

London Surface Water Strategic Group

Annual Monitoring Report

2021- July 2023

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Introduction

This is the first annual monitoring report from the London Surface Water Strategic Group (LSWSG) since its formation in 2022 in response to the July 2021 flash flooding events in London. It summarises progress of relevant recommendations from a range of reviews conducted by various organisations so that all can see the progress being made to improve the way surface water is managed and to reduce the risk faced by Londoners.

Context

In July 2021, London was hit by two extreme rainstorms, with some parts of the city receiving more than twice the average July rainfall in just two hours. The resulting flash flooding caused major disruption, with over 2,000 properties flooded with stormwater and sewage, including more than 30 tube stations, and some hospital wards were evacuated.

Surface water flooding is one of the greatest, largely unmitigated risks in London. The probability of more frequent and intense extreme events, with higher rainfall totals over larger areas and for longer periods, is increasing. London is not ready for the more extreme weather patterns that we expect to see over the coming decades.

Several reviews and reports commissioned to learn the lessons from the July 2021 flash floods identified a lack of city-level strategic coordination of surface water flood risk, as well as a need for improved collaboration between key organisations. It was determined that a London-level approach was required to address challenges that could not be solved by local Flood Risk Management Schemes. As a result, the London Surface Water Strategic Group was formed, giving strategic oversight for a programme of improvements to address this. It comprises senior-level representatives from Risk Management Authorities, including London's Lead Local Flood Authorities, Environment Agency and Thames Water, as well as other organisations with a flood risk management or strategic governance role, such as the Greater London Authority and Thames Regional Flood and Coastal Committee.

A London Surface Water Officers group has also been formed, comprised of representatives from the same organisations as the London Surface Water Strategic Group and a full time Secretariat and Project Officer, to provide support and carry out actions from various reports and reviews of the 2021 flash flooding events, as well as actions from when the Strategy is developed in 2024.

Overview of this report

The reports included in this assessment comprised the following with a total of 85 recommendations:

- Thames Water Independent London Flood Review (LFR)¹
- London Assembly Environmental Committee Report (LAR)²
- London Surface Water Task and Finish Group recommendations paper (TFG & SG)³
- The London Resilience Partnership Debrief (LAR) (Not Published)

Since several reviews reached the same or similar conclusions, the 85 recommendations set out in these four reviews have been consolidated into 12 'common' recommendations and 35

¹ [London flooding response | About us | Thames Water](#)

² [London Under Water | London City Hall](#)

³ [Surface Water Flood Risk Management.pdf \(londoncouncils.gov.uk\)](#)

review-specific recommendations. All the recommendations will be considered in the development of the forthcoming London Surface Water Strategy.

There is also the Thames Water Internal Review⁴, the actions of which are published in the Drainage and Wastewater Management Plan⁵, which was published on May 31st, and are therefore not included in this report.

This monitoring report identifies the recommendations, the sources of the recommendations and the body responsible for carrying out the actions, as well as current progress. It should be noted that some recommendations will not be delivered by the LSWSG; the specific owner for these are named in this report and progress against these will also be recorded and reported on alongside the LSWSG's actions.

This report and the recommendations are divided into six workstreams, which are as follows:

- Workstream 1- Governance
- Workstream 2- Strategy
- Workstream 3- Funding
- Workstream 4- Evidence
- Workstream 5- Communications
- Workstream 6- Resilience

To ensure that recommendations and actions of these are carried out, each workstream will have working groups comprised of individuals from the London Surface Water officers group. As illustrated in Table 1, each workstream has an LSWSG lead and a London Surface Water Officers Group lead made up of representatives from the following organisations/networks.

Table 1- Workstream Leads

Workstream	LSWSG Lead	Officers Lead
Governance	The Chair	Greater London Authority
Strategy	Independent Member	Thames Water
Funding	Thames Water	Environment Agency
Evidence	Transport for London	Greater London Authority
Communications	Transport and Environment Committee Member	Environment Agency
Resilience	Environment Agency	London Resilience Group

Key Milestones

The following notable accomplishments and successes have occurred since 2021:

- A strategy and vision workshop to bring together Risk Management Authorities and other stakeholders was held on 29 Jun 2022.
- A flash flood awareness campaign aimed at the most vulnerable basement residents was developed, with leaflets distributed to 45,000 in June 2022.

