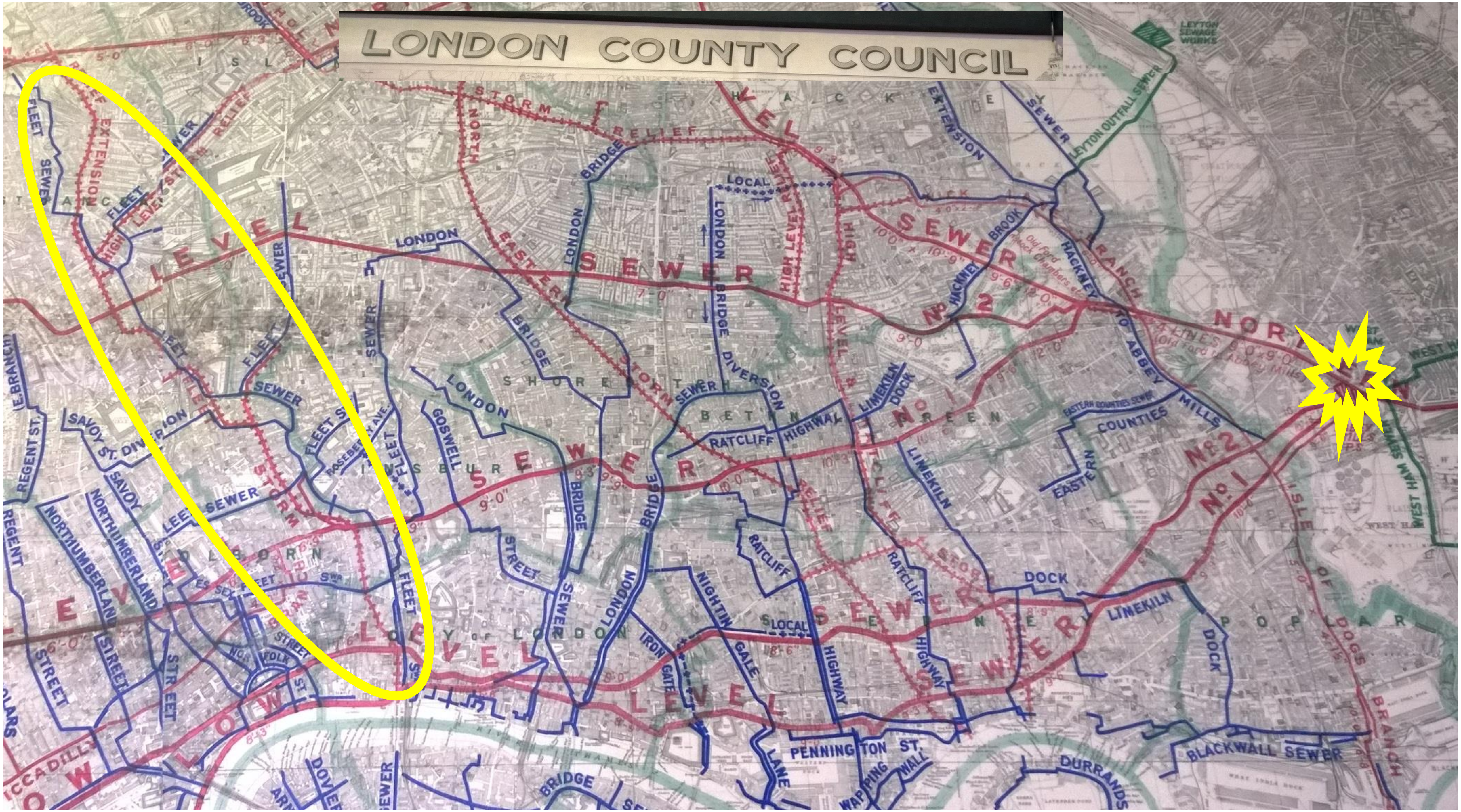
‘London’s sewage crisis’

Theo Thomas, London Waterkeeper

Combined Sewer System


local-government.org.uk


LONDON COUNTY COUNCIL
LEYTON SEWAGE WORKS
LEYTON OUTFALL SEWER
STORM RELIEF
NORTH
HIGH LEVEL
LOCAL
LONDON BRIDGE
LONDON BRIDGE DIVERSION
EASTERN STORM
LEVEL SEWER
SEWER No 2
HACKNEY BROOK
HACKNEY TO ABBEY MILLS
BRANCH
NORTH
FLEET SEWER
FLEET
RELIEF EXTENSION
HIGH LEVEL
SHOREDITCH
BETHNAL GREEN
RATCLIFF HIGHWAY
LIMEKILN DOCK
EASTERN COUNTIES SEWER
EASTERN COUNTIES
No 2
No 1
ISLE OF DOGS
WEST HAM SEWER
SAVOY ST. DIVERSION
SAVOY
REGENT ST.
REGENT STREET
NORTHUMBERLAND STREET
FLEET ST
ROSEBERY AVE.
GOSWELL STREET
BRIDGE SEWER
RATCLIFF
RATCLIFF HIGHWAY
NIGHTINGALE LANE
IRON GATE
LOCAL
HIGHWAY
DOCK
LIMEKILN
POPLAR
DOCK
LOW LEVEL
CITY OF LONDON
HOLBORN
FINSBURY
NORFOLK STREET
PICCADILLY
PENNINGTON ST.
WAPPING WALL
DURRANDS
BLACKWALL SEWER
BRANCH
DOVER
BRIDGE

Inner London's population

1861	2.8 million
1901	4.5 million
1931	4.9 million
2001	2.8 million
1991	2.6 million
2011	3.2 million
2022	3.5 million

Combined Sewer Network

Total 2022 London population 8.9 million (Trust for London)

The increase in population is outside 'Victorian' London.


