

Surface water flood risk management in London

Alex Nickson, *Policy and programmes manager, climate change adaptation, air quality, urban greening and water*

Greater London Authority



.....so what is the GLA?

- The Greater London Authority (GLA) is the regional government for London
- comprises an elected Mayor and an elected London Assembly
- The Mayor
 - has executive powers over the GLA Group
 - is required to promote the health, wealth and social equality of Londoners
 - is required to publish a range of statutory strategies
 - has limited planning and development control powers
 - is the ‘voice’ of London.
- The London Assembly scrutinises the plans and activities of the Mayor and holds him to account.



Why Drain London?

- Early 2007, we identified surface water flood risk as a potential threat
 - no ownership of risk
 - no map of where might get wet
 - fragmented responsibility for delivery
 - low skills base outside consultancies
 - 33 boroughs, therefore 33 ways of working
- Summer floods 2007 - £3bn insured losses
- Government commissioned 'Pitt Review'
- Flood and Water Management Act



Drain London activities

1. Raising awareness
2. Building capacity
3. Identifying priorities
4. Piloting approaches
5. Developing and delivering programmes
6. Monitoring and review

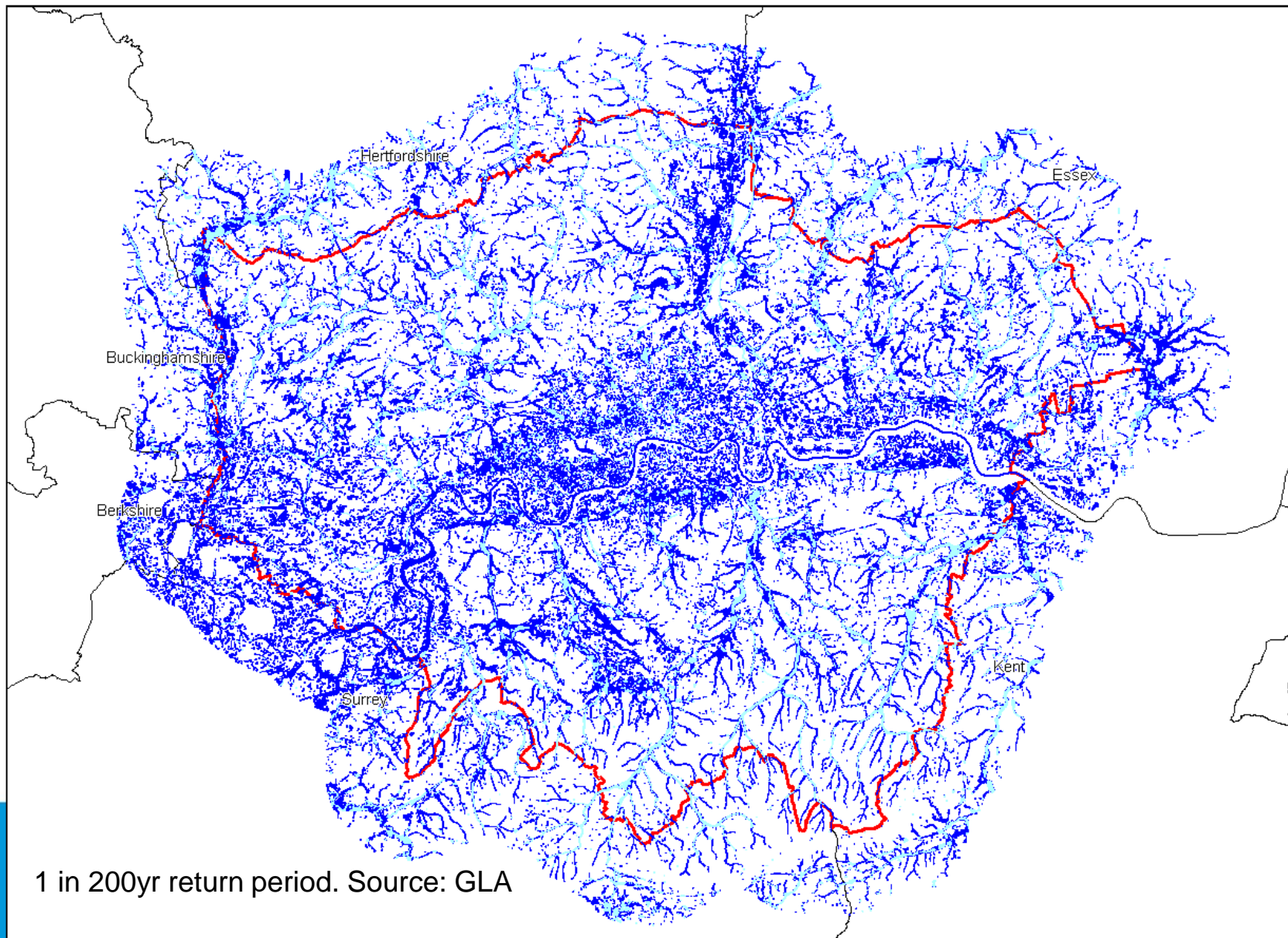


Raising awareness

- Modelled flood risk (1in30yr, 1in75yr, 1in100yr, 1in 200yr, 1in100yr + allowance for climate change)
- Identified & defined >300 'critical drainage areas'
- Assessed flood risk management options and identified a 'preferred' option for each CDA .
- Compiled preferred options into a borough-level surface water management plans
- Developing a communications strategy for flood risk managers
- Developing simple guidance for homeowners on flood risk management measures