⁴ [London flooding response | About us | Thames Water](#)

⁵ [Drainage and Wastewater Management Plan | Thames Water](#)

- The London Climate Change Partnership ran an event to professional partners during London Flood Action Week in December 2022⁶.
- Key stakeholders visited Amsterdam in May 2022 to scope their work on surface water and share knowledge and learnings.
- The Water Commissioner of New York City visited in April 2022 to provide information on how New York is addressing similar flooding issues⁷.
- The London Surface Water Strategic Group was set up and has met in December 2022, April 2023, and June 2023.
- A scope for the London Surface Water Strategy has been developed and approved by the London Surface Water Strategic Group.
- The process to procure consultants to develop the first strategy and action plan is underway and contract to commence by summer 2023.
- Thames Water published its Drainage and Wastewater Management Plan on the 31st of May 2023⁸.
- The London Resilience Partnership have reviewed and updated the Strategic Flood Response Framework and Surface Water & Natural Hazards Framework based on lessons identified following the 2021 flooding.
- Officers have presented on the work of the LSWSG to the Local Government Association, RTPI London, LODEG, ADEPT, New Civil Engineer Flood Resilience, Flood and Coast and the National Infrastructure Commission.

Monitoring

Workstream 1- Governance

The Governance workstream includes three recommendations. One of these recommendations has been consolidated (see reference 1 in the table below), while the other two are individual. They are all completed.

Table 2- Governance recommendations

	Recommendation	Source	Body responsible	Status
1	Create a Surface Water Strategic Group	TFG-01 TFG-09 TFG-10 LFR-02 (A)	LSWSG	Completed
<p>Actions carried out so far: On 8 December 2022, the London Surface Water Strategic Group commenced. Considerable work has gone into agreeing the structure and membership as well as terms of reference for the group which brings together multiple organisations all with different responsibilities on surface water flooding.</p>				

⁶ [GLA Flood Climate Event 1 12 22 ver 3 - YouTube](#)

⁷ [Cloudburst Management - NYC DEP](#)

⁸ [Drainage and Wastewater Management Plan | Thames Water](#)

	Recommendation	Source	Body responsible	Status
2	Report annually on progress against strategic plans.	LFR-02 (B)	LSWSG	Completed
Actions carried out so far: The first annual monitoring report (this report) is scheduled for publication in July 2023. This is a yearly action until all actions have been closed.				
3	In response to the London Assembly Environmental Committee Review ⁹ , the Mayor should set out the ways in which London's flooding incident response has changed in the last year, following the work of the Flooding Roundtable and the Surface Water Task and Finish Group, and the progress that has been made on establishing the new Strategic Group. The Mayor should outline what funding and/or staffing support has been provided by the GLA to tackle the issue of surface-water flooding in London since the summer of 2021, and explain what commitments the GLA made to further funding or resources at the 8 December 2022 meeting of the Group.	LAR-01	Greater London Authority	Completed
Actions carried out so far: The London Assembly Environmental Committee has been kept up to date on the groups progress. The Mayor formally responded to the 'London Under Water' report on the 2 May 2023. On 8 June 2023 the at the Mayors London Infrastructure Group meeting a Strategic Group member spoke on the future of infrastructure and highlighted the work of the group and its activities.				

Workstream 2- Strategy

The Strategy workstream contains two recommendations. One of these has been consolidated (see reference 1 in the table below), while the other is specific. The first recommendation is in progress, while the second has yet to begin. The second recommendation will be incorporated into the strategy after it is established.

When the strategy is developed, more actions will be added to the strategy workstream. For the time being, the priority action is to complete the procurement of the London Surface Water Strategy consultants by summer 2023.

Table 3- Strategy recommendations

	Recommendation	Source	Body responsible	Progress
1	Develop a strategy and determine and manage the resources needed to implement it.	TFG-02 TFG-03 TFG-05	LSWSG	In Progress
Actions carried out so far: To support the LSWSG in the recruitment of a Secretariat, Project Officer, and Chair, a resourcing working group has been formed. The Secretariat is in place, and the Project Officer and Chair are currently being recruited. The Strategy working group was formed to procure and collaborate with the consultants appointed				

⁹ [London Under Water | London City Hall](#)

to develop the London Surface Water Strategy. Work on the strategy will begin this summer, with the final strategy scheduled to be released in the spring of 2024.

2	Consider broader climate change risks alongside the strategy	TFG-06	LSWSG	Not Started
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Actions carried out so far:

This action has not yet commenced because it will be considered as part of the Strategy's development, which is scheduled to be released in the summer of 2024.

Workstream 3- Funding

The Funding workstream has three recommendations. one of these recommendations has been consolidated (see reference 1 in the table below), while the other two are individual. Two are now underway, with the remaining recommendations still to begin.

The following is the prioritised action and expected timeline for the Funding workstream:

1. By Autumn 2023 the funding working group will explore opportunities for delivering multiple benefit SuDS schemes from various funding sources across London to raise awareness of the importance and value of SuDS for flood risk, as well as other environmental and health benefits.

Table 4- Funding recommendations

	Recommendation	Source	Body responsible	Progress
1	Review the process of applying for and securing funding for flood risk schemes and partnership opportunities and blockers.	LFR-04 LFR-05 LAR-03 TFG-11 LFR-25	LSWSG	In Progress

Actions carried out so far:

The Regional Flood and Coastal Committee (RFCC) has established:

- A Natural Flood Management Fund¹⁰ of around £1.5 million, which is accessible to local authorities and includes support for officer resources to promote the activity.
- A funding stream of £1 million, known as 'PROSPER', which seeks to support the delivery of SuDS in London and is being designed to explore a simplified application process.

