



Surface water management

A review of the opportunities and challenges

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Foreword

The Association of SuDS Authorities (ASA) and Local Government Flood and Coastal Erosion Risk Management (FCERM) Technical Advisory Group are grateful for everyone who has taken the time to respond to the survey in 2022 and participate in the focus groups to develop this critical review on surface water management for Risk Management Authorities, undertaken by CIWEM.

It has been 13 years since the Flood and Water Management Act created Risk Management Authorities (RMAs) and clarified roles and responsibilities. All of these organisations have evolved and changed in that time.

We acknowledge the work that has been achieved, particularly at a strategic level by the Environment Agency such as the National Flood and Coastal Risk Management Strategy published in 2020 and the Roadmap published in 2022.

However, further work is needed, and we would welcome an urgency in progressing this.

The Climate Change Committee's latest progress report on adapting to climate change highlighted the urgency of taking action now. We are already seeing increased intense rain storms that our infrastructure is not designed to cope with. There are more people at risk from surface water flooding than any other source and the National Infrastructure Commission (NIC) report "Reducing the risk of surface water flooding" published last November highlighted how that risk is growing: *"Without action, we think that by 2055, up to 295,000 further properties could be put at high risk"*.

There has been progress in relation to sustainable drainage by Defra in considering the implementation of SuDS Approval Bodies and Schedule 3 of the Flood and Water Management Act. We welcome the conversations about the landscape for delivering SuDS that this has generated. It is clear there is much work still needed to understand how we are performing to create the necessary resource for SuDS implementation, scaling up delivery to keep pace with the increasing risks and opportunities.

Effective engagement, funding and resources remain a challenge for all, but we believe there are better and more cost-effective ways for Government to improve and invest in surface water management. Alignment to reduce the number of plans to make them more collaborative and crosscutting will help us to more effectively deliver with the funding we have - creating better places for people and wildlife.

The NIC priority recommendation is a focus on the management and maintenance of surface water assets and infrastructure. We need to urgently ensure that sufficient funding is available to enable RMAs to do this.

We must engage and collaborate more effectively, so we can continue to innovate and adapt to challenges, but most importantly so that we can put our communities at risk at the heart of everything we do.

We welcomed the recent opportunity to discuss the findings of this report with Defra and the Environment Agency and hope that this is the start of further collaboration to address these challenges and opportunities in the future.



Vicky Boorman, on behalf of FCERM TAG



Laura Bigley and Vikki Keeble, Co-chairs of ASA

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Table of Contents

1. Summary findings	6
2. Background and overview	7
3. Size and shape of workforce	7
4. Cooperation and collaboration	8
Clarity of responsibilities	8
Coordination of responsibilities	8
Collaboration	9
5. Funding for surface water management	9
6. RMA capacity and skills for surface water management	10
Capacity and skills for specific activities.....	10
Approaches to improve capacity	10
Approaches to improve skills and competency	11
7. Review recommendations	13
Cooperation and collaboration.....	13
Funding.....	17
Capacity and skills.....	19
8. References	23

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1. Summary findings

Recent reviews of surface water management undertaken by David Jenkins (Defra, 2020), the National Infrastructure Commission (2022) and this work clearly identify significant challenges for the management of surface water in England.

These challenges are most acutely felt by Lead Local Flood Authority (LLFA) and Highway Authority Risk Management Authorities (RMAs) where in many instances the lack of government leadership, coordination, and appropriate funding access is at the root of the problem. This means RMAs can struggle to embrace good asset management, effectively maintain and deliver surface water management infrastructure, collaborate with other RMAs and retain and recruit staff.

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The frameworks for coordination and funding within surface water management can act as a hindrance, rather than an enabler for good outcomes. Where these challenges are overcome this is primarily down to individual champions within RMAs fostering good relationships and partnerships, as well as them taking a more entrepreneurial approach to funding and delivery.

This work has identified significant and persistent challenges in surface water management and has also provided a series of recommendations for consideration by the government and other RMAs.

Recognising the historic and endemic problems identified, the organisations funding this review and CIWEM request greater political leadership in the prioritisation of surface water management. CIWEM, together with its membership and partners is in a strong position to support better surface water management.



2. Background and overview

A survey and two focus groups were undertaken as part of a project to provide **a review of the opportunities and challenges relating to surface water management**. CIWEM was asked to undertake the work by the Association of SuDS Authorities (ASA), the Local Government Flood and Coastal Erosion Risk Management Technical Advisors Group Water (LG FCERM TAG) and the London Drainage Engineers Group (LODEG).