Mapping flood risk



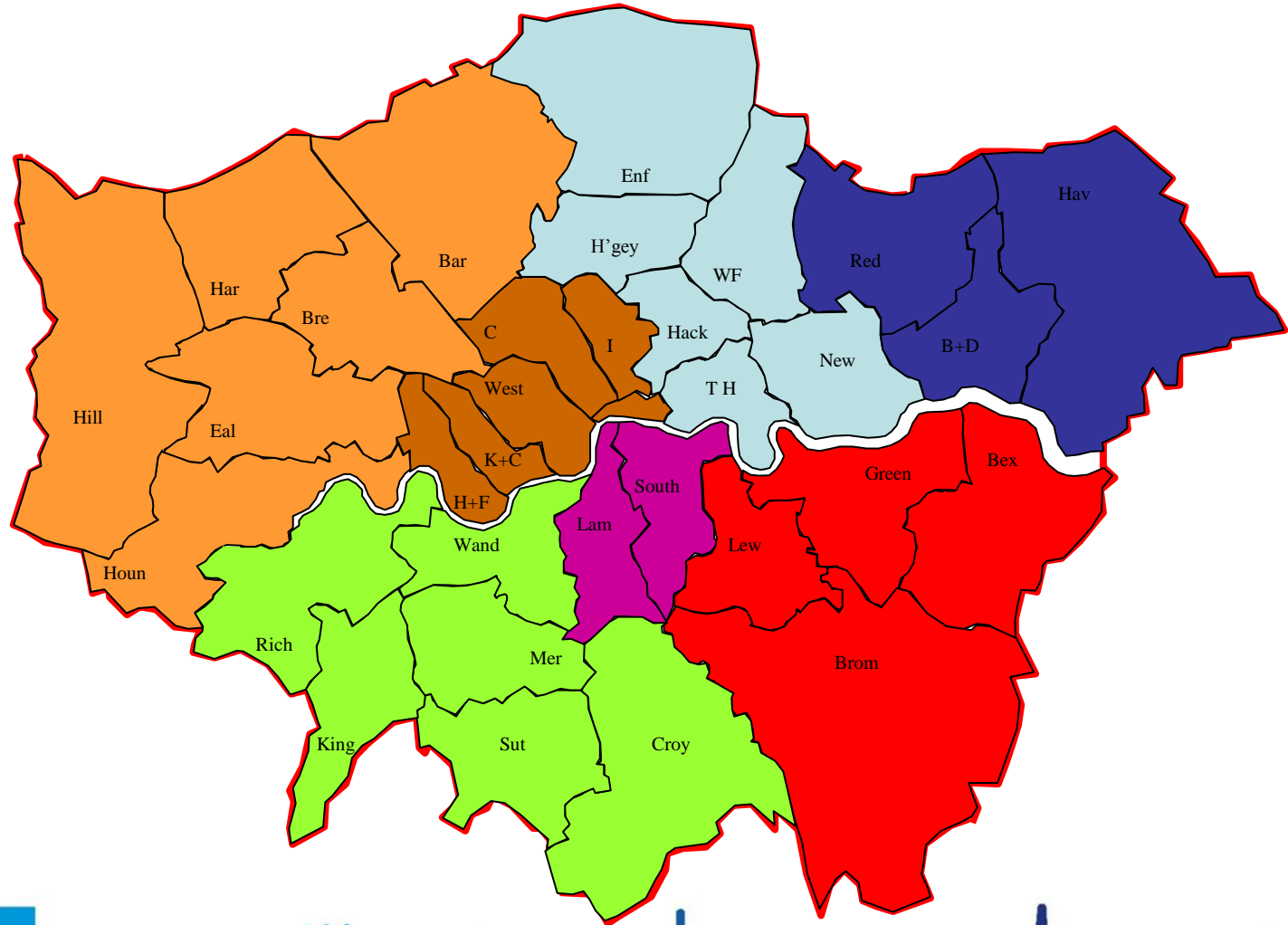
1 in 200yr return period. Source: GLA

Building capacity

- Created 7 sub-regional groups
- Encouraged each borough to form a x-departmental flood group
- Encouraged the chair of each borough flood group to meet with other boroughs in their sub-regional group
- Created a Londonwide forum of flood risk management officers which meets quarterly (Drain London Forum)
- Part-funded an existing technical officers group to create a flood risk management asset register
- Created a simple flood reporting system
- Created an online portal for all flood risk managers to access and share data.