WEST
HAM
WEST HAM
WEST

The Cathedral of Sewage. Abbey Mills Pumping Station

Thousands of River Thames fish killed by storm sewage

8 June 2011

Upgrades to the 5 tidal Thames sewage works and the construction of the Lee Tunnel by 2016

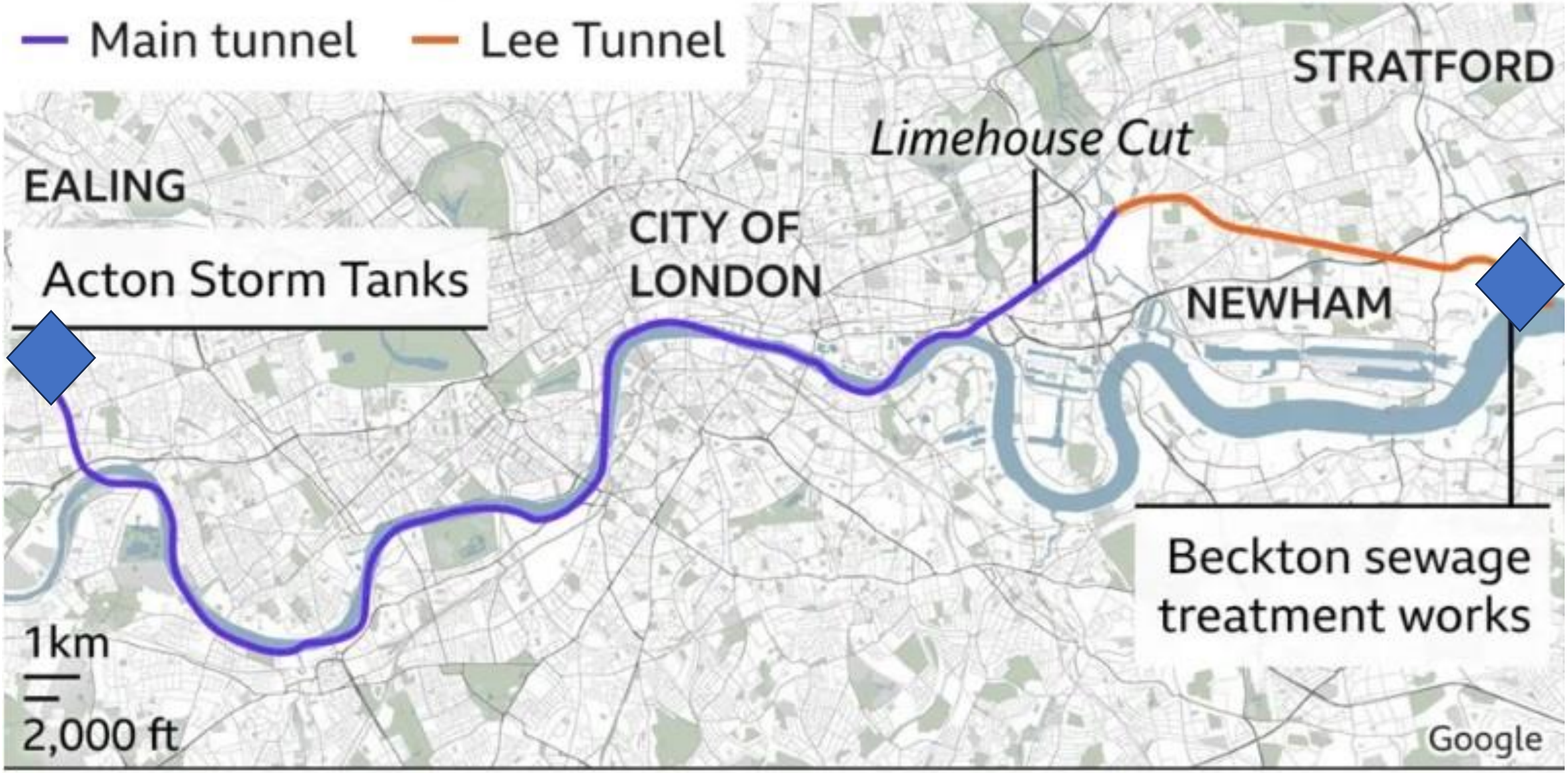
No of Discharges	2011	2012	2013	2014	2015	2016	2017
Beckton STW	95	98	105	95	31	12	7
Crossness STW	70	107	127	81	21	30	24
Long Reach STW	n/a	n/a	n/a	69	31	24	13
Mogden STW	69	107	61	47	11	28	14
Riverside STW	n/a	24	22	39	13	33	16
TOTAL	234	336	315	331	107	127	74

Abbey Mills Pumping Station Combined Sewer Overflows

2014	15,000,000	m3
2017	1,000,000	m3
2018	0	
2019	93,000	m3
2020	0	
2021	0	
2022	0	
2023	0	