All the organisations involved have also had their own funding streams:

- Thames Water Surface Water Management Programme¹¹ funded £1.7 Million in 2021 and £1.5 million in 2023.
- Since 2016 the Mayor has made over £29.55m available for green space and tree planting projects as part of the Mayor Of London Green Spaces Funding¹². This includes his Grow Back Greener Fund which has awarded over £4m funding to community groups over the last three years to help them create and improve green and resilient spaces.

The LSWSG are also working collectively to develop a further funding stream with the aim of coordinating the process to deliver multiple benefits.

- Other projects are also attempting to unlock further funding for SuDS such as The Greater London Authority project to develop innovative market based approach to delivery SuDS through collaborative

¹⁰ [Thames Catchment NFM Advice | WWT](#)

¹¹ [Surface Water Management Programme | About us | Thames Water.](#)

¹² [Green space funding | London City Hall](#)

	Recommendation	Source	Body responsible	Progress
	utility street works which secured £264,000 funding from the Department for Business, Energy and Industrial Strategy Regulators Pioneer fund ¹³ . <ul style="list-style-type: none"> Shirley Rodrigues Deputy Mayor for Energy and Environment met with Minister Pow in May 2023 to advocate for funding for London to deliver surface water schemes. 			
2	All organisations to provide resources to provide technical contribution to working groups.	TFG-12	LSWSG	In Progress
Actions carried out so far: In addition to the staff already assisting the officers' group or specific projects, all organisations have agreed to contribute further resources to the working groups.				
3	Evaluate ways for appropriate levels of funding to be allocated and investigate mechanisms for devolving this to London Authorities for appropriate actions.	LFR-06	LSWSG	Not Started
Actions carried out so far: This is recommendation number seven of the National Infrastructure Commission's Reducing the Risk of Surface Water Flooding review ¹⁴ , which was published in 2022. Time must be taken to consider how this might be taken forward. The Greater London Authority's Sub Regional Integrated Water Management Strategy for the Lee Catchment in London has recognised this as an important aspect to investigate further in the recommendations proposed. The steering group for this work will be maintained in order to progress thinking on this aspect.				

Workstream 4- Evidence

The Evidence workstream has thirteen recommendations. Four of these have been consolidated (see references 1, 2, 3 and 4 in the table below), while the remaining eight are individual recommendations. Eight are now underway, with work on the remaining yet to begin. For those that have not yet begun, the Evidence working group will be looking at how to simplify, encourage and consolidate all flood reporting.

The Evidence workstream's prioritised actions and projected timeline are as follows:

1. By Summer 2023, the availability of SuDS opportunity information across London will be clarified and a review undertaken to determine the benefits of having this information for highest priority boroughs.
2. By the end of 2023 progress will be made to map critical infrastructure in a consistent way across London using a centralised system.
3. By the end of 2023, Risk Management Authorities across London will have been encouraged to sign a comprehensive data sharing agreement relating to capturing and coordinating information on properties that have been affected by flooding.
4. By Autumn 2023, recommendations on a system to collect, share and coordinate flood risk information will be made to the LSWSG.

¹³ [Projects selected for the Regulators' Pioneer Fund - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/projects/selected-for-the-regulators-pioneer-fund)

¹⁴ [Reducing the risk of surface water flooding - NIC](https://www.nic.gov.uk/reducing-the-risk-of-surface-water-flooding)