7 sub-regional groups



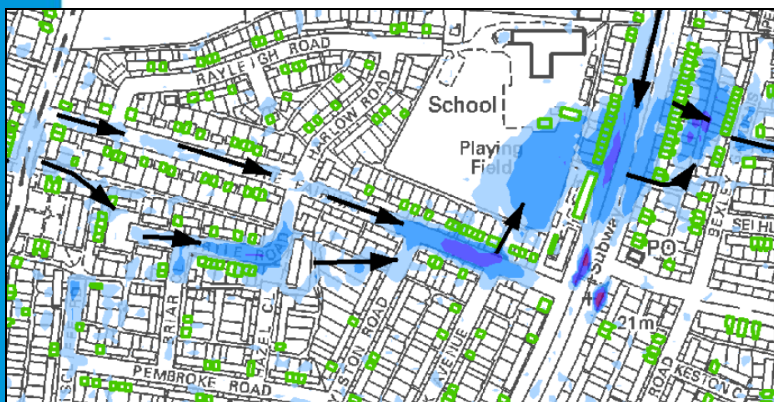
Identifying priorities

- Encouraged boroughs to identify and prioritise high flood risk areas and provided funding to undertake more detailed mapping
- Assessing flood risk to priority infrastructure:
 - 106 hospitals and funded detailed studies of the top 12 at risk
 - 400 schools and will fund detailed studies of the top 20 at risk
 - Borough emergency 'command and control' centres
 - making contact with electricity and communications sector
 - Transport for London using our flood maps



Impact of Tier 3 Modelling on Tier 2 Results

Tier 2 SWMP Results



(Green boxes are predicted property flooding)

