' or area/topic based sub-groups which have proven a useful engagement and learning approach for some partnerships

S3 Maintaining Partnership independence

Maintaining the independence of partnerships is considered critical to their success. Currently, some partnerships are working to, or have attracted water company investment, however, some individuals raised concerns about water company interests dominating the conversation or funding alignment. Learning from other catchment partnerships across the country could assist in developing structures which balance the need for funding and investment against the constraints of single organisational or sectoral investment.

The Adur & Ouse Catchment Partnership have used their full time catchment officer to develop a modified structure for their partnership which includes 'strategy' and 'project' based sub-groups that feed back to a steering group. This revised structure is new for 2025 and has been based on feedback from partners and engagement with other partnerships across the region.

PARTNERS

P1 Organisational representation

Where the structure of the CP allows, partner organisations to consider which representative is best to attend meetings based on subject and focus to ensure maximum opportunities for involvement and collaboration. This is likely to reduce time pressures and expand the concept of CPs within organisations rather than across single individuals

P2 Farming sector engagement

Encourage local farm clusters to become partners to develop relationships, involvement and projects (consider sub group if interests are focused). Throughout this data analysis there is the consistent message that landowners and managers are not adequately represented on CPs. Whilst it is difficult to find representation of the variety of landowning interests it is considered important to seek ways to address this issue. This could take the form of permanent landowner representation, the inclusion of Farm Cluster leads, or through inviting relevant landowners to pertinent discussions (or hosting regular landowner workshops to encourage circular feedback and consultation on emerging plans)

P3 Freshwater/Marine links

There is a need to develop further collaboration between freshwater and marine partners. This is likely to require discussion on how these differing, and yet linked, areas of the water environment can collaborate meaningfully together to meet objectives.

The Test & Itchen Catchment Partnership used the Watercress and Winterbournes Projects as a springboard for engagement with farmers and highways.

The Arun and Western Streams Catchment Partnership have strong coastal organisation representation and used their partnership meetings to develop their coastal priorities in their Catchment Management Plan

Opportunities

DATA & EVIDENCE GAPS

E1 Monitoring plans

Partnerships who do not currently have monitoring plans could be supported in their creation. There are good examples of coordinated monitoring approaches from catchments across the park (Test & Itchen, Wey Landscape) and shared learning would assist in developing the joined up approach which would provide the most benefit when thinking at a landscape or cross catchment scale. This report has highlighted gaps in data when considering use by partners, whilst this is an important element of partnerships, it is likely that additional data is held by partners but inaccessible to wider audiences. Monitoring plans should consider the expansion and alignment of Citizen Science programmes but must also seek to address specific data requirements for areas of work which may be more discrete in their needs.

E2 River Surveys

River Habitat Surveys form the foundation of many partner approaches to restoration and enhancement projects and enable rapid sub-catchment assessment leading to the development of a wide range of projects. Support for a programme of River Habitat Surveys would be of benefit to the Partnerships who could rapidly develop pipelines of projects based on their outcomes. Encouraging and supporting the use of pre and post monitoring surveys, such as MoRPH or RCA, would help to build understanding of the impact of projects, enabling learning to be shared from an accepted evidence base.

The Water Rangers citizen science project used the Wey as one of their pilot catchments and is now operating across 20 of their WFD river catchments. The project is aimed at helping Citizen Scientists understand their local issues and plan water quality testing and monitoring to meet local priorities. The project sits within the Partnerships water quality sub-group, has an associated e-coli testing lab in guildford and the data is available to view and interrogate within an easy to use online platform.

E3 Data sharing

The majority of partners expressed a willingness to share data, however, from this investigation there are limited opportunities for this to be done simply. The creation of data portals, either at individual catchment, or across the SDNP area, could facilitate a more streamlined approach to data sharing.

There would be benefit in creating data sharing agreements and enabling partnership based data to be considered as open source. It is appreciated that this is a complex issue but not sharing data is likely to be a constraint to the development of projects at the scale required.

E4 Expanding other existing monitoring

It is not for this analysis to determine the priorities for data collection as this is likely to differ across catchment areas and partner organisations. However, it is worth highlighting the value that partners/partnerships put onto Riverfly monitoring, River walkover surveys, Water Rangers and Chemical testing. Supporting the broader collection of data from these methods, underpinning this to have open source outcomes would be a positive first step in filling gaps. Furthermore there is a lack of basic hydrological information from the river systems and additional flow monitoring is likely required to make informed, evidence based decisions across many of the partner priorities

The Arun & Western Streams is one of 10 pilot catchments for the Catchment Systems Thinking Cooperative Project (CaSTCo). Funded for 3-years, the project has enabled the development of a ‘River Guardians ‘citizen science project and Soil health project. The data from which is being used by the partnerships to inform their priorities.

The South East Rivers Trust, Wessex Rivers Trust and the Test & Itchen Association have all undertaken chemical testing within their respective catchments. This work has highlighted the widespread problem of chemicals in the water environment, providing baseline evidence for wider engagement , campaigning and identifying sources of contamination.

Opportunities

CROSS PARK COLLABORATION

The current focus on landscape led conservation efforts is likely to require thinking beyond catchment boundaries, making it important to understand where cross catchment collaboration, either through shared learning or project development and delivery, may be of value. The following are suggested as logical starting points for future discussion.

C1 Chalk Streams

All catchments are home to rare chalk rivers and/orstreams. There are a great number of projects, learning and opportunities for collaboration between partners to increase chalk stream restoration and protection. Combining knowledge and sharing experiences of chalk stream restoration will likely lead to higher impact and reduced costs in delivering improvement to these important environments.

C3 Non-water company discharges

Seeking to address sources of sewage discharges from private treatment works. Whilst all partnerships have undertaken an awareness campaigns on Septic Tanks, this was some time ago and maintaining momentum in terms of engagement whilst investigating novel approaches to reducing their impact across the area would likely lead to measurable improvements in water quality

C2 Invasive non-native species

INNS are an obvious area for collaboration and establishing and coordinating monitoring and biosecurity measures of catchment boundaries would enable rapid response mechanisms to be established to control the spread of species.