The survey collected responses over a 10 week period in the summer of 2022. The key objectives of the survey were to:

- Explore how Risk Management Authorities (RMAs), as defined by the Flood and Water Management Act (FWMA) 2010, are delivering their RMA responsibilities with a particular focus on:
 - Cooperation and collaboration
 - Funding
 - Capacity and skills
- Understand the challenges RMAs are facing, their approaches to overcome them and requirements to effectively fulfil their responsibilities.

The survey was intended for all RMAs, though the focus was primarily local authorities and water companies. It received 89 responses. The largest number of responses were from those working in a Lead Local Flood Authority (LLFA) at a Unitary level (49%), followed by those working in a LLFA at a County level (23%). 70 respondents were from RMAs working in local government, and 8 from different Water and Sewerage Companies (WaSCs).

The level of response means that the results should be regarded as a snapshot of the views of this particular group of respondents, rather than the full RMA community of local government. However, the responses do broadly align with other reviews, particularly the 2020 David Jenkins review (Defra, 2020).

The survey was augmented by information and discussion held with two separate focus groups representing local government RMAs and WaSCs. These provided an opportunity to explore the three main themes in more detail.

Despite surface water flooding being the most common flood risk in England (NIC, 2022) it remains the Cinderella of flooding sources. Surface water management in England is not consistently coordinated or supported and is not allocated sufficient funds. With the likelihood of more extreme rainfall, climate change and urbanisation we face greater risks of surface flooding. It is therefore essential that government provides leadership to tackle the persistent challenges being faced by flood Risk Management Authorities (RMAs.)

Evidence obtained through this review suggests the Environment Agency's FCERM Road Map may not adequately focus on surface management to balance surface water flood risk with the other flood sources. While recent government reviews on surface water management have been welcomed by RMAs the urgency with which surface water management needs to be tackled means that the pace of change and communication on progress needs to be improved.

With Defra's Storm overflows discharge reduction plan and the announcement in January 2023 that Schedule 3 of the Flood and Water Management Act 2010 will be implemented, it is timely for government to work with the RMAs and wider sector bodies to improve approaches to coordinate responsibilities, develop an enabling framework and make the allocation of funding more proportionate and efficient. CIWEM and those that commissioned the review welcome the opportunity to work with government to improve surface water management.

3. Size and shape of workforce

When asked about the number of Full Time Equivalent (FTEs) working on the RMA role the most common responses were those with three, or less FTEs (36% when aggregated). Local government responses indicated that:

- Nearly half (46%) of the respondents have three, or less FTEs working on the RMA role;
- nearly half (45%) of respondents at county authorities have 10, or more FTEs, and
- nearly two thirds of unitary authorities have 3, or less FTEs (when aggregated).

4. Cooperation and collaboration

There are a range of RMAs with different duties and responsibilities for managing surface water infrastructure. With the level of interdependencies and potential impact on flood risk management it's vital responsibilities are understood and coordinated.

Clarity of responsibilities

Nearly two thirds of survey respondents (63%) suggested they were very clear of their own RMA responsibilities. However, this dropped to less than half (48%) of respondents that suggested the responsibilities of other RMAs were very clear.

Respondents were also asked to consider how clear other RMAs are about their own surface water management responsibilities. LLFAs were considered to have greatest clarity, although less than half (47%) of the respondents suggested they were very clear. The additional commentary suggested this was related to a lack of clarity at an operational level, particularly asset ownership and maintenance. Less than a third (31%) of respondents considered the Environment Agency were very clear on their role. Some of the commentary and discussion during the focus groups suggested this was due to insufficient oversight provided by the Agency.

Coordination of responsibilities

Nearly two-thirds (60%) of respondents suggested that surface water management should be coordinated by one RMA and a significant majority (69%) of these suggested the LLFA was the most appropriate organisation to coordinate activities. Some respondents provided commentary to suggest there was confusion around what the Environment Agency's strategic overview meant for surface water management and whether they should be providing coordination and leadership.

Other specific areas respondents identified as needing better coordination included:

- **Cooperation and partnerships** – whilst RMAs have a duty to cooperate this duty is delivered inconsistently regionally and organisationally.

- **Asset registers** – it was recognised there was a legal requirement for LLFAs to have a register. However, it was remarked by many respondents that these are inconsistently developed and shared.
- **Data sharing** – many respondents suggested sharing asset information and data, particularly on flooded properties needed to be simpler and more consistent.
- **Flood investigations** – many respondents suggested investigations that involve multiple RMAs can be challenging to progress and secure remedial action.
- **Delivering Sustainable Drainage Systems (SuDS)** – delivering nature based solutions (NBS) like SuDS requires coordination between RMAs and different organisations for both retrofit and new developments.

Collaboration

Respondents considered LLFAs (31%) and the Environment Agency (20%) as very effective, and subsequently the best collaborators. Conversely, National Highways, highway authorities WaSCs and IDBs were considered as the least effective at collaboration.