Table 5- Evidence recommendations

	Recommendation	Source	Body responsible	Progress
1	Develop a centralised store of data to capture projects (both completed and prospective) and other key asset information across London, including Surface Water standard information, which may subsequently be utilised for prioritising.	LFR-13 TFG-20 LFR-11 LFR-12 LFR-24 LFR-22	LSWSG	In Progress
<p>Actions carried out so far:</p> <ul style="list-style-type: none"> • The GLA-led Infrastructure Co-ordination Service is testing whether the London Infrastructure Mapping Application (IMA)¹⁵, which is used to find and drive synergies between utility companies undertaking streetworks, can be used to identify opportunities for SuDS. A pilot in Enfield has already saved 25% of costs of the delivery of SuDs. • London Drainage Engineers Group¹⁶ collaborated with Atkins to develop guidelines to provide a consistent template for all to use in collecting information on the location, ownership, and condition of surface water assets, which were distributed in May for all to use for new projects and to planners to ask developers to use. • Thames Water have developed a Partnership Opportunities Database for the Drainage and Wastewater Management Plans¹⁷ to collate and prioritise all partnership projects. The working group will consider if it has further use to others. • Thames Water is scoping an integrated Borough-Thames Water drainage cleaning trial with the London Drainage Engineers' Group and London Highways Engineers' Group to see if a combined approach delivers improved drainage performance. • Thames Water has surveyed >900 properties that reported flooding from 12 July 2021 storm and is installing anti-sewer flooding resilience devices (e.g., non-return valves) on properties identified as being at higher risk of sewer flooding in the future. The information gained from this project on the location and depth of basements will be helpful to understanding the risk of surface water and sewer flooding in London. 				
2	Review Surface Water flood opportunity mapping and modelling coverage, agree priorities and extend coverage through additional funding bid.	TFG-14 TFG-16 TFG-17 TFG-18	LSWSG	In Progress
<p>Actions carried out so far:</p> <p>The Environment Agency have provided a map of all the surface water modelling that has been undertaken across London. The Thames Water independent review identified that this was difficult to obtain from Local Authorities. LODEG members discussed this in a meeting in May 2023 and highlighted that the Environment Agency include only outputs in their National Modelling and often Local Authorities do not have an appropriate place to hold this data so it is often lost over time. A consistent agreement on agreement for Intellectual property rights was discussed to ensure all Local Authorities received copy of modelling would be useful. TFL have provided further funding to support SuDS opportunity mapping across the whole of London.</p>				
3	Establish a data sharing agreement between key organisations and other relevant stakeholders which sets out what and how data is shared before, during and after an incident.	LFR-19 TFG-15	LSWSG	In Progress

¹⁵ [IMA Infrastructure Mapping Application \(london.gov.uk\)](https://www.london.gov.uk/infrastructure/infrastructure-mapping-application)

¹⁶ [LoDEG | lotag](https://www.lotag.org.uk/)

¹⁷ [Regional plans and portals | Drainage and wastewater | Thames Water](https://www.thameswater.co.uk/infrastructure/planning-and-projects/regional-plans-and-portals)

	Recommendation	Source	Body responsible	Progress
<p>Actions carried out so far:</p> <ul style="list-style-type: none"> Thames Water have produced data sharing agreements and eleven boroughs have signed up to these across the Thames Water Region. A data Sharing Agreement has also been established to share details of vulnerable people during an incident between Category 1 responders, but this does not extend more widely. Thames Water currently have an online reporting tool that is quite like those developed and used by Local Authorities. 				
4	Local Planning authorities to review policies in Local Plan as recommended by the Strategic Flood Risk Assessment incorporating specific policies on basements, requiring greenfield run off rates and identifying strategic flow paths and apply a consistent method for identifying critical drainage areas or zones (CDA or CDZ) to be uploaded to the London Infrastructure Mapping Application.	LFR-26 LFR-27 LFR-28 LFR-03	Local Planning Authorities	Not Started
<p>Actions carried out so far:</p> <ul style="list-style-type: none"> Greater London Authority have reviewed all Local Authority Plans and Policies for compliance with the London Plan on water. The Greater London Authority highlighted key changes made by recommendations from the various reviews that need to be made by policy officers in a presentation to London RTPI in December 2022 and in addition circulated this to LLFAs for information to ensure their planning colleagues were aware. Greater London Authority is investigating provision of guidance on standardisation across Local Authorities in Local Plan evidence reports. A map of the location of CDA was produced by Drain London in 2012 – a few local authorities have updated theirs and this is being checked by the Greater London Authority. 				
5	Develop a partnership-wide approach to the fast-time collation of information about the location and extent of flooding impacts. Data based solutions (i.e. merging data held by different organisations) and publicly available / real-time information sharing solutions should be considered.	LRP-12	LSWSG	Not Started
<p>Actions carried out so far:</p> <p>This recommendation addresses the needs of surface water flood risk management as well as emergency response. Because the project is so complex, it has not yet been scoped or resourced. The Cabinet Office first devised a tool for category 1 responders to use, however this tool was seen to be an additional burden and was never implemented. Regional tools have been developed around the country, and effort will need to be spent reviewing them to see if they are fit for use in London.</p>				
6	Work with those who flooded to support their access to the FloodRe reinsurance scheme, the Build Back Better fund, and feedback any necessary improvements to the scheme. Consider lobbying for further investment into FloodRe scheme to include cover for houses of multiple occupancy and commercial properties to ensure they have access to insurance.	LFR-08	LSWSG	In Progress
<p>Actions carried out so far:</p> <p>In February 2023, a group of Local Authorities with communities most affected by a lack of access to Flood Insurance, supported by the Greater London Authority, wrote to DEFRA and Flood Re to highlight the issues faced by those who live in buildings of four or more flats that are classified as commercial and thus do not have access to Flood Re.</p>				
7	Thames Water to publish policy on procedure for assessing FLIP installation with stakeholders for clarity and openness.	LFR-21	Thames Water	In Progress

