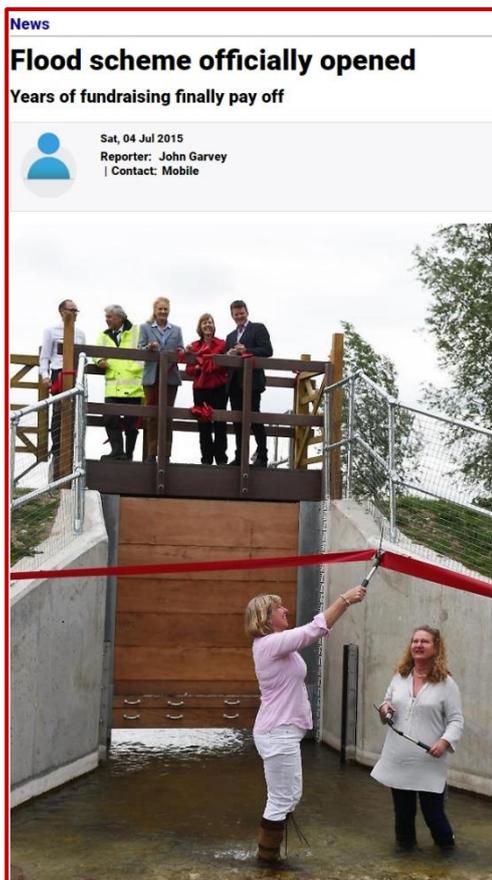


PERIODIC REPORT

2011-2017



39,415 homes better protected...

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THAMES REGIONAL FLOOD AND COSTAL COMMITTEE

Promoting joined up thinking and actions to manage flood risk throughout the Thames catchment



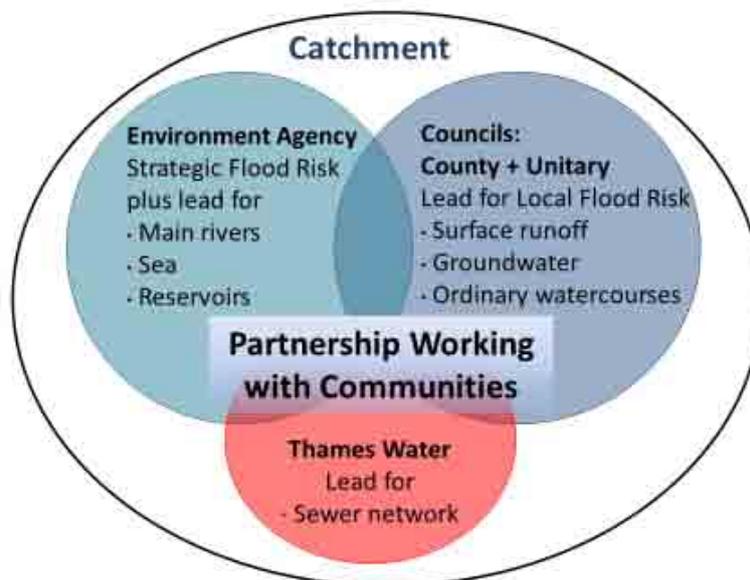
“We need to get better at designing places that provide space for water because flooding can be devastating. The far-reaching effects on our wellbeing and economy continue long after the water has receded. There are often several sources of flood water, including from overwhelmed drains, sewers, rivers and the sea. Building design and land management can influence events. Hence, success in managing flood risk relies on Councils, Water Companies, the Environment Agency and other organisations coming together to work with and support communities in a very joined up way.”

The Thames Regional Flood and Coastal Committee (RFCC) brings together these partners from across the Thames catchment making it possible to achieve more by working together. Our catchment-wide perspective makes sense for managing water which knows no political boundaries, and is also local enough to enable communities to be involved in shaping what we do. We advise on and approve the programme for managing flood risk throughout the Thames catchment where over a quarter of England’s population lives.

This report describes our approach, our collective progress since 2011 when we were established, and our future thinking. The progress we have made is a tribute to the efforts of many dedicated people, both in the community and professionals, and we owe them a great debt of gratitude for the difference they are making. These include the Members of the RFCC whose wise advice and selfless service is much appreciated and changes lives.”

Amanda Nobbs, Chair Thames RFCC 2009-17

Regional Flood and Coastal Committee “Joined up plans, programme and partners”



At a Glance

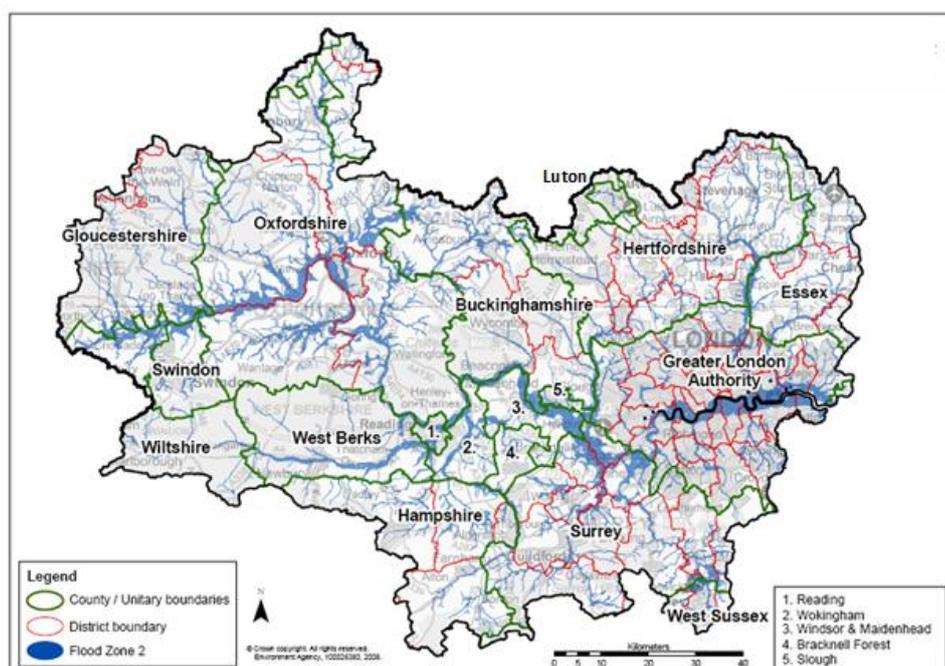
Scale of the Problem in the Thames Catchment