Just over a third (35%) of respondents suggested that existing approaches to support cooperation and collaboration were either effective, or very effective. The suggested challenges from respondents providing additional commentary focussed on:

- **Engagement** – uncertainties around roles, responsibilities and duties for surface water management, particularly for the Environment Agency and WaSCs, make engagement difficult.
- **Lack of resources** – while the benefits of partnerships were recognised, collaboration takes resources and many RMAs prioritise delivering their own statutory responsibilities.
- **Difficulty in identifying and obtaining funding** – alignment of funding streams (in terms of benefits and investment timescales) from different organisations is problematic and obtaining Grant in Aid funding is challenging for surface water projects.

Wildlife Trusts and River Trusts were the most common organisations respondents collaborated with. Despite the perceived challenges of existing approaches to support cooperation and collaboration it was encouraging that over two-thirds (67%) of respondents have examples of good cooperation and collaboration with other organisations. These examples varied in terms of scale, level of formality and the outcomes achieved.

5. Funding for surface water management

Just over half of the respondents (52%) said they had an allocated (ring fenced) budget for surface water management. However, less than half (41%) of these (21% of the full sample) have long term certainty on the budget. Respondents suggested insufficient budget and certainty contributed to poor staff resourcing, capital delivery and maintenance.

There was general agreement that RMAs receive insufficient funding to fully resource and undertake their duties and expectations, these included operations, maintenance and general staff resources in local government. Commentary on specific challenges include:

- **Alignment with potential funders** – identifying benefits for potential beneficiaries and aligning with their processes to secure funding is difficult. Securing funds from WaSCs was identified as particularly difficult as they focus on reducing surface water entering sewers rather than reducing flooding. Alignment with WaSC’s investment cycles and managing uncertainties of price determinations was also considered challenging.
- **Complex and rigid requirements for funding applications** – the processes for applying for funding is considered to be too prescriptive with the need for extensive evidence and business cases too onerous.
- **Lack of understanding of surface water management** - processes for funding coastal and fluvial schemes are applied to surface water management schemes with insufficient appreciation of the different flooding characteristics and mitigation approaches.
- **Securing external funds** – it is challenging to obtain partnership funding for surface water management from external private sector non RMAs.

6. RMA capacity and skills for surface water management

Just over half (54%) of the respondents do not consider they have a full complement of staff to deliver the RMA’s surface water management responsibilities. There were significant differences between county and unitary LLFAs – with greater challenges experienced in unitary authorities (two thirds (68%) of unitary authorities said they were understaffed). It was suggested there is very little resilience of the workforce in LLFAs, with a few respondents raising concerns about staff ‘burn out’ and wellbeing.

A general lack of allocated and locally available funding means that salary and/or benefits packages within RMAs (particularly local government) were not competitive, or attractive and hampered recruitment. This, together with high workloads, stressful workplaces also means that retention of good staff is challenging.

Overall, around three quarters (74%) of respondents suggested it was either very challenging, or challenging to fill posts within their RMA to deliver surface water management. Many respondents suggested this was related to a lack of allocated funding, but many also referenced the varied skills required for effective surface water management and the requirement for local knowledge.

Capacity and skills for specific activities

Respondents suggested that they had greatest challenges providing capacity and skills related to the delivery of SuDS and Nature Based Solutions (NBS) (e.g. landscape, amenity, water quality, biodiversity and decarbonisation). This is likely to have implications for the implementation of Schedule 3 of the FWMA, retrofitting SuDS, biodiversity net gain (BNG) and net zero carbon ambitions.

Approaches to improve capacity

Understandably ‘recruiting new staff’ was considered by respondents as the most common approach to improving capacity. This was followed by an approach to mentor staff from within their department and apprenticeships.

Accredited training, on the job training, sharing of resources and good practice were common suggestions when respondents proposed other approaches to improving capacity and resilience within their RMAs. One respondent suggested it may be beneficial to raise awareness of opportunities in surface water management in line with growing interests in climate change and green skills.

Nearly two-thirds of respondents (60%) suggested there was insufficient affordable and accessible training opportunities for RMAs on surface water management (typically relating to costs and time for travelling and attending the course). Many respondents suggested that accredited national, or regional training provision should be provided.

Approaches to improve skills and competency

Very short (e.g. lunchtime) CPD sessions was the most common approach suggested to improve skills, followed with 'e-learning self-paced modular training courses' and 'short 1, or 2 day virtual/face-to-face training'.

Two-thirds (66%) of respondents suggested that mentoring (e.g. personal support/advice) was either effective, or very effective approaches for improving competency and skills. This was closely followed by slightly less (62%) finding blended learning (e.g. e-learning and virtual/face-to-face training) effective or very effective.