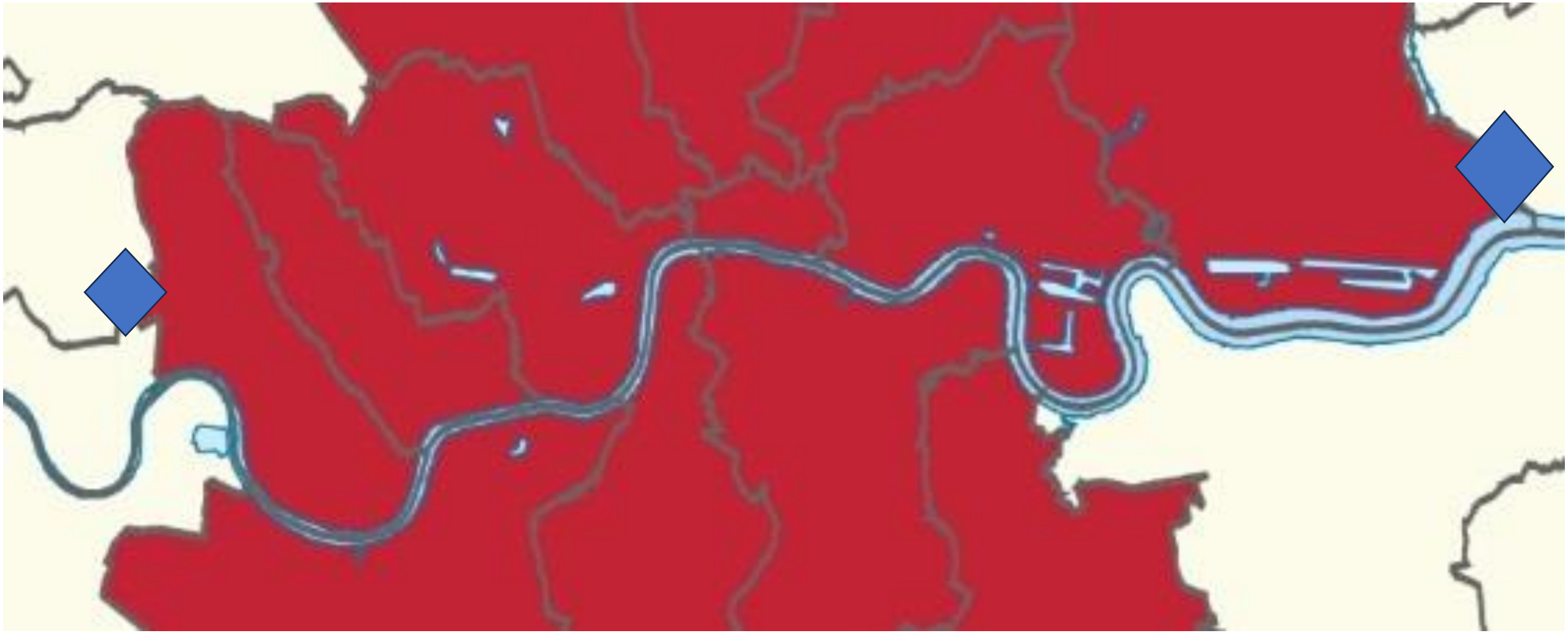
The Thames Tideway Tunnel

London's super sewer



Source: Tideway

BBC

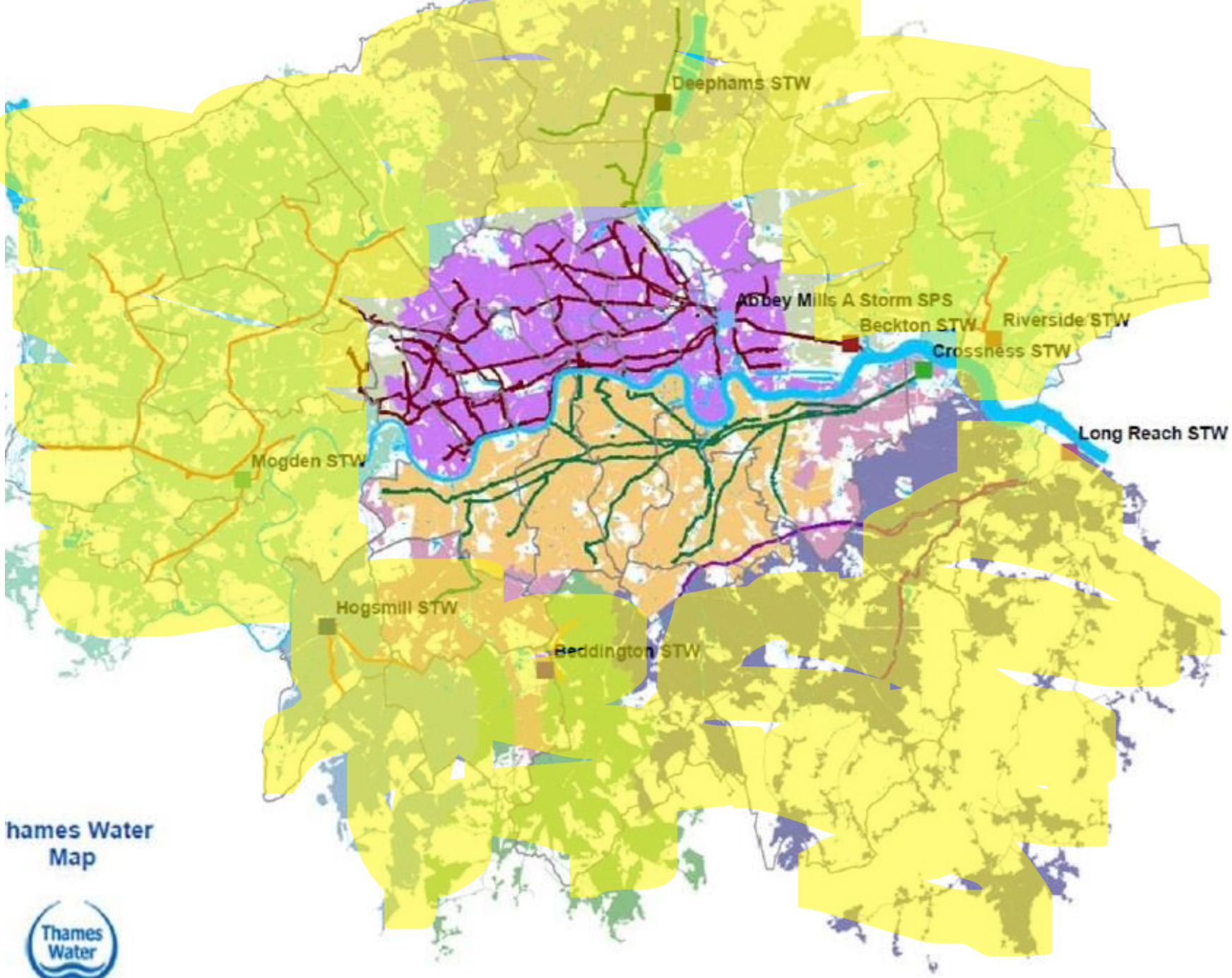


local-government.org.uk

“At its peak, the entire system was over half full”