- 160,166 properties with high or moderate flood risk from rivers and/or the sea.
- 265,000 properties at high or medium risk from surface water flooding.
- In addition, there are communities at risk from groundwater and sewer flooding.
- Critical infrastructure is vulnerable to flooding including emergency services; facilities for power, water and telecommunications; sites with hazardous materials; and transport infrastructure including railway stations, motorways and A roads.
- Progress in managing flood risk needs to set in the context of increasing risk from climate change and cumulative effects of development and changing farm practices.

Thames RFCC Achievements Since 2011

- 39,415 homes have been better protected from 99 projects delivered since 2011. These include new flood risk management schemes and renewal of ageing defences.
- Partners throughout the area led the way in developing a shared vision and long term strategic approach, underpinned by a rolling, five-year levy funding commitment. These make it possible to tackle big challenges as part of an inclusive programme and to achieve efficiencies unattainable with an annual programme.
- Advise on and consent to a £500 million six-year capital programme and £17.5 million annual maintenance programme.
- Secured agreement to £67.5 million Levy contributions by 47 Local Council partners to deliver reduced risk, a more resilient economy and a better environment for both urban and rural communities.
- Established 13 partnerships to enable more integrated projects, pioneered sponsoring groups to oversee schemes with strengthened community ownership, supporting 10 project advisors to help build the capacity of Councils to manage surface water risks and funding pilot projects to help establish better practice.

Local Councils in the Thames RFCC Area



Who are we and what we do?

The Regional Flood and Coastal Committee (RFCC) advises on how organisations work together to deliver an integrated approach to flood and coastal risk management across the Thames catchment. The Environment Agency is required to respond to our advice. We play an important role in shaping priorities enabling local input to decisions. We influence and approve the programme of new schemes and the maintenance programme. Our elected members also agree a levy on Council Tax that is invested in flood risk initiatives.

Thames RFCC comprises 13 elected Council members whose portfolio includes flooding, 11 independent members, who range from technical experts to residents affected by flooding, and a Chair appointed by the Environment Minister. Members work closely with Environment Agency staff, who support the Committee, and with Local Authorities, Thames Water, community groups and a range of other partners such as farmers, utility providers and the wider business community.

We have three purposes set out by the Environment Minister. We promote:

- **joined up plans** to identify, communicate and manage flood risks
- **joined up programmes** of works to benefit communities at risk efficiently
- **Joined up partners** better able to tackle flood risk

Thames Cycle of RFCC Meetings



Our meetings are public. For details contact ThamesRFCC@environment-agency.gov.uk

Who is responsible for what in flood risk management?

The Department for the Environment, Food and Rural Affairs has a strategy in place to achieve “a nation better-protected against floods”.

www.gov.uk/government/publications/defra-single-departmental-plan-2015-to-2020

In support of this ambition, Regional Flood and Coastal Committees across England have an important role to play in bringing together representatives from:

- the **Environment Agency**, Defra’s agency which oversees all flood risk management in England and, also, leads in reducing flood risk from “main rivers”, the sea and reservoirs.
- **County and Unitary Councils** which have a lead role in relation to flood risk from surface water, groundwater and more minor “ordinary water courses”. They are known as “Lead Local Flood Authorities”. There are 54 in the Thames RFCC area.
- **Water Companies** which lead on reducing the risk of sewer flooding.

Collectively they are known as **Risk Management Authorities**.

Who leads in managing flood risk or delivering a scheme is determined by the type of risk. In practice, flood water often comes from multiple sources which means partnership working is required to deliver a scheme.

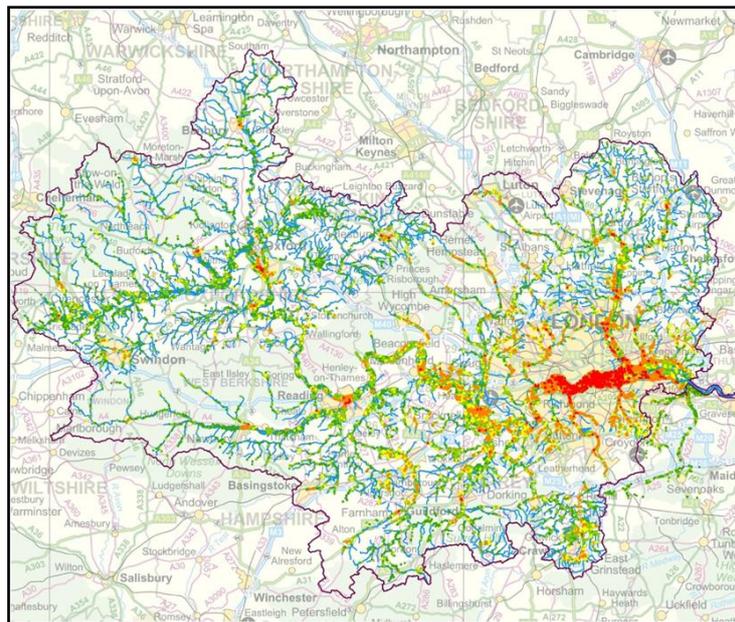
Responsibility for managing flood risk, subject to some restrictions to protect the public interest and the environment, in fact lies with land owners and home owners. Risk Management Authorities have “permissive powers”. They work to support those at risk, aiming to reduce risk by putting in place measures that achieve the greatest possible benefit for the best value. It is not possible to protect everyone from all events and supporting communities to become more resilient to cope with flooding is an important part of flood risk management.