Updated Tier 3 Results



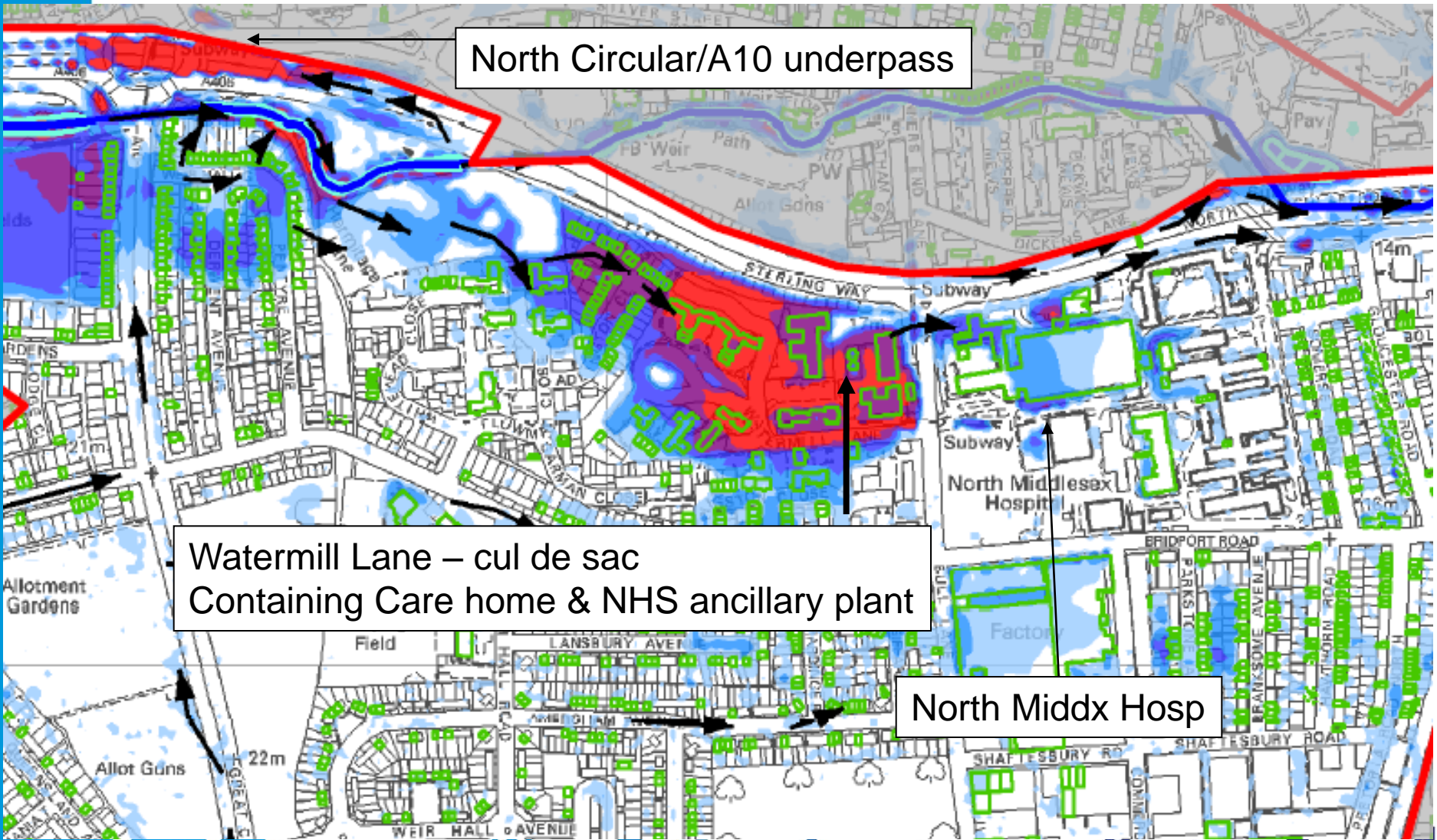
Tier 3 Property Flooding Results



- Flood extents generally similar to Tier 2 SWMP published results.
- More realistic flood flow paths and depths along roads and around buildings
- Severe reduction in predicted property flooding
- Reduction in property flooding means reduced damages and therefore reduced FDGiA funding potential

Application for funding therefore cannot be supported by Tier 2 flood damage estimates!

Flood Depth – CDA Group4_009 1in 100year +CC



Piloting approaches

- Working with businesses
 - Funded 'green infrastructure audits' in 10 central London Business Improvement Districts (BIDs)
 - Provided £100k funding to encourage BIDs to implement priority green infrastructure projects
- Innovative SuDS
 - Funding trial projects in 3 boroughs to retrofit low-cost SUDS in high-density streets
- Green roof fund
 - Subsidised the installation of 6 green roofs and are supporting the creation of a 'Green Roof centre of excellence'
- Supporting 4 communities to develop their own 'community flood plans'.
- Provided funding to Raingain