	Recommendation	Source	Body responsible	Progress
<p>Actions carried out so far: Thames Water created the FLIPS technique, which stands for 'flooding local improvement projects'. This is a small self-contained pumping device that directs sewage and rainwater from a home's private drains into the road's main sewer. The FLIP device also contains a non-return valve, which prevents water from flowing back into the property. This information still needs to be made public so that it is clear when Thames Water will install these devices and when others may be required to install their own.</p>				
8	Develop existing modelling specifications, or create new ones, which provide clear guidance on the use of rainfall, boundary conditions and complex flow mechanisms. Ensure that a common model environment is used so that shared risks between LLFAs and TW are well understood.	LFR-10	LSWSG	In Progress
<p>Actions carried out so far: The Environment Agency is working on a nationwide project about guidance on modelling¹⁸, though it is not known at this stage how much guidance will be provided to Local Authorities undertaking their own modelling work. Thames Water are also working on how their guidance on modelling may integrate with this.</p>				
9	Contacts database to be updated biennially by London Councils.	TFG-15	London Council/ LSWSG	In Progress
<p>Actions carried out so far: The contacts database will be updated when the officer gap at London Councils has been filled.</p>				
10	Review ways of collecting financial impact of flooding	TFG-19	LSWSG	Not Started
<p>Actions carried out so far: The LSWSG have reviewed some of the information that was provided by Insurance firms on the costs of the flooding in 2021. It is difficult to capture all the costs of the impacts of flooding for example such as the impact of flooding on transport. Further work needs to be undertaken to scope this work out and how to capture better information in the future. There is new guidance produced by Government 'Counting the cost of flooding'¹⁹ on how to do this.</p>				
11	Set out clear terms of reference of what flood risk resilience schemes are aiming to achieve, in terms of acceptable levels of risk, desired standard of protection and design requirements, in conjunction with Recommendation 11. Agree across the RMAs. By understanding the flood risk mechanisms in play will result in a scheme which delivers the maximum benefit potential to all stakeholders.	LFR-23	LSWSG	Not Started
<p>Actions carried out so far: This is expected to be established by the Strategy, although work has been done to collate how other cities around the world measure success. A note has been made of other tool kits to assess resilience produced such as those by Zurich Insurance²⁰ and the British Red Cross 'Every Time it Rains'²¹ for the consultants to consider.</p>				
12	Local Authorities (Lead Local Flood Authorities) and Met Office to consider the approach to flood warning information / public communications for areas at risk of surface water flooding only and therefore not in receipt of Environment Agency flood alerts and warnings. Environment Agency to help support this work.	LRP-26	Local Authorities/ LSWSG	In Progress
<p>Actions carried out so far: DEFRA reviewing flood forecasting provision opportunities to advocate for the need for surface water warning and key messages.</p>				

¹⁸ [Improving surface water flood mapping using local drainage rates - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/news/improving-surface-water-flood-mapping-using-local-drainage-rates)

¹⁹ [Counting the cost of flooding - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/news/counting-the-cost-of-flooding)

²⁰ ['Prevention rather than cure': Zurich launches industry first...](https://www.zurich.com/uk/insights/prevention-rather-than-cure-zurich-launches-industry-first)

²¹ [UK Flooding report | Research | British Red Cross](https://www.britishredcross.org.uk/press-releases/2021/uk-flooding-report-research)

	Recommendation	Source	Body responsible	Progress
13	London Councils Transport and Environment Committee (TEC) ²² to support boroughs in responding to this review ²³ of existing resource, governance, and evidence.	TFG-22	London Councils	Not Started
Actions carried out so far: <ul style="list-style-type: none"> London Councils TEC has been updated on progress and is represented on the LSWSG. Borough Councillors are members of the Strategic Group, and officers from London Councils are members of the officers group, to ensure that boroughs are supported in contributing to this. 				

Workstream 5- Communications

The Communications workstream has three recommendations. One of these recommendations has been consolidated (see reference 1 in the table below), while the remaining two have not been consolidated. One recommendation has been completed, one is in progress, and the last recommendation has yet to begin because it will be part of the formulation of the London Surface Water strategy.

The Communications workstream's prioritised actions and projected timeline are as follows:

1. By Autumn 2023, raise awareness of the London Surface Water Strategic Group and London Surface Water Strategy through joined up messaging and the development and delivery of an agreed communications strategy.
2. By Autumn 2023, deliver a public awareness campaign which seeks to increase flood awareness and preparedness amongst communities and households vulnerable to the risk of surface water flooding.

Table 6- Communications recommendations

	Recommendation	Source	Body responsible	Progress
1	Identify targeted communication for vulnerable groups across London	TFG-07 LFR-20 TFG-13 TFG-23 LAR-05 LAR-04	LSWGS	In Progress
Actions carried out so far: <ul style="list-style-type: none"> Greater London Authority awarded a Community Resilience Fund of £55k across 11 boroughs in March 2023 to support local partnerships in resilience. The Greater London Authority delivered a basement flooding information campaign with partners in summer 2022, and at the point of publication of this AMR are in the process of sending these leaflets and some additional information on actions taken in 2023. Greater London Authority have collated data sets to identify basements across London and continue to work to refine this data set. Each Local Authority has been asked to confirm and check this data and add to this data set. A further workshop has been delivered in May to community groups across London on flooding by the Greater London Authority supported by Flood Re and Environment Agency and British Red Cross. 				