What we have achieved and outstanding challenges: “Joined up plans”

Considerable progress has been made in understanding flood risk across the catchment.

- Risk is now mapped and reported on a common basis (high to low) for all types of flood risk.
- For any location, it is possible to identify all types of flood risk by entering a postcode in the Environment Agency website.
- A Thames River Basin Flood Management Plan captures risks and provides links to actions planned by various partners.
- Tidal risk in the estuary is monitored as part of a long-term plan, Thames Estuary 2100.
- Thames Water has undertaken a number of sewer network drainage capacity studies and identified areas of stress linked to limited capacity and growth.
- Local Flood Risk Management Strategies are now in place or being finalised for all Lead Local Flood Authorities.
- Some progress has been made in planning for water in development planning although too often this is a bolt on consideration late in the planning process. The Greater Local Authority has produced joined up plan policies for water and set surface water drainage standards for new development in the capital.
- Emergency planning and the importance of planning for a changing climate were given impetus by significant flooding in the Thames area in 2013/4 and by extreme flood events in the north in 2015.



Map of flood risk from rivers across the Thames RFFC area (large clusters red)

The RFFC commissioned work to identify clusters of significant risk of river flooding. Reducing the considerable numbers at high risk was seen as a priority and analysis showed national funding in Thames was focused on renewing schemes. “Community at Risk” packs were produced for each Lead Local Flood Authority area highlighting where potential projects to reduce the risk of flooding from all sources could be investigated. The Committee also commissioned detailed investigation of groundwater flood risk in the chalk aquifers of Buckinghamshire and Berkshire.

RFCC Commentary: Joined Up Plans

This section captures some of the observations and advice offered by the RFCC. It is based on the collective reflections of professional partners and communities and on understanding of the specific needs of the Thames catchment.

Catchment planning: The Thames catchment provides a strong unifying logic promoting collective working by many partners throughout the area. For example, schemes in Essex protect communities in London and flood risk in West London is influenced by the interplay of the tide from the east and river flows from upstream to the west.

Communicating risk: Progress in understanding risk needs to be matched by clear communication to enable all partners, communities and households to appreciate their risk and take appropriate action to manage it. This could be through individual measures to make homes and businesses more resilient or engagement in planning and community schemes.

Local Flood Strategies: Overall, good progress has been made by Lead Local Flood Authorities in taking on a new role leading on surface water flood risk during a time of cuts. There is, however, considerable variation. Some Councils are exemplary whereas it is disappointing that others have taken more than five years to publish a Local Flood Risk Management Strategy. The RFCC hopes that the next generation of Strategies will be more user friendly for clearly targeted audiences and more strategic in setting out the scope of what can be achieved by various means.

Rationalisation: Thames RFCC has advocated rationalisation of the number of plans and has been pleased to contribute to thinking on integrating water and flood plans for the Thames and its tributaries.

Integrated assessments: The RFCC is encouraging more progress in pursuing integrated approaches. Joint investigations for all types of flood risk should be the norm. From the outset, these should consider opportunities to align with redevelopment or investment by other infrastructure providers and for multiple benefits, not just possible stand-alone flood interventions. The RFCC is supporting a pilot for the Lee Valley to look at aligning flood risk management measures over the next 25 years with development opportunities in the area, such as Crossrail 2 and the Greater London Authority Opportunity Areas.

Water Company 25 Year Plans: Members welcome the suggestion that Water Companies should produce 25 Year Drainage Plans on the same basis as the Water Resource Plans they provide to Ofwat. This would support collaboration with surface water planning by Lead Local Flood Authorities.

Role of planning: Given the technical constraints and expense of building flood schemes in urban environments, making effective use of the planning system to accommodate water in ways that avoid flood risk could not be more important in the densely-populated Thames catchment. Members would like to see greater and earlier priority given to making space for water in all aspects of planning, underpinned by robust policies in Local Plans and Supplementary Planning Documents on blue and green infrastructure. The need to allocate and safeguard land in today's plans to maintain adequate standards of protection in a changing climate is insufficiently appreciated and needs more attention.

Making a difference: Members advocate refinement of the way progress in managing flood risk is reported to indicate **net progress in reducing the number of properties with unmitigated risk**. The current measure (number of properties moved to a lower risk band) does not track the overall difference made taking account of new development, climate change or the mix of new and renewed defences.

What we have achieved and outstanding challenges: “Joined up programme”

The Thames RFCC has played an active role in shaping the programme of investment in the Thames catchment. Members advise on priorities and allocate locally-raised Levy, to supplement national grant and other funding contributions, enabling projects that are not fully funded nationally to proceed.

When the RFCC was established in 2011, **tidal** risk management was considered in safe hands due to the Thames Estuary 2100 Plan and national funding. By contrast, arrangements to address **surface and ground water** risk were embryonic. We were advised that most of the potentially deliverable schemes to reduce the risk of **river** flooding had been constructed. However, the number of people at significant risk of **river** flooding remained high and the Thames area had the largest number of people at risk in the country living on undefended floodplain.