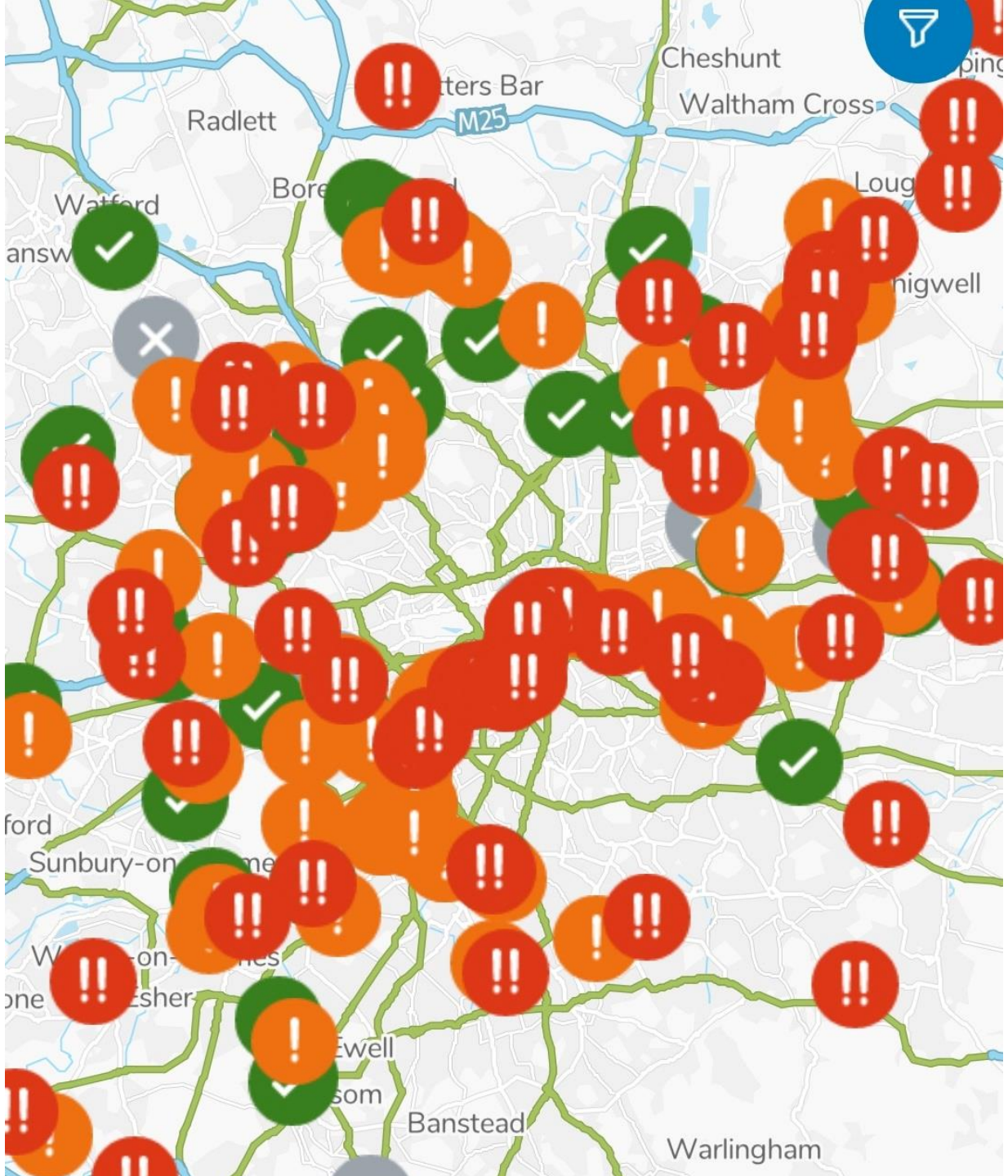
12 out of 21 sewer connection points live

Separate sewer system


Deephams STW
Abbey Mills A Storm SPS
Beckton STW
Riverside STW
Crossness STW
Long Reach STW
Mogden STW
Hogsmill STW
Beddington STW
hames Water
Map
Thames
Water