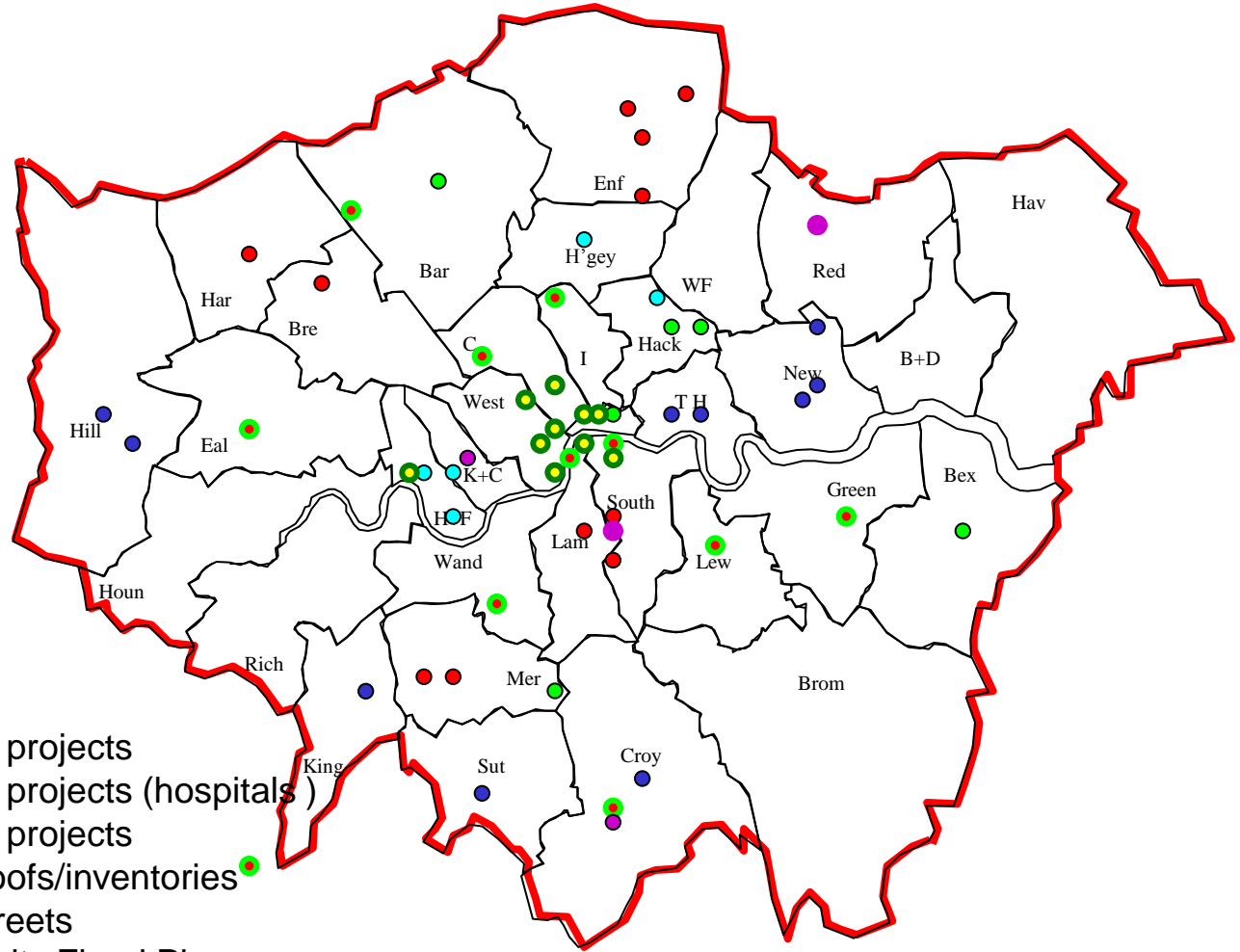


Greenstreets

- Greenstreets is a £1.5m programme to raise awareness and build capacity in 4 communities to 'own' their local flood risk and diffuse pollution and empower them to take action.
- The programme will also test the contribution household and neighbourhood scale measures can make to complementing existing 'grey infrastructure'.