Respondents clearly considered that improvements to funding, training and certification would support capacity and skills for surface water management.

May 2023



7. Review recommendations

Recommendations have been provided and are based on the quantitative and qualitative responses from the survey, discussions with the focus groups and the funders for this review. These recommendations are structured into:

1. Cooperation and collaboration
2. Funding
3. Capacity and skills

Where possible the recommendations have been structured to present those that can be delivered in the short to medium term, say two years, and those that are longer-term and complex potentially requiring significant changes in legislation, regulations and/or funding.

CIWEM, ASA, and the FCERM TAG would be happy to work with government, the Environment Agency, RMAs and other stakeholders in progressing these recommendations.

Cooperation and collaboration

All the recommendations to improve cooperation and collaboration have been considered to be deliverable within the next two years. The recommendations have been ordered to represent the potential ease of delivery.

Short to medium term recommendations

1. **Government, Environment Agency and other RMAs – to improve engagement with and between all RMAs with surface water management responsibilities.**

Cooperation, collaboration and coordination can only effectively happen if there is good engagement with and between the RMAs. Commentary from survey respondents and discussions at focus groups suggested government and the Environment Agency need to improve their engagement with all RMAs (and their representative groups) managing surface water flood risk.

It is important for all national FCERM projects (i.e. the FCERM Strategy Action Plan, skills and capacity etc) include adequate representation from all RMAs to ensure inclusive approaches are adopted, the right behaviours are embraced and feedback from other RMAs are robustly considered and, where appropriate actioned. All national FCERM initiatives should develop and make available a communications and engagement plan that clearly sets out how they will consistently and effectively engage with RMAs and their representative groups.

There are numerous organisations and groups working within the surface water management area. These should be actively involved and engaged with consideration given to their inclusivity. Some of these groups are subscription based, specific to geographical areas and RMA organisations, e.g. The Association of Directors of Environment, Economy, Planning and Transport (ADEPT), ASA. Organisations like CIWEM could assist with convening and engaging with the different groups across all RMAs.

Engagement with and between all RMAs would also be significantly improved if all RMAs shared appropriate points of contact within their own organisations (and where necessary local offices). This should not be limited to just LLFAs as recommended by the Jenkins Review

(Defra, 2020). It should also be a statutory requirement for appropriate contacts to be identified, updated and shared across the RMA community. This review has highlighted the importance of developing open and trusting relationships between the different RMAs. This can only happen when there is clarity on who is responsible for surface water management within the RMA and communication and engagement is easy to establish.

2. **Government and the Environment Agency – to establish greater clarity on the Environment Agency’s Strategic Overview and what this means for surface water management.**

Aligned with the recommendation to improve leadership on surface water management the commentary from the survey and discussions at the focus groups suggest that the Environment Agency’s Strategic Overview role in relation to surface water management needs to be clarified and better communicated. We understand from the Environment Agency that this engagement is forthcoming during the second half of 2023.

Many respondents from WaSCs and LLFAs through the survey and corroborated by discussions at focus groups explained they were concerned about the EA’s lack of focus on surface water management compared to other flood sources where the EA has a specific delivery role and more immediate access to information and resources. It is necessary to review and where required amend regulations as well as provide additional resources to enable the EA to more fully embrace the Strategic Overview role.

Transparency and accountability would be improved if the Environment Agency more effectively reported progress on the FCERM Strategy Roadmap actions, particularly for the different sources of flooding. This would help identify where surface water flood risk management lags behind progress with fluvial flooding and other flooding sources.

3. **Government – to provide greater leadership on surface water management.**

Government should establish a clear vision for surface water management with their expectations for reducing surface water flood risk being understood and actionable by all RMAs. Despite the Jenkins Review (Defra, 2020) and subsequent Defra updates on surface water management (Defra, 2021) the survey results suggest there is still a need for greater clarity on responsibilities, roles and mechanisms for coordinating surface water management has yet to be fully understood by all RMAs. These challenges are not new, this review and the National Infrastructure Commission’s *Reducing the risk of surface water flooding* report (NIC, 2022) highlight the lack of progress and further work is needed.

The required clarity goes beyond the definitions in the FWMA and Strategic Overview; cultural changes are required to ensure surface water management is inclusive of all RMAs. While Government should lead the development of the vision for surface water management it needs to be co-created, understood and embraced by all RMAs with responsibilities competently delivered by the appropriate RMA. It is important that the process is collaborative, progress with delivery is routinely reported and with the existing organisational and geographical inconsistencies it is likely that the vision for surface water management will require continuous reinforcement.