²² Our Committees | London Councils

²³ [Surface Water Flood Risk Management.pdf \(londoncouncils.gov.uk\)](https://www.londoncouncils.gov.uk/sites/default/files/2022-06/Surface%20Water%20Flood%20Risk%20Management.pdf)

	<ul style="list-style-type: none"> Thames Water have applied for and secured funding from Thames RFCC for the National Flood Forum to work with London Boroughs of Waltham Forest, Richmond and Wandsworth, and Camden to support six communities that have experienced repeated flooding in developing their own Community Flood Action Plans. The pilot has been so successful that the RFCC have funded the extension of the programme to a further eight communities. 			
2	Local authorities to consider championing the '30 days 30 ways' ²⁴ campaign in September 2021 to promote community and personal resilience.	LRP-25	London's local authorities	Completed
Actions carried out so far: This campaign was held in September 2021 and is an annual campaign.				
3	Develop a supporting communications strategy that places flood risk as part of an ongoing development of community resilience with regard to incidents which may increase in frequency and intensity due to climate change; and engages all stakeholders, from communities at risk of flooding to Risk Management Authorities, regulators, regional and national government.	TFG-04	LSWSG	Not Started
Actions carried out so far: <ul style="list-style-type: none"> This will be considered during the Strategy's development, which is scheduled to be released in the spring of 2024. Although several measures to improve flood resilience have already been discussed, groups across London are continuing to promote awareness. An interim plan has been developed to focus on London Flood Awareness Week later this year until consultants are on board. 				

Workstream 6- Resilience

There are twenty-three recommendations in the Resilience workstream. Four of these recommendations have been consolidated (see references 1, 2, 3 and 4 in the table below), while the other nineteen have not been consolidated. Ten recommendations have been completed and thirteen are in progress. The assurance of embedding learning is ongoing and subject to change as learning is validated.

The Resilience workstream's prioritised action and projected timeline as follows:

- By Summer 2023, a review will be completed to summarise the current availability of surface water flooding warning systems in London (such as the local use of HydroMaster or equivalent systems) and set out recommendations for expanding access across London. This will include inputting into the Surface Water Flood Forecasting Improvement Project.

Table 7- Resilience recommendations

	Recommendation	Source	Body responsible	Progress
1	Review triggers and actions based on available Flood Forecasting and Warning products.	LRP-01 LRP-02 LRP-03 LRP-04	LSWSG and London Resilience Forum	In Progress

²⁴ GM Prepared - 30 Days 30 Ways (gmemergencyplanning.org.uk)

	Recommendation	Source	Body responsible	Progress
		LRP-05 LFR-14 LFR-15 TFG-21		
Actions carried out so far: <ul style="list-style-type: none"> The London Strategic Flood Response Framework was amended in June 2022, and it has been requested that Multi Agency Flood plans be updated with action triggers following the floods in 2021. The Met Office, Environment Agency and London Resilience Group have taken a more forward stance in determining whether it is necessary to make a tri-partite call, exchange further information with all partners, or organise a Partnership teleconference in the case of all yellow warnings. Thames Water are assessing and scoping the viability of a data visualisation tool to combine different datasets to better forecast and monitor flood risk in real time. A number of local authorities are now using HydroMaster or other systems which can be used as a predictive tool and Surface water warning systems, as well as increasing the number of monitors used to verify if hotspots are experiencing flooding. There are a few examples of this across London that are being collected. Thames Water have developed an internal hydraulic playbook that sets out how Thames Water will respond to Met Office weather warnings and how they will engage with and support other risk management agencies. This work is being undertaken across working groups for Resilience and Evidence as this links with the collection of data and data sharing being explored, as well as the improved flood forecasting project outlined. 				
2	Create clear, consistent means of communication that are kept up to date and shared among all stakeholders.	LFR-17 LRP-27 LFR-18	London Resilience Group & LSWSG Communications Group	In Progress
Actions carried out so far: The London Resilience Group have implemented a new flooding communications plan (not published) to improve consistency during an incident.				
3	Improve processes for convening and conducting Partnership Teleconferences.	LRP-09 LRP-10 LRP-11	London Resilience Group	In Progress
Actions carried out so far: The London Resilience Group have amended the processes for internal Partnership teleconferences. However, when the Strategic Coordination Protocol is reviewed again in 2023, adjustments are required.				
4	Review and update Multi-Agency Flood Plans and ensure actions are being adhered to by partners.	LRP-13 LRP-14 LRP-17	Borough Resilience Forums	In Progress
Actions carried out so far: <ul style="list-style-type: none"> The London Strategic Flood Response Framework was updated in June 2022. Flood exercise training sessions with the Environment Agency, Met Office, and London Resilience Group were conducted in 2022. Workshops for the London Borough Resilience Forum (BRF) were held in February 2021, and Flood Ex Oct 2022 was held in November 2022. This year, some BRFs conducted local exercises, and more are scheduled for 2023. Additional opportunities may be identified at the BRF and London levels. A central location in Resilience Direct is being developed to host the MAFP across London, and a full review of the MAFP is being conducted to see if all the MAFPs have included all of the elements that have come out of the various reviews that have occurred since the London Resilience Group's review. 				