Drain London Tier 3 Projects

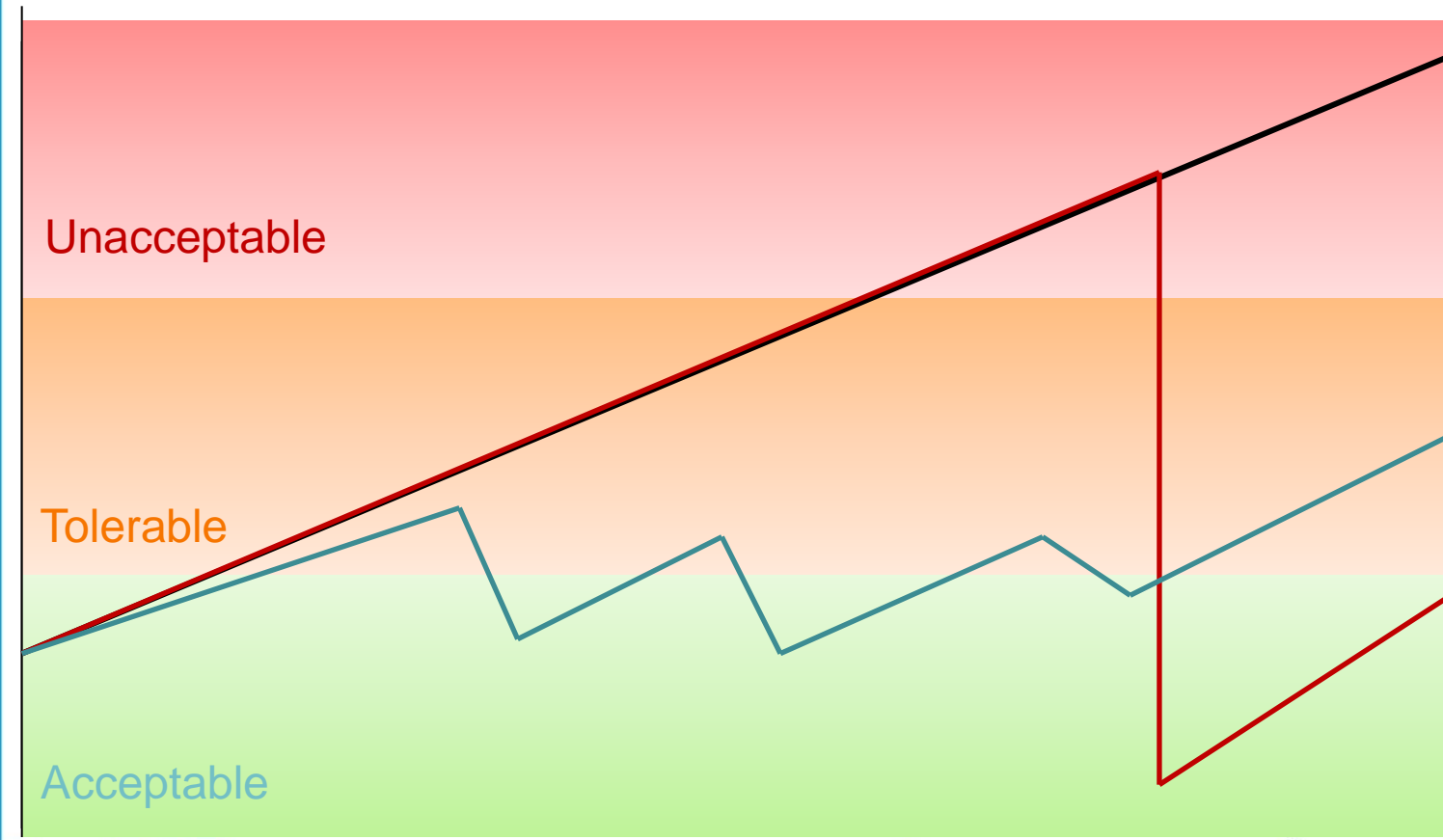


- Phase 1 projects
- Phase 2 projects (hospitals)
- Phase 3 projects
- Green roofs/inventories
- Greenstreets
- Community Flood Plans