The RFCC concluded that a more strategic and integrated approach was required to enable Risk Management Authorities to bring forward the next generation of measures. In 2012, Thames RFCC resolved to commit levy on a rolling five-year basis linked to a comprehensive “Investment Framework”. This change in approach was transformational, making it possible to initiate projects too big and complex to get under way when planning on an annual basis. The Committee pledged 10% of the cost of major projects, these being the River Thames Scheme, for communities between Teddington and Datchet, and the Oxford and Abingdon Scheme. Members also supported innovative approaches working with smaller communities at risk throughout the catchment, including in more rural areas. We continue to pursue a balanced programme in which every Lead Local Flood Authority partnership secures more investment in its area than the Levy contribution it provides.

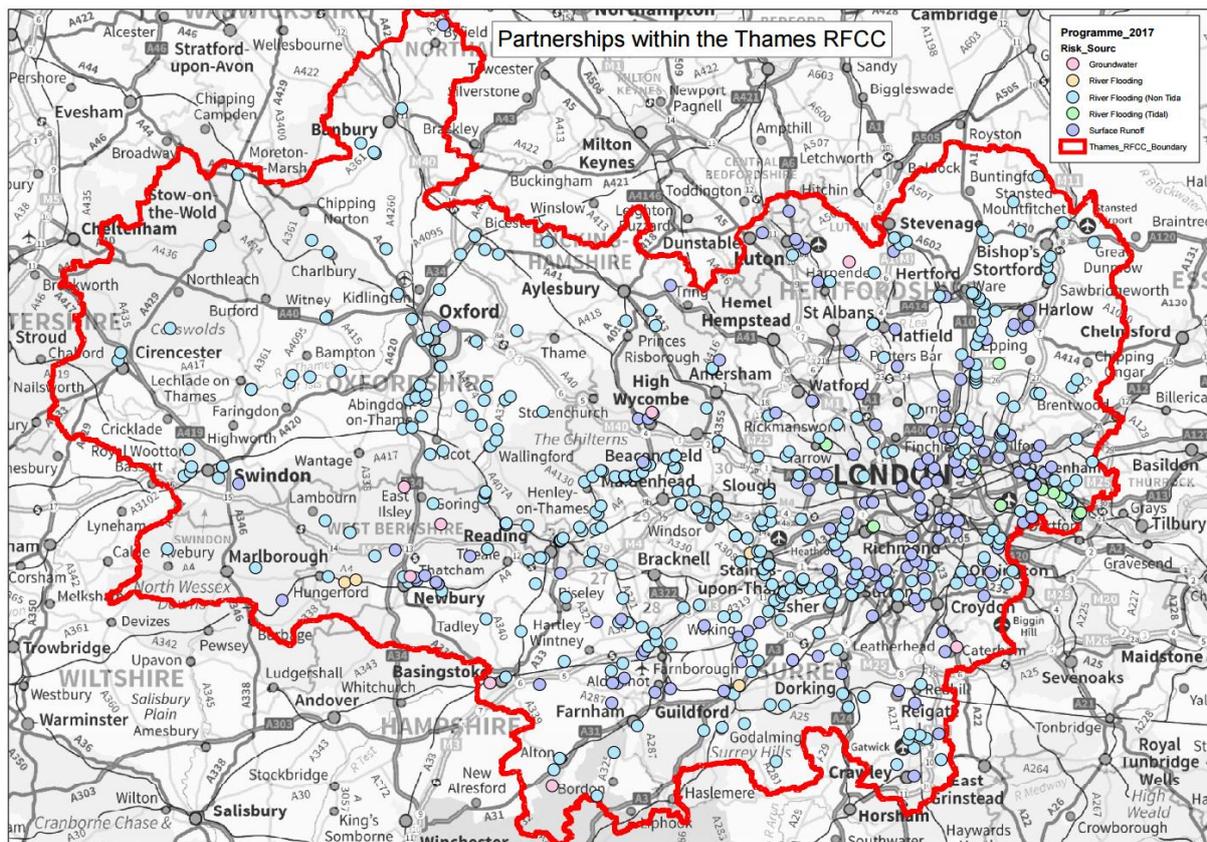
The Thames RFCC has agreed the following Levy Principles. These shape the programme.

- Risk-led approach with focus on high risk
- Mix of schemes (major, smaller, community, innovation)
- Value for money (cost: benefit and partnership funding score)
- Deliver efficiencies by planning ahead and packaging work
- Link to redevelopment, water company and transport investment
- Adopt integrated approaches to all types of flood risk
- Plan a project pipeline, including major schemes, and “spade ready” portfolio
- Invest in existing assets as well as new
- Integrated approach to outcomes, including environmental
- Good spread across RFCC area adopting a joined-up catchment approach
- At least one surface water scheme in each Lead Local Flood Authority (47)
- At least one integrated scheme in each Partnership area (13)

These are reviewed each year by the Committee to incorporate lessons. Opportunities for synergies, partnership working, including with communities, and a catchment-wide perspective should apply to all work from the outset.

The Thames RFCC warmly welcomed the introduction by Government, in 2015, of a Six Year Programme of flood risk management capital schemes and the subsequent introduction, in 2016, of a long-term maintenance programme to 2021. This is more efficient and effective. The Thames Six Year Programme of capital works (2017 update) includes 437 schemes to reduce the risk of flooding for 32,000 households from all sources. A list of these schemes can be found at www.gov.uk/government/publications/programme-of-flood-and-coastal-erosion-risk-management-schemes. Members have pledged £67.5m of local Levy over six years which secures over £300m of national Grant in Aid under the Partnership Funding formula.