	Recommendation	Source	Body responsible	Progress
	Additional guidelines are being prepared to ensure that MAFP incorporates all of these features in the future.			
5	Local authorities, Environment Agency, and London Fire Brigade to collaborate on guidance for London Fire Brigade incident commanders on the appropriate/inappropriate uses for sandbags in surface water flood events.	LRP-23	Local Authorities/ Environment Agency/ London Fire Brigade	In Progress
Actions carried out so far: The Strategic Flood Framework mentions sandbags, but no specific instructions on how to use them are provided. The working group is working on this recommendation, but more action is needed.				
6	The definition of an internal NHS Major Incident and any specific implications arising from this for external partners should be clarified.	LRP-07	London Resilience Group	In Progress
Actions carried out so far: To be included in next revision of London Emergency Services Liaison Panel (LESLP) Major Incident Principles.				
7	a) Investigate timescales and suitable application for multi-agency response to improve forecasting. b) Use forecasting to identify event risk zones and consider use of ICMLive models as a predictive tool to identify impact and operational response during event	LFR-09	London Resilience Group/LSWSG /Thames Water	In Progress
Actions carried out so far: The Met Office and Flood Forecasting Centre have created a two-year Surface Water Flood Forecasting Improvement Project across the country. The Environment Agency is on the project's board, and data from a study of present London surface water flood warning systems, as well as evidence from flood warning projects in the Flood and Coastal Resilience Innovation programme, will be put in.				
8	Enable the Strategic Surface Water Management Group to manage and coordinate response to flooding, including deployment of clean-up crews to areas of greatest need.	LFR-07	London Resilience Group	In Progress
Actions carried out so far: This is being reviewed by the London Resilience Group. The SSWMG is not an operational group and will not be leading on this aspect, however work on identifying the areas of greatest need is captured within work on MAFP.				
9	Local authorities (Lead Local Flood Authorities) to work with Environment Agency, Thames Water and Transport for London to confirm roles, responsibilities and arrangements in place for the clearance of trash screens and gullies ahead of and/or during heavy rainfall events. This should include consideration of known drainage infrastructure constraints and be informed by the findings of Flood and Water Management Act 2010 Section 19 flood investigation reports.	LRP-19	Lead Local Flood Authorities/ LSWSG	In Progress
Actions carried out so far: This information has been recommended for incorporation in the MAFP. An operational working group led by local authorities is progressing the work. LODEG is doing similar work and has sent a survey to LA Highway's teams about gully cleaning processes.				
10	Carry out exercises to practice new flood response and communications plans to improve preparedness and cooperation across multiple organisations	LFR-16	London Resilience Group	In Progress

	Recommendation	Source	Body responsible	Progress
Actions carried out so far: In February 2023, a workshop was held with organisations that have a role to play in surface water in order to improve cooperation among these organisations.				
11	LFB and EA to confirm arrangements / procedure for requesting assistance with pumping equipment, to include the information required for the EA to determine the equipment required.	LRP-20	London Fire Brigade/ Environment Agency	In Progress
Actions carried out so far: The LFB has several BMA (Bulk Media Advisors) who are trained to manage water removal from a location. They will be able to provide the communication between fire control and the EA regarding what pumping equipment would be required to assist at these types of incidents.				
12	Review London and Borough level flood plans to ensure details of Fire & Rescue Service flood advisors and their ability to call on partner organisation flood rescue capabilities are included.	LRP-15	Borough Resilience Forums	In Progress
Actions carried out so far: The London Strategic Flood Response Framework was updated in June 2022. 18 Multi Agency Flood Plans have been updated since 2021				
13	Thames Water and local authorities to arrange a meeting to discuss liability, roles and responsibilities in relation to surface water flooding and surcharging into and from sewers.	LRP-21	LSWSG	In Progress
Actions carried out so far: The strategy is expected to clarify the roles and responsibilities of various organisations. Work is being progressed by an operational working group led by local authorities. This issue has been discussed between relevant partners but is the subject of ongoing work.				
14	LFB and other emergency services to review the process for how they interact with other control rooms if they start to take calls normally routed to the LFB.	LRP-16	London Fire Brigade	Completed
Actions carried out so far: LFB has signed up to and is part of Operation Willow Beck which is a national call redistribution plan that allows fire and rescue services to enter an agreement to take a pre-determined proportion of calls for other fire controls. This agreement enables an affected fire control to initiate Operation Willow Beck when call volumes exceed their own call handling capacity and that of their buddy or consortium arrangements. This could be during spate or spike conditions due to weather related events such as flooding or wildfires; or other incidents where the call handling capacity has become overwhelmed. It may also be when the number of 999 calls are starting to affect the whole 999 network.				
15	LAS, NHS and St John Ambulance to develop/revise process for joint working in support of hospital patient transfer based on good practice from this incident.	LRP-18	London Ambulance Service / NHS England	Completed
Actions carried out so far: Should assistance be requested, the LAS has a mutual aid agreement in place. St John has been appointed the National Reserve Ambulance Service. The good practise would be maintained with a coordinated response by NHSE&I London amongst LAS, SJA, and Hospital Providers.				
16	Local authorities and British Red Cross to work together to establish suitable standards for Rest Centres including disabled access and accessible toilets.	LRP-28	Local Authorities / British Red Cross	Completed
Actions carried out so far: Being addressed by the LRF Humanitarian Assistance Working Group and the local authority resilience standardisation programme.				