Future challenges

Risk



Time

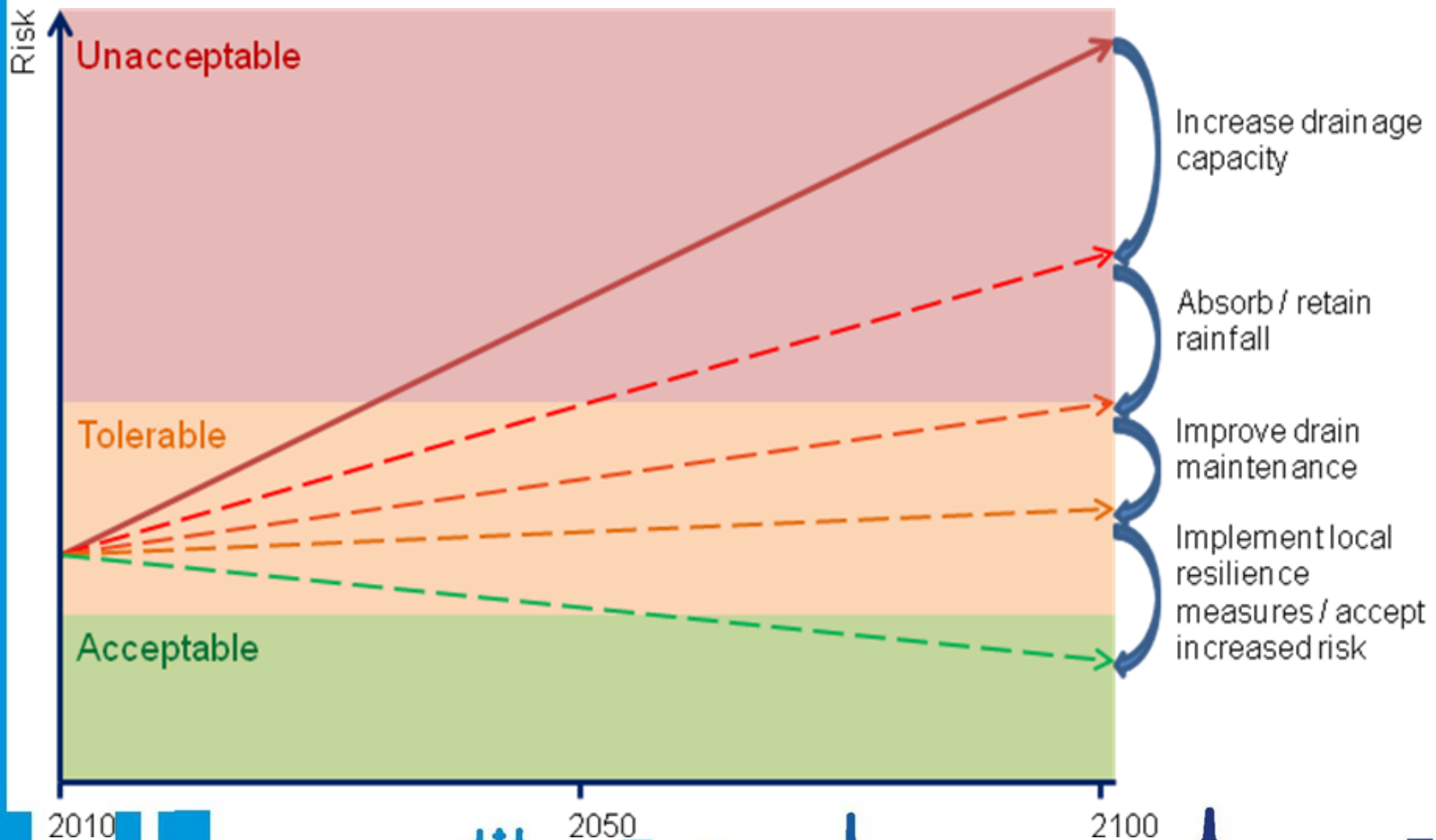


‘Mind the gap’

- Thames Water have been mapping and modelling the separate and combined sewer in greater detail
- Identified areas where there is limited current capacity
- Developed models which can identify areas where there is likely to be limited future capacity due to
 - Urban creep
 - Climate change (wetter weather)
 - New development
- Next step is to combine this info to determine the current and future ‘adaptation gap’ and how to close it.



Closing the 'adaptation gap'



Thank you

Contact details:

Alex Nickson

GLA

Alex.Nickson@london.gov.uk

+44 (0)207 983 4322



Drain London – How?

Tier 1

- Scope project
- Collate data
- Build partnerships
- Develop framework for effective working

Tier 2

- Model risk in each sub region and segment into boroughs
- Identify ‘critical drainage areas’ (CDAs)
- Develop surface water management plan for each CDA
- Build borough capacity and encourage ownership

Tier 3

- Prioritise strategic vs local projects
- Provide funding for priority projects
- Initiate a ‘community flood plan’ programme
- Develop a programme to