4. **Government and local government RMAs – to improve collaboration for the delivery of SuDS.**

The delivery of SuDS both on new developments and retrofitted into existing urban spaces is reliant on close collaboration of RMAs. With Defra’s January 2023 announcement to implement Schedule 3 of FWMA in new developments SuDS should become mandatory.

However, it will still be necessary to ensure that there is effective engagement between the SuDS Approval Body (SAB), the Local Planning Authority, the developer and other stakeholders like the highway authorities and WaSCs as necessary. Government should consider how effective engagement and collaboration, particularly between SAB approval and planning can be ensured when developing the statutory instruments, guidance and other processes necessary for Schedule 3. This challenge has been highlighted in Wales, where Schedule 3 was implemented in 2019.

With the development of DWMPs and Defra's Storm overflows discharge reduction plan (2022) there is considerable ambition to retrofit SuDS. WaSCs are likely to embark on significant investment to retrofit SuDS to help reduce the frequency of storm overflow sewage discharges and keep rainfall out of their sewers. It would be beneficial for Defra to explore what can be done to support collaboration and retrofitting SuDS, e.g. improving the funding process and the application of statutory SuDS standards to retrofit projects. This should maximise opportunities and deliver efficiencies around both surface water flooding and other policy aspirations, including biodiversity net gain, water quality and the reduction of storm overflows discharges.

5. **Government – to clarify and consolidate surface water management regulations, standards and plans.**

There are a variety of regulations, standards and plans that the different RMAs develop, contribute to and comply with. Survey respondents suggested that new legislation and plans have arguably not clarified responsibilities, harmonised performance standards, or reporting. The different processes and reporting requirements in the different plans (particularly Local Flood Risk Management Strategies (LFRMS) and Drainage and Waste Management Plans (DWMPs)) make it challenging to identify opportunities to reduce flooding risks and collaborate. In most cases surface water management activities remain siloed and/or unintentionally duplicated.

As a minimum this could involve producing guidance, raising awareness, or providing training on relevant regulations, standards and plans. Defra is reviewing local flood risk management planning. This should consider the variety of plans covering surface water management, review clarity on roles, responsibilities, associated statutory powers and determine how these can be consolidated. The NIC report (NIC, 2022) recommends the replacement of Local Flood Risk Management Strategies with a single costed, joint plan (only in Flood Risk Areas) being developed.

The Environment Agency, Defra and Ofwat in 2022 published guiding principles (and priorities for DWMPs these will be updated to align with Defra's Water Plan. For the future the Environment Agency, Water UK and Ofwat are planning to engage and work with RMAs to better inform DWMPs and improve surface water management. However, DWMPs are not statutory for all RMAs.

WaSCs during the course of this review suggested that following the first cycle of DWMPs it may be appropriate to amend regulations and approaches to ensure DWMPs are more integrated and LLFAs are better engaged by making them statutory consultees where interactions are more explicit and funded. This may provide opportunities for the DWMP to become a more holistic surface water management plan (covering drainage, sewerage capacity, flooding and water quality). However, this process needs to be considerably more collaborative than the first cycles and LLFAs need to be properly resourced to engage.

This clarity should also improve the awareness and understanding of the drivers and responsibilities for highways to manage surface water. Highways form a significant proportion of impermeable surfaces in our towns and cities and highway authorities at national and local levels need to more effectively embrace climate resilience and adaptation. This includes managing drainage exceedance, delivering SuDS and increased capacity in their systems to support surface water management.

Highway authorities need to be appropriately engaged by other RMAs. Ensuring that the interdependencies of highway assets and the standards used with other flood risk management functions are understood would help reduce flood risk from their assets. However, collaboration could be improved by there being better drivers for highway authorities and associated funding to manage surface water on adopted highways.

Defra started a review of statutory powers and responsibilities associated with FCERM assets in 2021, this is due to finish in 2024. This will review current mechanisms and legal powers to ensure existing powers and responsibilities are clear and effective and expertise is shared. While a Project Steering Group that informs the project includes RMA representation it would be beneficial if an update on progress and interim reports were shared with the RMA community particularly as there is similar work progressing for the Defra Schedule 3 review.

6. **Government – to improve approaches to the collection and sharing of data and development of asset registers.**

Despite the requirements of the FWMA, data sharing between RMAs seems to be a perennial problem (particularly between WaSCs and LLFAs). Commentary from the survey suggests that in some instances poor engagement means data sharing does not happen, and when it does, it requires extensive knowledge of the information that is available. This process is resource intensive, and can generate inconsistent information and models creating problems for the RMA's involved.

Defra's 2018 *Surface Water Management Action Plan* (Action 4) states Defra would consider commencing EA and LLFA powers to enforce the provision of information. Defra in 2021 suggested they would review Action 4 and whether any further action is required. It would be beneficial to receive an update on this action and consider what can be done to improve data sharing. Options could include strengthening legislation and agreeing standards for data sharing, or developing a data sharing agreement for use between organisations (rather than having multiple ones for different types of data and purposes) and or developing an integrated GIS platform.