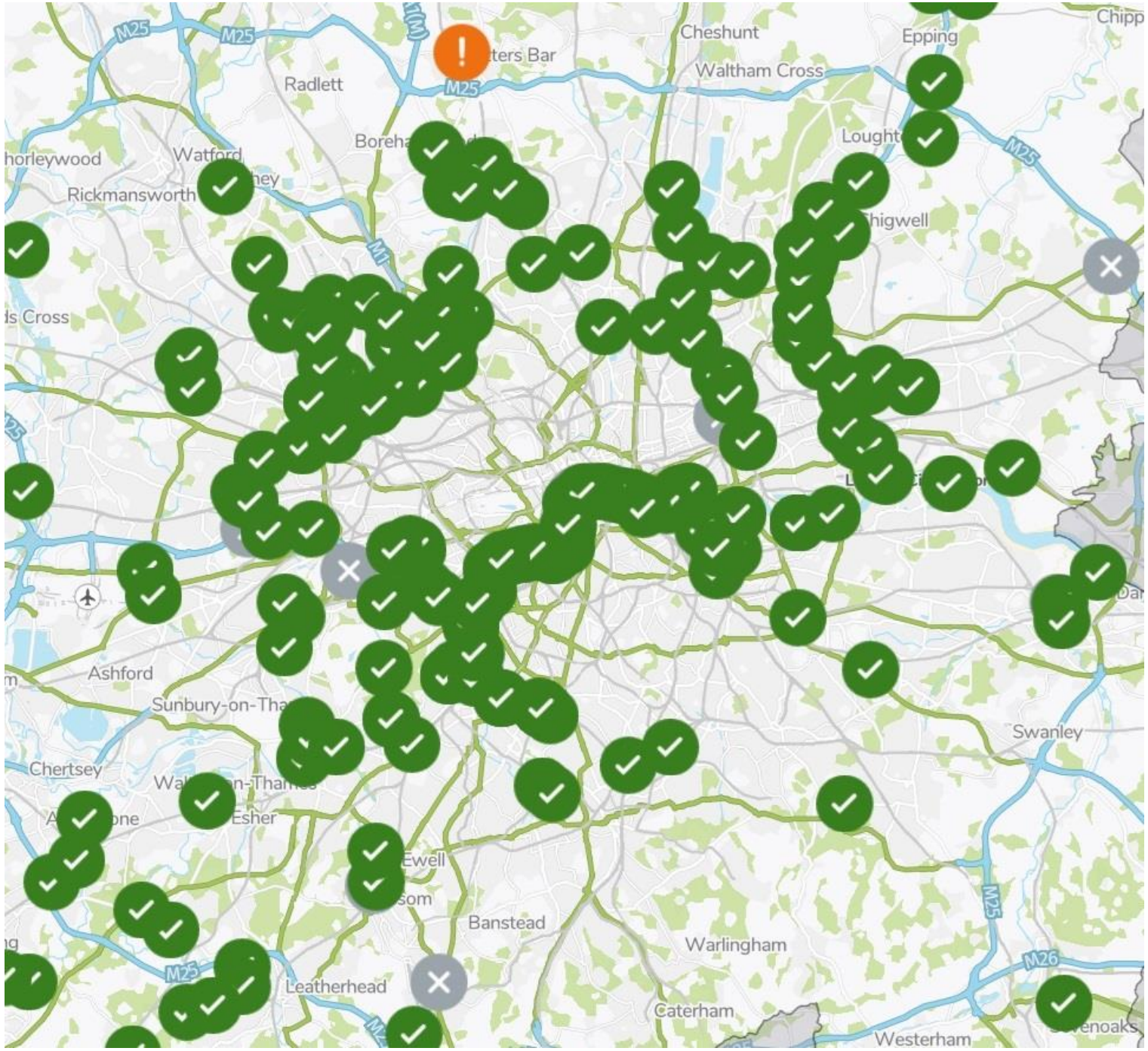
Sept 23rd 2024.