	Recommendation	Source	Body responsible	Progress
17	DLUHC (previously MHCLG) and London Resilience Group to continue to engage on any further recovery issues.	LRP-29	London Resilience Group / DLUHC	Completed
Actions carried out so far: The London Strategic Flood Response Framework was updated in June 2022.				
18	Thames Water to work with other agencies to develop a multi-agency strategy to develop response to flooding. Engage with other organisations to identify clear roles and responsibilities during the event.	LFR-01	Thames Water	Completed
Actions carried out so far: The London Strategic Flood Response Framework was updated in June 2022.				
19	Investigate ways to improve the fast time communications between Thames Water, Lead Local Flood Authorities and other partners. This should include confirmation of who Thames Water should ask for when making contact with Local Authorities during the response to an incident (e.g. LALO or Duty Silver) and vice-versa.	LRP-08	London Resilience Group	Completed
Actions carried out so far: Thames Water's call centre has increased capacity, and clearer points of contact have been established.				
20	Action for LRF Blue Lights Panel to consider arrangements for regional declaration of Major Incidents at Tactical or Strategic level, including the declaration of Major Incident stand-down.	LRP-06	Blue Lights Panel	Completed
Actions carried out so far: The amended London Emergency Services Liaison Panel (LESPL) Major Incident Principles (Oct 2021) contained provisions for regional Major Incident declaration and stand-down.				
21	Develop a rapid public facing communications plan with all stakeholders.	LRP-24	LSWSG	Completed
Actions carried out so far: In July 2022, the London Resilience Communication Group circulated its severe flooding incident communications plan (not published).				
22	Local authorities to promote households at flood risk to have their own flood preparedness measures in place and to not rely on local authorities being able to provide support. To consider highlighting where sandbags might / might not be useful in public information on LLFA websites, and in Multi-Agency Flood Plans.	LRP-22	London's Local Authorities	Completed
Actions carried out so far: <ul style="list-style-type: none"> In early July 2022, all local authorities received a public communications template with a structure and proposed wording. This included a request to highlight the local authorities stance on sandbags. However, raising awareness of flooding and taking steps to lessen its effects will be a continuing effort for all. 18 Multi-Agency Flood Plans have been reviewed since 2021. 				
23	The London Resilience Group hold annual Summer Preparedness briefings for the Mayor's Chief of Staff and Deputy Mayors. These sessions involve briefings by relevant partners regarding the preparedness for summer specific risks including any improvements that have been made in that regard since previous incidents.	LAR-02	London Resilience Group	Completed-Ongoing action.

	Recommendation	Source	Body responsible	Progress
Actions carried out so far:				
The most recent Summer Preparedness Briefing was on the 24 th of May 2023 and flooding was included as a discussion topic.				

Conclusion

This first annual monitoring report highlights over the course of less than a year, that significant progress has already been made, with key organisations working together to initiate and complete recommendations. This work lays a strong foundation for accelerated delivery in 2023-24 and beyond. To summarise, of the 47 recommendations (12 consolidated recommendations and 35 individual recommendations):

- 14 have been completed
- 25 are in progress
- 8 have yet to begin

While some of the recommendations have been completed, ongoing monitoring is being carried out to ensure that the effectiveness of the delivered action does not diminish. Most of the recommendations are moving forward, with some requiring a great deal of work to complete.

It is worth noting that for some of the recommendations there is further work required to scope out the activity to achieve the recommendation, or that the recommendation is dependent on something else being delivered. Some of the recommendations require the development of the London Surface Water Strategy to define or refine the activity behind the recommendation.

The intention is that this is an annual monitoring report and will be produced again in 2024 as the LWSWG progress towards delivery of London's first Surface Water Strategy and Action Plan.