While there is legislation requiring LLFAs to develop asset registers there is no agreed process to support the development, updating and publishing of registers (guidance was last published in Defra's information [note on asset registers](#) in 2011 and recommendations from the Jenkins review). This can hinder delivery, increase the resources required to complete asset registers and inevitably leads to non-compliance with this key statutory duty. It also potentially miss-represents the number and condition of surface water management assets and the and costs of managing them.

The EA developed the Asset Information Management System (AIMS) to collect and present flood risk management assets from all RMAs. It would be beneficial if this could be reviewed to ensure that surface water management assets could be included and shared better. The Defra 2021 *Surface water management – government update* has identified that guidance on asset registers will be completed by December 2023. This needs to be delivered on time with

engagement of all RMAs, particularly as asset registers should be a key component of the implementation of Schedule 3 of the Flood and Water Management Act and retrofitting of SuDS.

7. **LLFAs (facilitated by the Environment Agency and Government) – to improve the quality and consistency of flood investigations (Section 19 reports).**

RMAs recognise the value of Section 19 reports to the communities they serve. However, despite relevant BSI standards produced in 2017 (BS 85600:2017) there is significant variation in the content, structure and detail of these reports. Feedback during the review suggested that the lack of consistency around thresholds and approaches for reporting and no central collation of Section 19 reports means it is impossible to obtain a consistent and clear overview of flood risk, even across Flood Risk Areas, let alone a national picture of the challenges being faced. Improved consistency may also support easier sharing of good practice around flood risk mitigation.

The survey also highlighted a growing concern about how RMAs and emergency responders contribute to the development of Section 19 reports and undertake remedial action to manage flood risks. Defra's 2021 report *Surface water management – government update* suggested guidance on Section 19 reports was being considered by the Local Government Association (LGA). Support should be provided to LGA to enable them to review the usefulness and accessibility of guidance on flood investigations and where appropriate facilitate greater standardisation.

Funding

Only one recommendation is considered to be deliverable within the next two years. All other recommendations are likely to be longer-term, as they will be dependent on funding and spending reviews and changes that may need to be undertaken after the next cycle of capital funding is complete in 2027/28

Short to medium term recommendations

1. **Government and the Environment Agency – to review the funding application process.**

Despite changes to the process for partnership funding rules and Partnership Funding Calculator in 2020 and updates to appraisal guidance in 2022 respondent commentary and discussion during the focus groups suggest completing a funding application with the required evidence and business case still remains a significant barrier to RMAs applying for funds. In many cases the resources and expenditure required for completing a funding application are disproportionate to the funding secured. As a consequence, many LLFAs look to other sources of funding (e.g. their own investment, Local Enterprise Partnerships, developers) to deliver better surface water management outcomes.

RMAs also have difficulties in obtaining favourable scoring and cost benefit ratios for small, complex and spatially dispersed surface water management schemes. The appraisal process needs to be reviewed as the same funding application process is used for the management of all flooding sources. Commentary from the respondents suggest this is ineffective and challenging for all RMAs. The Government and the Environment Agency should explore how the funding application process can better meet the different needs for surface water management and in particular, be made more proportionate.

Additionally, commentary was provided to suggest it is challenging for RMAs, particularly LLFAs and communities to understand and determine the progress of a funding application. Improved transparency would support approaches to secure partnership funding from multiple sources, the management of surface water and engagement with at risk communities.

Recognising that Regional Flood and Coastal Committees are public meetings and papers should be available it would be beneficial if agendas, papers and decisions were actively disseminated and easily accessible as this would increase transparency and accountability. In a similar vein all RMAs should provide greater transparency on timescales of the progress of their funding applications (i.e. deadlines, decisions, funding allocation and monitoring).

Longer-term recommendations

2. **Government – to ensure sufficient funding is provided to surface water management schemes.**

Respondents reported that RMAs managing surface water are not receiving sufficient funding for the capital delivery and maintenance of surface water management infrastructure. This may be due to the lack of funding, or more likely that funding is not accessible due to challenges with the funding application and allocation process.

The inability to readily obtain funding impacts the delivery of statutory responsibilities for LLFAs (e.g. asset registers, local flood risk management strategies). Other responsibilities that are permissive, and non-statutory, or implied in national strategies, or expected from LLFAs (where there are related statutory responsibilities) tend not to be funded (e.g. community and partnership working, project delivery, and data collection or sharing as well as plan development such as DWMPs). Despite implications for budgets and resourcing LLFAs often fund such activities because they are considered locally important.