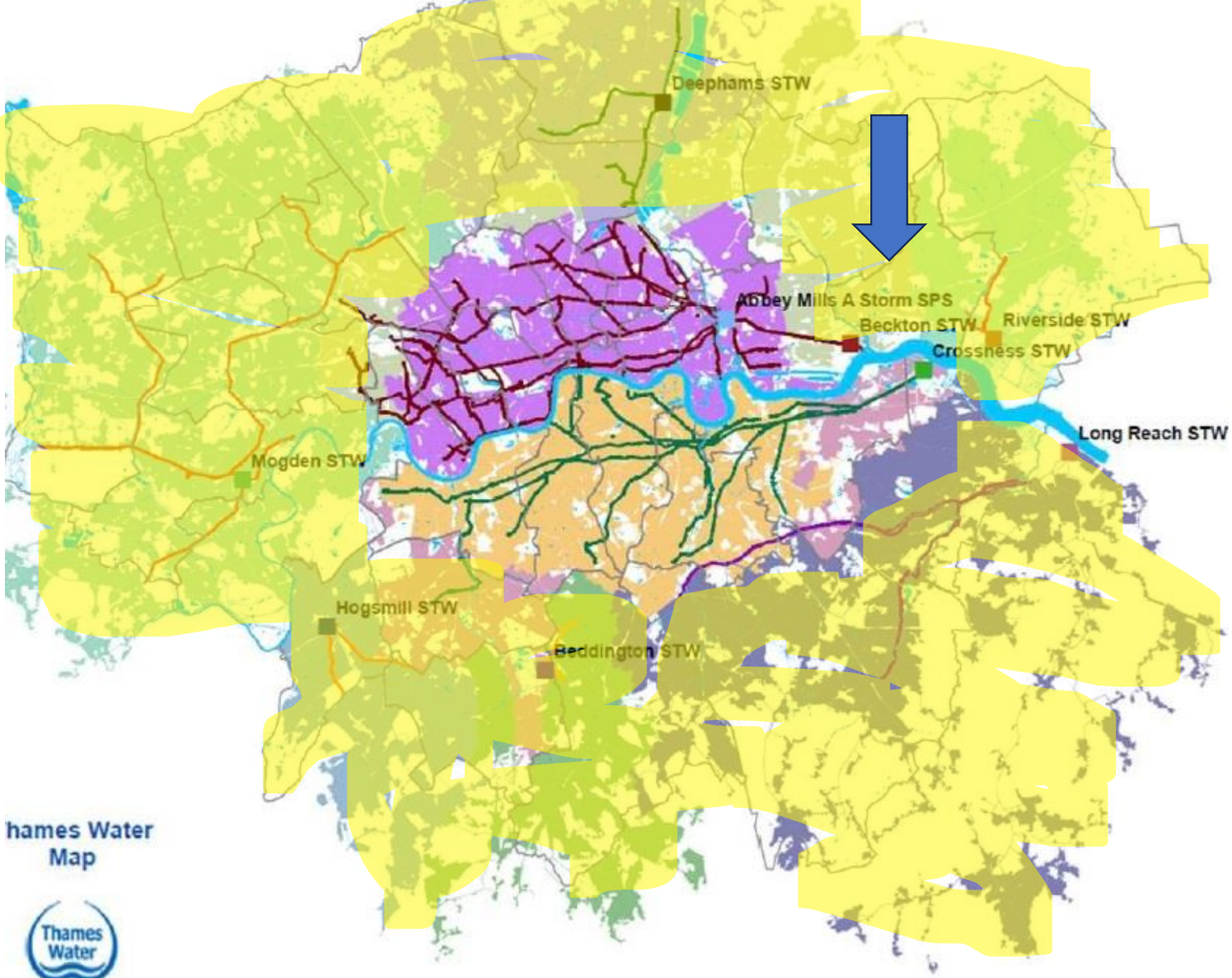
More than 30mm of rain



Jan 22nd 2025.

Dry for almost 2 weeks.

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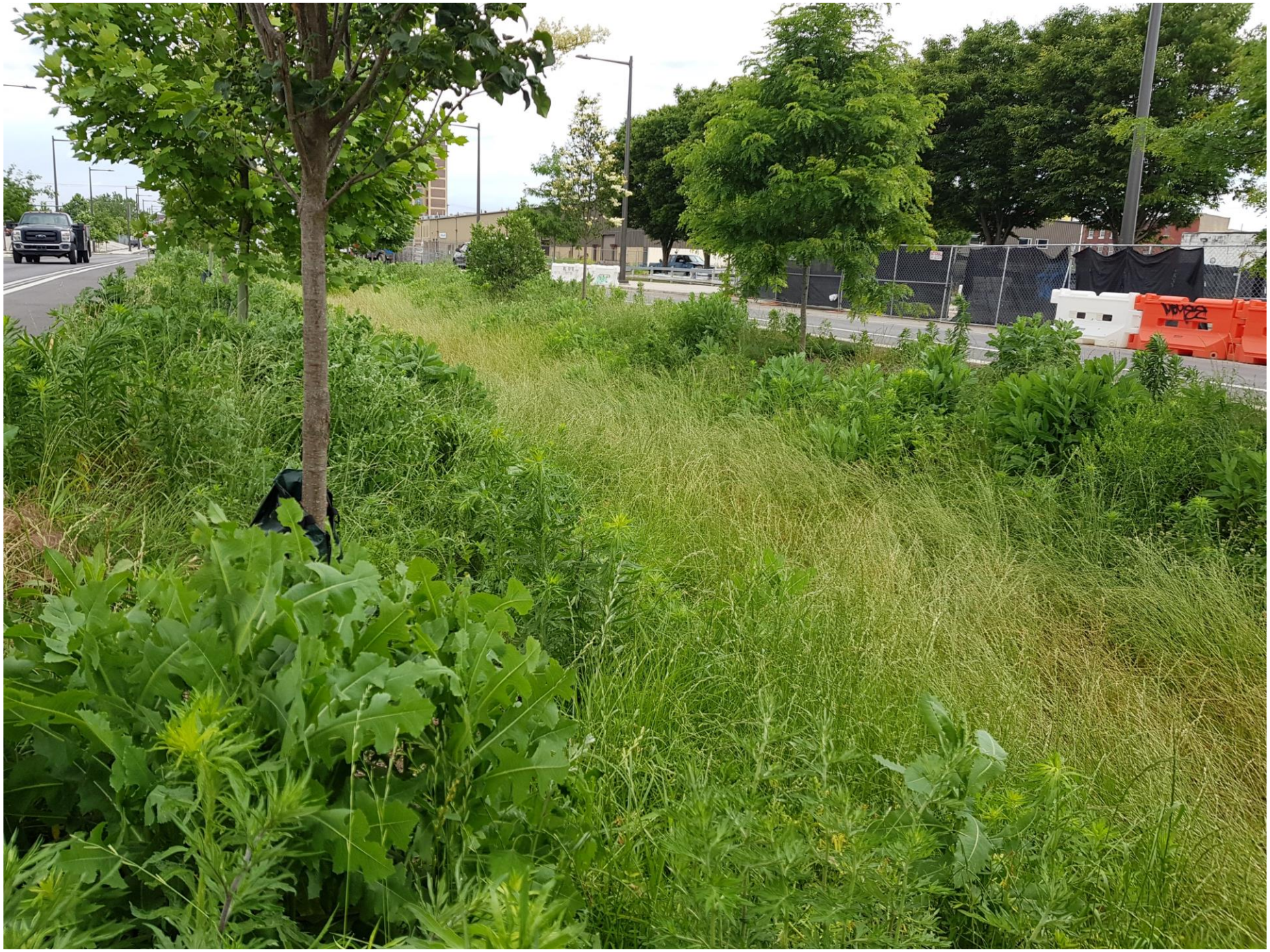
Mogden STW
Hogsmill STW
Beddington STW
hames Water
Map
Thames
Water