Schemes in the 6 Year Programme in the Thames RFCC Area (2017 update)



Currently, the Thames programme includes Levy support for pilot projects seeking to slow and reduce peak flows of water in both the rural upper catchment (eg Natural Flood Management on the Evenlode and in Hertfordshire) and in urban areas (eg London Strategic Sustainable Drainage Pilot). It is hoped that these initiatives will help inform policies to make the approach of reducing peak flows more widespread in future to complement and increase the effectiveness of other flood defences.

To support Lead Local Flood Authorities at the start of their new responsibilities, the RFCC invested in a programme of works to ensure all Critical Ordinary Watercourses in the Thames catchment were in good condition.

EXAMPLES OF SCHEMES:

In towns:

Newbury



Banbury



Marlow



Swindon



These schemes, from Newbury which prevented flooding during its opening ceremony to Marlow which is under construction, involve a mix of features such as embankments to constrain water close to property and storage areas where water can be held away from homes and businesses. They also provide amenity and wildlife benefits.

In London:

Salmons Brook, Enfield



Beam Parklands, Dagenham



Lewisham and Catford



The flood storage capacity of the Barking Washlands was enhanced by embankments and excavation to enable development nearby and create a valuable wildlife space for residents to enjoy. The Enfield scheme overcame challenges to weave flood measures into the urban fabric and includes a flood storage area on a golf course upstream to help communities downstream.

Village communities:

Eastbury



Bucklebury



Winterbourne



The Hanneys



Abridge



Each of these schemes benefited from contributions raised by the community and active participation in project design and delivery. The pumps at Hillman's Cottages in Abridge are operated by residents and the Hanneys flood group has working parties to maintain the brook. At Eastbury, the landowner contributed land making the scheme possible.

Surface Water Focus:

Herne Hill

Firs Farm, Enfield

Aylesbury

Hammersmith & Fulham



Embankments incorporated into a children’s play area and a storage area of geotextile blocks beneath the ground are features of the innovative Herne Hill Scheme that was delivered as a partnership between Southwark Council and Thames Water. In an Enfield park, an excavated area that stores storm water creates a delightful wildlife feature. Temporary defences can be deployed to protect The Willows in Aylesbury and a “rain garden”, with popular community features, drains water from nearby roofs in White City.

Linked to infrastructure and development:

Woking

Crawley

Little Haddon

Houghton Regis



The multi-faceted Woking scheme involved remediating a landfill site, creating a parkland with lakes to provide flood storage, plus improved community facilities and new housing that helped to pay for the works. Significant contributions were secured from the airport authority at Gatwick to deliver flood storage areas to reduce flood risk to Crawley and Horley as well as the airport. A project to reduce flood risk in Little Haddon is being designed to tie in efficiently with the A120 bypass and Luton Borough Council is linking a flood scheme to development at Houghton Regis.

Major projects:

Three major projects are being supported as part of the Thames Programme:

- Thames Estuary 2100, the first phase of a century project ensuring 1.25 million people and £200 billion worth of property continue to be protected from tidal flood risk.
- The River Thames Scheme to reduce flood risk between Datchet and Teddington where over 15,000 homes are at risk.
- The Oxford and Abingdon Scheme which aims to reduce the risk to over 1,000 properties.

RFCC Commentary: Joined Up Programme

This section captures some of the observations and advice offered by the RFCC. It is based on the collective reflections of professional partners and communities and on understanding of the specific needs of the Thames catchment.

Planning ahead collaboratively: The RFCC continues to urge Risk Management Authorities to work together with a forward looking and integrated mindset. Cost effective opportunities to reduce flood risk will increasingly rely on joining with other parties, often linked to urban enhancement schemes, transport projects or development. Collaboration requires greater awareness of the plans of others and longer lead times. This will also help with identifying funding contributions. The economic and business case for investment needs to be set out in a format that works for wider partners not just the grant in aid approval process.

Broaden concept of a scheme: The trend towards an ever more holistic approach to managing flood risk is welcome. The RFCC advises that this should be reflected in the way “flood schemes” are portrayed as a suite of measures including: any engineered and more natural elements; the maintenance and operation plan; how the standard of protection will keep pace with climate change or be supplemented in an extreme event; associated initiatives to slow the flow through sustainable drainage and natural flood management; a community resilience plan for remaining risk; and wider benefits, including environmental, which are usually the main use between flood risk events.

Programme oversight: Considerable progress has been made in active management of programme risk, including ensuring reserve projects are poised to replace any that are delayed and capacity building. All Risk Management Authorities are encouraged to collaborate in oversight of the collective risk register. Although mitigation measures are in place, capacity to deliver and success in securing funding contributions continue to be significant risks.

Maintenance: Maintenance of flood defence assets and of conveyance in water courses should benefit from the recent introduction of a longer-term programme and a management system designed to optimise lifetime benefits. In the Thames area, many structures with a flood defence function (such as walls and embankments) and culverted watercourses are owned by third parties. Risk Management Authorities are encouraged to ensure effective processes are in place to alert owners to their responsibilities and monitor maintenance. Members also encourage greater confidence in communicating the place of evidence based, highly targeted dredging in maintenance regimes given that it is rarely the best option, effective over time or environmentally acceptable.