Defra has promised a review of LLFA funding for statutory duties. However, on the basis of this review we recommend extending the remit of the funding review to include surface water management activities not funded for all RMAs and other organisations involved in surface water management e.g. Local Planning Authorities, or other infrastructure providers. This would identify the need for enabling regulation and potential funding gaps for the different organisations involved in managing surface water.

Accountability and transparency of the funding process would be improved if the amount of funding spent on tackling the different flood sources was also routinely reported. Other suggestions may improve the approach to funding and associated outcomes are:

3. **Government – to provide sufficient funding to RMAs for surface water maintenance.**

Historically there has been a considerable imbalance between capital and revenue (operation and maintenance) funding. Only the EA can apply for funding for maintenance of flood management schemes. This difficulty in funding maintenance significantly deters local authorities from developing new schemes.

4. **Government – to enable the designation of funds for local government RMAs to spend on surface water management.**

It would be beneficial to consider the process and thresholds for devolving and ringfenced funding across a catchment or smaller area to local government RMAs to deal with relatively low cost, short to medium term surface water flooding problems (i.e., no/low regret interventions).

As suggested by the NIC (NIC, 2022), this designation of funds could be based on a collaborative assessment of local flood risk and an agreed costed programme for delivery. It could also be aligned with WaSC investment cycles to improve surface water management and where necessary improve partnership working.

5. **Government and regulators – to develop mechanisms to support and enable alignment of funding for surface water management.**

Long-term planning mechanisms (like LFRMS and DWMPs) need to be ambitious and outline activities that RMAs could collaborate on and be potentially funded by all RMAs.

LFRMS, DWMPs and Surface Water Management Plans should support long-term planning and investment aligning benefits with the different drivers and benefits for RMAs and beneficiaries that may fund surface water management schemes. More also needs to be done to enable flexibility of funding from different sources and support the alignment of the different RMA investment cycles, that often have different start times and durations. This approach could be supported by improved collaboration between LLFAs, WaSCs, Regional Flood Coastal Committees and a strengthened proactive Strategic Overview role on surface water management for the Environment Agency that enable greater flexibility in investment, accommodate different funding cycles and associated expenditure.

Capacity and skills

Three recommendations are considered to be deliverable within the next two years. All other recommendations are likely to be longer-term, as they will be dependent on availability of funding.

Short-medium term recommendations

1. **Government and the Environment Agency – to embed changes to policy and process with appropriate dissemination and training.**

Changes to regulation, policies and procedure needs to be appropriately communicated, disseminated and supported with funding for resources and training well in advance of planned implementation. This is important to ensure that all relevant RMAs are aware of and prepared for the changes, potential implications and have examples of good practice.

There have been recent occasions (e.g. Climate Change Allowances, changes to National Planning Practice Guidance) where RMAs have been caught off-guard with the changes, relying on updates and guidance from consultancies and subscription or member organisations. The implementation of Schedule 3 will require capacity building for SuDS Approval Body officers and other disciplines within LLFAs, relevant RMAs and developers/consultants.

Appropriate dissemination should be included in any communications plan associated with a national FCERM initiative. This would link to the recommendation on improved communication and engagement with and between RMAs. This could include webinars (that can be recorded), videos/animations, presentation packs and e-learning. These activities need to be tailored to the initiative, the required level of understanding and the RMA audience.

2. **Government – to undertake a skills gap analysis for surface water management.**

Like other disciplines within FCERM and the broader water and environment management sector there are fundamental challenges around the capacity and skills of the workforce involved in surface water management.

An assessment of skills and capacity has been undertaken as part of the Defra review for the implementation of Schedule 3 review (Defra, 2023) and as identified significant challenges capacity and skills. With the level ambition being expressed by Defra around the storm overflows discharge reduction plan (Defra, 2022) a comprehensive, independent and inclusive assessment of skills gaps around all forms of surface water management within all RMAs and the relevant supply chain should be undertaken, together with the identification of approaches to increase skills and capacity.

This review asked for suggestions for other training (see recommendation 3) however a specific skills gap analysis review covering all aspects of surface water management in RMAs, and the supply chain should be undertaken.

3. **Enabled by Government and the Environment Agency relevant professional bodies and RMAs – to provide opportunities for peer-to-peer learning.**

Facilitating learning from peers within similar RMAs is an effective way to share experience, good practice and support capacity building around surface water management. Enabling a formalised approach to peer-to-peer learning would support many of the other recommendations from this review relating to engagement, dissemination and training.

During this review reference was made to the usefulness of the Local Authority Network on Drainage and Flood Risk Management (LANDFORM) funded by the Environment Agency and set up by CIRIA in 2007 and the capacity building following the introduction of the FWMA in 2010.