Mayesbrook Park, sewer outfall

Longbridge Road sewer overflow

Paving in Dagenham’s streets



Philadelphia

Philadelphia Water Department Commissioner Randy E. Hayman Esq., center, led a 2019 ribbon-cutting celebration for a new rain garden that also makes walking safer in Strawberry Mansion.


PICK UP
CHAES FOOD
7 6 5 4 3


FROZEN

Government's Plan for Water

2.3. Reduce storm overflow discharges

We want to see nature-based solutions used, where appropriate. For example, Wessex Water have made effective use of reed beds to accommodate excess water when groundwater infiltrates the sewerage network,

The Government's Storm Overflows Discharge Reduction Plan 2023, page 22

Traditional solutions to reduce discharges, such as increasing storage capacity, are carbon intensive. The costs and benefits of such interventions must be considered in decision-making. Solutions should be effective over the long-term and account for future pressures.

National Storm Overflows Plan for England

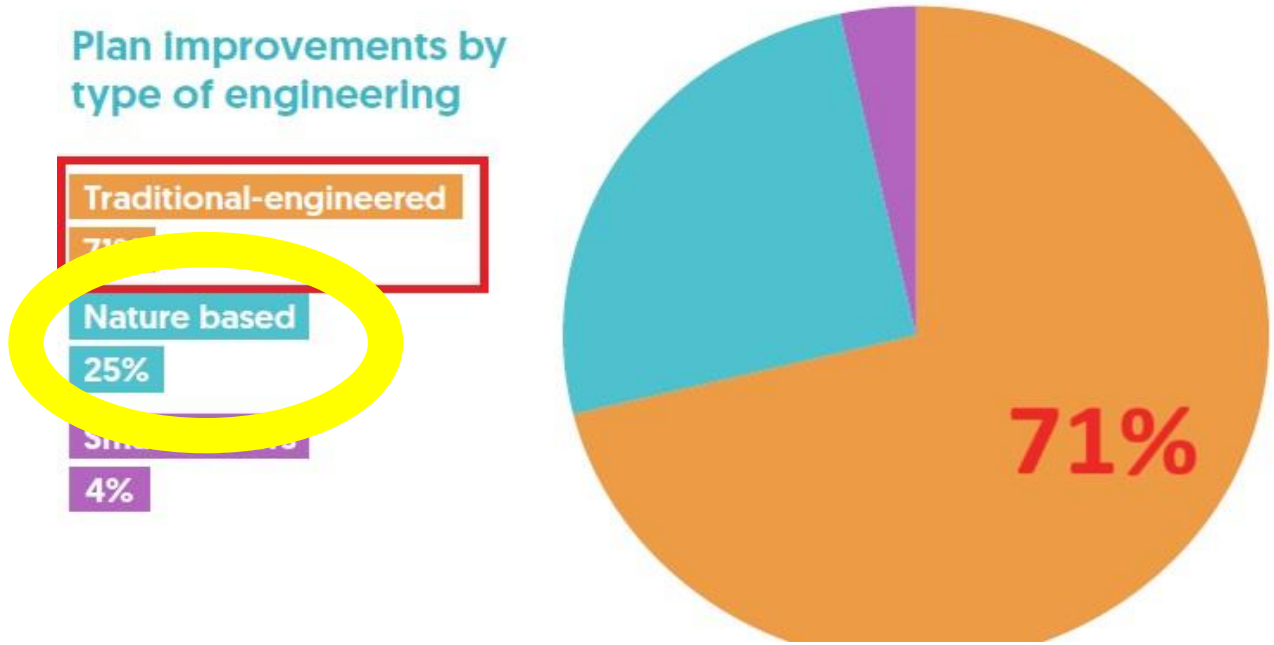
March 2024

water.org.uk

A huge ambition for nature based solutions like wetlands and sustainable drainage. Of the nearly 9000 overflows being improved in the Plan, 25% of the interventions (affecting 37% of overflows) have some kind of "nature based" element, offering additional benefits for habitat, wildlife and local communities.

The remaining are either "traditional-engineered" (e.g. large, underground storage tanks to hold rainfall) or "smart sewers", which use sensors and advanced techniques to better manage the capacity of the sewer network.