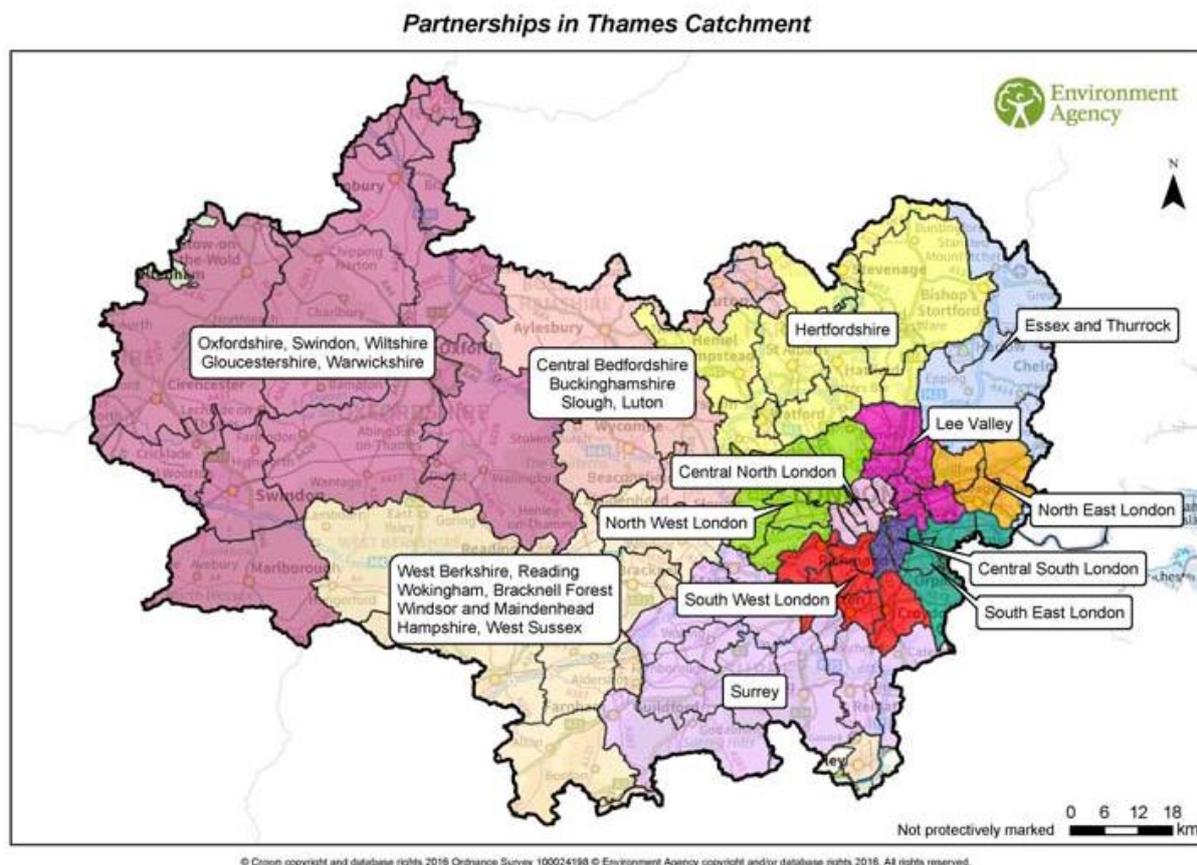
Surface Water: This is a less mature area of flood risk management and, although much progress has been made, a picture is emerging that the current outcome measures and funding regime are insufficient to support inventions on the scale required to make effective progress in managing this significant, dispersed risk.

Partnership Funding: Members hope that when this is reviewed, the social and economic benefits of flood investment will be less repressed in the formula. In addition, adding a category to the formula that gives an incentive to reducing peak flows in drainage systems would help to support reductions in surface water and sewer flood risk. Currently, Sustainable Drainage and Natural Flood Management find it difficult to attract grant in aid because their more dispersed benefits rarely move a specific property to a lower risk band.

What we have achieved and outstanding challenges

“Joined up partners”

A major focus of the Thames RFCC has been building relationships to enable all Risk Management Authorities to work together more effectively. There has been a notable strengthening of bonds among Lead Local Flood Authorities and with the Environment Agency. Thames Water is increasingly involved and is represented at a senior level on the RFCC. All partners are recognising the benefits of this collaboration.



Within the Thames RFCC area, 13 Partnerships have been created. These enable representatives from the 54 Lead Local Flood Authorities, Thames Water and the Environment Agency to plan as partners at a more local level and to feed into RFCC discussion via the local RFCC member. Thames Water has decided to make the 13 Partnerships a principal vehicle for engaging and planning with flood risk partners. The RFCC is using Levy to fund a new team of 10 Project Advisors to help build and support the capacity of Lead Local Flood Authorities to deliver flood schemes for the types of risk on which they lead, including surface water. This team also engages with the Partnerships to identify future opportunities for joint initiatives. Some advisors are based at Thames Water offices which facilitates dialogue.

A project on the Wealdstone Brook illustrates the case for collaboration. The complex mix of surface water and foul water flooding, which then combines with fluvial water, would be near impossible to resolve without a partnership of the London Borough of Harrow, Thames Water and the Environment Agency.

RFCC Commentary: Joined Up Partners

This section captures some of the observations and advice offered by the RFCC. It is based on the collective reflections of professional partners and communities and on understanding of the specific needs of the Thames catchment.

Water Company step change: Members would like to see examples of effective joint working with Thames Water, such as the Herne Hill Scheme, become the norm as part of an integrated future programme. This will require a shift in approach which should pay dividends, especially in view of the common interest between Lead Local Flood Authorities and Thames Water in keeping surface water out of drains and the sewerage system. It would be helpful if this could be underpinned by Outcome Delivery Incentives to promote partnership working.