Similarly, a centrally funded and independently-facilitated Community of Practice could assist with engagement and upskilling of those working on surface water management. Professionals are used to attending virtual meetings, workshops and webinars this would improve cost effectiveness, accessibility and uptake of learning. Opportunities for virtual learning could be complemented by occasional face-to-face meetings, supporting better collaboration and different learning experiences. Sharing knowledge could also include making better use of the Flownet Knowledge Hub and if appropriate the Environment Agency's SharePoint resources that respondents suggested could be made more relevant to all of the RMAs.

The role of mentoring on surface water management within (and perhaps between different) RMAs also needs to be properly explored as this can be a valuable approach to improve skills. Professional bodies and RMA representative groups may be able to facilitate this if appropriately resourced.

Longer-term recommendations

4. **RMAs and relevant professional bodies – to explore the role of apprenticeships and on the job training.**

With the challenges of developing and maintaining capacity, particularly those around offering an attractive salary and benefits package, it may be beneficial to consider developing apprenticeships, to encourage a wider range of people within the industry at all skill levels. This should ensure sufficient inclusion of surface water management modules in existing apprenticeship training programmes. This could also be incorporated into established Continuing Professional Development, Professional Development and more formal on-the-job training for surface water management roles.

The Environment Agency Flood and Coastal Engineering (FaCE) programme is scheduled to end in 2023. Any new graduate training scheme should be accessible to other RMAs (particularly those from LLFAs) and it should include appropriate content on surface water management. Likewise, any approach to support on the job training within RMAs should be shared to see if it is applicable and useful elsewhere.

5. **Colleges, universities and professional bodies – to consider the development of improved and accredited training for RMA employees.**

Commentary from survey respondents suggest that the range of skills needed to manage surface water management differs to those required for general flood risk management. Respondents highlighted the need for accredited training and Continuous Professional Development for all RMAs to improve skills. During this review LLFAs were particularly concerned about the skills and capacity requirements for the implementation of SuDS and Schedule 3.

It would be beneficial to improve the inclusion of surface water management content in college and university courses (e.g. engineering, planning, geography, ecology, landscape architecture and architecture) to improve the future skills pipeline in the longer-term. The relevant professional bodies, organisations and RMA groupings could suggest higher and further education course content as part of the skills assessment in recommendation 1.

To complement this the short courses could be delivered. The format and delivery of short courses would need to reflect requirements for accessibility and affordability for RMAs.

It is likely the colleges, universities and professional bodies would need to be funded initially to develop course content. Course content suggested during the review include:

General training courses for all RMAs	Training specific to LLFAs
<ul style="list-style-type: none"> • Flood risk management • RMA responsibilities • SW asset ownership, management legislation & responsibilities • Partnership working • Working with communities • Flood risk planning (LFRMS, DWMP etc) • Development and flood risk (planning apps, local plans) 	<ul style="list-style-type: none"> • Developing business cases for funding • Green finance • Modelling • Ordinary watercourse regulation (consenting and enforcement) • Flood Investigations (S.19) • Evaluating planning applications • Flood Risk Projects management • SuDS approval, evaluation and inspection and maintenance • Detailed SuDS design and evaluation for multiple benefits (flood risk, water quality, amenity and biodiversity)

6. **RMA's – to explore approaches to improve transparency of information and knowledge management within their workforce.**

With a knowledgeable but ageing workforce, and significant levels of staff turnover, combined

with process and decisions that lack visibility it would be beneficial to improve knowledge management within RMAs.

Improving knowledge management would ensure there is accessible information and robust approaches to developing asset registers and documenting processes and procedures for surface water management to support succession planning and improved resilience within the RMA workforce. It is possible that approaches for knowledge management could be shared between the different RMA organisations.

7. **Regional Flood and Coastal Committees – to explore approaches to enable local hubs for sharing resources and good practice.**

The benefits of sharing resources and expertise between RMAs, particularly nearby LLFAs, was highlighted during the review. This was considered to be easier to facilitate at a local, or regional level. It was suggested approaches to sharing resources and expertise (potentially through RFCCs) should be explored to enable knowledge and skills to be shared on particular challenges and also support the sharing of resources, thereby reducing the dependency on in-house skills within RMAs.

Embargoed draft until 00:00 Thursday 11th May 2023

8. References

Environment Agency. 2020. *National Flood and Coastal Erosion Risk Management Strategy for England*. ISBN 978-1-5286-1791-8. [Document can be downloaded here](#)

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Defra. 2018. *Surface water management – an action plan*. [Document can be downloaded here](#)

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Defra. 2021. *Surface water management: a government update*. [Document can be downloaded here](#)

The National Infrastructure Commission. 2022. *Reducing the risk of surface water flooding*. [Document can be downloaded here](#)



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