Other utilities and infrastructure: The RFCC is keen to encourage stronger links with highways and other infrastructure partners and has set up a Sub Group to promote this. The London Infrastructure Plan 2050 highlighted the benefits to be derived from planning future flood and drainage needs alongside other infrastructure providers and it is good to see Defra's Long Term Investment Scenarios identifying the case for future flood investment to achieve greater resilience for core cities and infrastructure.

London Borough Partnerships: Some London Members are expressing interest in enhancing Lead Local Flood Authority capacity and resilience by pooling resources, based on the 7 Partnerships, to create better-supported, multi-skilled officer teams.

Sponsoring groups: The RFCC has promoted these as a way of bringing together a range of partners to take forward schemes and encourages wider take up of this approach. They create a sense of local ownership and achieve more effective delivery with partners working together to overcome obstacles in a coordinated way. It is well worth the time spent in the early stages building understanding and relationships. Including community group representative on the Oxford and Godalming sponsoring groups to oversee the strategic direction of schemes has been very beneficial.

Sustained community partnership: Treating communities living with flood risk as partners in a sustained relationship should be a priority for professional partners and it is heartening to see progress where relationships are maturing. The RFCC, which has two members from community groups and growing informal links with many others, has appreciated valuable contributions to its work from flood groups, including to strategy.

Community Infrastructure Levy: Progress in securing funding towards flood risk management from this and various other sources will rely not just on a timely, clear case for investment but also on community relationships and wider understanding of why planning to reduce adverse flooding matters, including among planning authorities and developers.

Farmers and catchment partnerships: Increasing interest in encouraging measures that work with natural processes in the countryside, to slow the flow of water to settlements downstream, is promoting closer partnership with farmers and rural landowners and, also, with those involved in catchment planning. This is welcomed by the RFCC which is seeking a member with farming connections.

Future Priorities: 25 Year Approach

The Thames Regional Flood and Coastal Committee has agreed a 25 year approach, capturing the needs and opportunities identified by professional partners and community groups for the Thames catchment. This approach sits within Defra's 25 Year Environment Plan, which should be out for consultation within 2017. The Thames Approach reflects programme priorities identified by workshops for Risk Management Authorities in 2016 and 2017, a workshop for community groups in 2016 and ongoing RFCC input.

The approach is intended to provide a framework for overseeing and shaping the Thames programme including monitoring of progress, identifying future priorities and establishing whether new mechanisms are needed to support an appropriate range of measures. There are a number of themes, such as climate change, putting communities at the heart of what we do, taking a catchment wide approach, aligning with initiatives by others and early consideration of water in planning, that cut across all seven themes.

The 7 Themes

Taking a joined up, catchment-wide approach, we will work with and support communities in managing their current and future flood risk by...

1. Slowing the flow of water in the upper catchment and upstream of settlements by encouraging **land management that retains more water**, including leaky dams and storage areas, to reduce peak flows.
2. **Helping built up areas adapt to become more "rain ready"** by encouraging urban redesign and approaches to new development that provide space for water, slow and reduce runoff into drains and sewers, and create more resilient buildings and infrastructure.
3. **Empowering village communities to become more resilient** to flooding and supporting water level management where appropriate.
4. **Promoting the value of floodplains**, which can store water away from properties, and the **opening up of rivers** that have been covered over or put in channels.
5. **Delivering forward-looking, integrated schemes**, including major projects where appropriate, making the most of redevelopment opportunities and any new development, partnerships, alignments and wider benefits.
6. Supporting plans for **managing tidal flood risk** in the Thames estuary ensuring timely actions to keep pace with climate change and rising sea levels, including acting now to safeguard strategic sites and enable the setting back of buildings over time.
7. **Promoting maintenance**, the **roles of land and property owners**, and the need for **contingency plans** recognising not all flooding can be prevented.

For detail of proposed actions under each theme, please contact ThamesRFCC@environmentagency.gov.uk for the full document.

Members of Thames RFCC (April 2017)

Chair

Amanda Nobbs OBE MA MSc (appointed 2009) Fellow of the Royal Geographical Society and RSA. *Current:* River Thames and Oxford Scheme Sponsoring Groups, Thames Estuary 2100 Strategic Programme Board, Mayor of London's Water Advisory Group, various project boards and voluntary community roles. *Past:* Defra Flood Programme Board, public appointments including Inland Waterways Advisory Council, Flood Defence and Environmental Protection, Company Director, Chief Executive of Council for National Parks.

Independent Members

Peter Sims (appointed 2016) Town Planner. *Past:* local government Assistant Chief Executive including flood and emergency response responsibilities, Surrey Flood Risk Partnership Board. *Special Interests:* Chair of board overseeing Lead Local Flood Authority Project Advisors and member of River Thames Scheme Programme Board.

Dr Steven Shuttleworth (appointed 2012) Environmental scientist and town planner. *Current:* Trustee of Landscape Research Group. *Past:* Lambourn Parish Councillor, Director of Service Delivery and Head of Planning at an East Midlands council, local government, central government and consultancy roles including waste, conservation and emergency response. *Special interests:* groundwater flooding and Surrey Flood Partnership.

Elizabeth Goodman (appointed 2013) Programme and project manager. *Current:* delivers large global strategic projects, leads a rural community flood group. *Past:* established Campaign for Environmentally Responsible Tourism. *Special interests:* Community engagement in flood risk and project management.

Roland Grzybek (appointed 2016) Fellow of the Institution of Civil Engineers (ICE). *Current:* Chair of Thames Estuary Partnership, Chair of ICE London Region, ICE Reviewer, ICE Expert Water Panel. *Past:* flood and coastal risk management sector including London's rivers and project director for Thames Barrier 100 year project. *Special interests:* Hertfordshire Flood Partnership and member of board overseeing Lead Local Flood Authority Project Advisors.

Lawrence Gosden (appointed 2014) *Current:* Managing director of Thames Water's wholesale wastewater business. *Special interest:* partnership working to reduce sewer flooding risk.

Tarsem Flora (appointed 2013) Landscape architect. *Current:* International architect including master plans for sustainable and flood resilient new towns based on ecological principles, Chair of Purley Community Flood Group, National Flood Forum. *Special interests:* community engagement and managing risk from surface water and culverts in built up areas.

Robert Oates - Conservation Member (appointed 2013) Fellow of the Linnean Society of London. *Current:* river basin planning. *Past:* Executive Director of Thames Rivers Trust, career in government service. *Special interests:* relationship between flood risk management and conservation, catchment planning for multiple benefits, natural flood management, environmental opportunities linked to major Thames schemes.

Mike Reeves (appointed 2013) *Current:* Wastewater Modelling Manager specialising in hydrologic and hydraulic modelling of sewerage systems in urban areas. *Past:* Technical Services Director producing software for the water industry, coastal modeller. *Special interests:* Sustainable drainage systems and monitoring the effectiveness of natural flood management pilots.

Valerie Owen (appointed 2013) Chartered architect, town planner, surveyor and environmentalist. *Current:* property professional, number of Ministerial appointments and Non-Executive Directorships, Chief Guide at Girlguiding UK, Chair of Lantra the sector Skills Council for land-based and environmental industries. *Special interests:* Role of planning in flood risk management and partnership with the business community.

Lindsey Ions (appointed 2016) *Current:* Associate in Civil Engineering Consultancy. *Past:* flood risk management and drainage in private and public sectors. *Special interests:* Liaising with London Drainage Engineers Group and Drain London.

John Dora (appointed 2016) Chartered Civil Engineer, Fellow of Institution of Civil Engineers, Permanent Way Institution and Royal Meteorological Society. *Current:* flood management and rail infrastructure, chair of national Infrastructure Operators' Adaptation Forum, member of CIRIA's Water Advisory Panel, lecturer on infrastructure resilience and asset management at Universities of Surrey and Birmingham. *Special interests:* synergies between the Thames flood risk management programme and infrastructure investment.

Lead Local Flood Authority Members

Cllr Dean Cohen - London West Partnership Cabinet Member for Environment in Barnet. Flood Partnership also includes Brent, Ealing, Harrow, Hillingdon and Hounslow.

Cllr Nick Draper - London South West Partnership Cabinet Member for Community and Culture in Merton. Flood Partnership also includes Croydon, Kingston-upon-Thames, Richmond-upon-Thames, Sutton and Wandsworth.

Cllr Lynda Rice - London North East Partnership Cabinet Member for Environment in Barking and Dagenham. Qualified teacher. Flood Partnership also includes Havering and Redbridge.

Cllr Alan Smith - London South East Partnership Deputy Mayor and Cabinet Member for Regeneration in Lewisham. Chair of Board of Groundwork Trust London, mechanical engineer and machine designer. Flood Partnership also includes Bromley, Bexley and Greenwich. *Special interest:* Liaison with London Councils.

Cllr Timothy Coleridge - London Central North Partnership Cabinet Member for Planning Policy, Transportation and the Arts in Kensington & Chelsea. Flood Partnership also includes Camden, City of Westminster, City of London and Islington. *Special interest:* basement flooding.

Cllr Jenny Brathwaite- London Central South Partnership Cabinet member for environment and Transport in Lambeth. Solicitor. Flood Partnership also includes Southwark. *Special interests:* tidal flood risk and natural flood management pilots.

Cllr Daniel Anderson - London Lee Partnership Cabinet Member for Environment in Enfield. Flood Partnership also includes Hackney, Haringey, Newham, Tower Hamlets and Waltham Forest. *Special interest:* member of board overseeing Lead Local Flood Authority Project Advisors.

Cllr David Andrews - Hertfordshire Partnership Deputy Executive Member for Environment, Planning & Transport in Hertfordshire. Chair of Local Nature Partnership. *Special interests:* opening up covered rivers and member of board overseeing Lead Local Flood Authority Project Advisors.

Cllr Jesse Grey – Berkshire 5 Plus Partnership Chair of Overview & Scrutiny for Highways, Transport & Environment for Windsor and Maidenhead. Mechanical Engineer. Flood Partnership also includes part of Hampshire and West Sussex.

Cllr Rodney Rose - Oxfordshire and Swindon Plus Partnership Deputy Leader of Oxfordshire County Council. Builder. Flood Partnership also includes parts of Gloucestershire, Northamptonshire, Warwickshire and Wiltshire. *Special Interests:* Co-Chair of Oxford and Abingdon Flood Alleviation Scheme Sponsoring Group.

Cllr Warren Whyte – Bucks, Slough and Luton Plus Partnership Cabinet Member for Planning and Environment for Buckinghamshire. Aylesbury Vale District Councillor and architect. Flood Partnership also includes part of Central Bedfordshire.

Cllr John Furey – Surrey Partnership Cabinet Member for Transport and Environment. Board Member of Coast to Capital Transport Body, Vice Chair of Strategic Aviation Special Interest Group and Chair of Enterprise M3 Local Transport Body. Runnymede Councillor with Housing Portfolio. *Special Interests:* synergies with other infrastructure and fundraising for River Thames Scheme.

Cllr Simon Walsh – Essex and Thurrock Partnership Cabinet Member for Environment and Waste in Essex. Environmental land management and marine biology. Member of Lee Valley Regional Park Authority.

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