Plan improvements by type of engineering



Storm overflow action plan

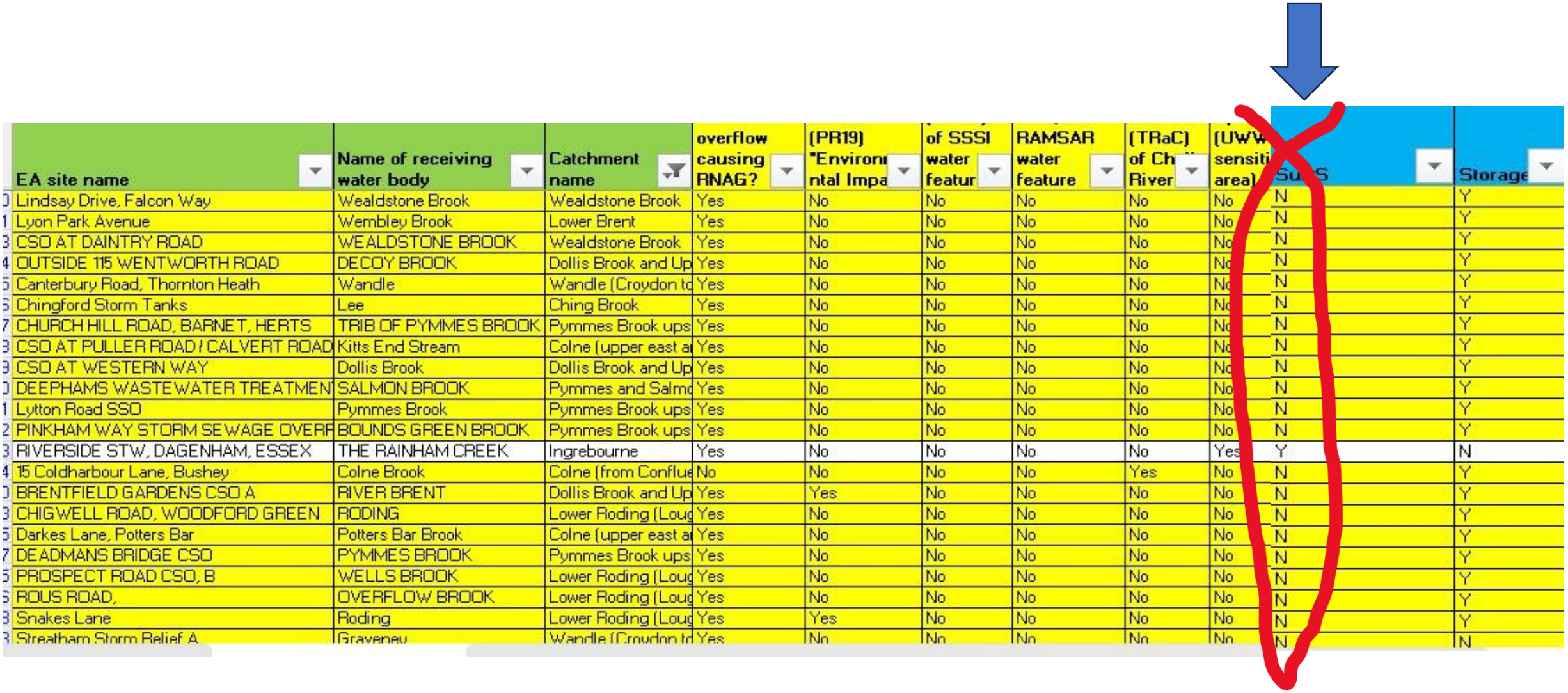
A guide

March 2024

Introduction >

What's in the plan? >

Details of the information request >



EA site name	Name of receiving water body	Catchment name	overflow causing RNAG?	(PR19) "Environmental Impa	of SSSI water featur	RAMSAR water feature	(TRaC) of Ch River	(UWW sensiti area)	Su S	Storage
Lindsay Drive, Falcon Way	Wealdstone Brook	Wealdstone Brook	Yes	No	No	No	No	No	N	Y
Lyon Park Avenue	Wembley Brook	Lower Brent	Yes	No	No	No	No	No	N	Y
CSO AT DAINTRY ROAD	WEALDSTONE BROOK	Wealdstone Brook	Yes	No	No	No	No	No	N	Y
OUTSIDE 115 WENTWORTH ROAD	DECOY BROOK	Dollis Brook and Up	Yes	No	No	No	No	No	N	Y
Canterbury Road, Thornton Heath	Wandle	Wandle (Croydon to	Yes	No	No	No	No	No	N	Y
Chingford Storm Tanks	Lee	Ching Brook	Yes	No	No	No	No	No	N	Y
CHURCH HILL ROAD, BARNET, HERTS	TRIB OF PYMMES BROOK	Pymmes Brook ups	Yes	No	No	No	No	No	N	Y
CSO AT PULLER ROAD / CALVERT ROAD	Kitts End Stream	Colne (upper east a	Yes	No	No	No	No	No	N	Y
CSO AT WESTERN WAY	Dollis Brook	Dollis Brook and Up	Yes	No	No	No	No	No	N	Y
DEEPHAMS WASTEWATER TREATMEN	SALMON BROOK	Pymmes and Salmo	Yes	No	No	No	No	No	N	Y
Lytton Road SSO	Pymmes Brook	Pymmes Brook ups	Yes	No	No	No	No	No	N	Y
PINKHAM WAY STORM SEWAGE OVERF	BOUNDS GREEN BROOK	Pymmes Brook ups	Yes	No	No	No	No	No	N	Y
RIVERSIDE STW, DAGENHAM, ESSEX	THE RAINHAM CREEK	Ingrebourne	Yes	No	No	No	No	Yes	Y	N
15 Coldharbour Lane, Bushey	Colne Brook	Colne (from Conflue	No	No	No	No	Yes	No	N	Y
BRENTFIELD GARDENS CSO A	RIVER BRENT	Dollis Brook and Up	Yes	Yes	No	No	No	No	N	Y
CHIGWELL ROAD, WOODFORD GREEN	RODING	Lower Roding (Loug	Yes	No	No	No	No	No	N	Y
Darkes Lane, Potters Bar	Potters Bar Brook	Colne (upper east a	Yes	No	No	No	No	No	N	Y
DEADMANS BRIDGE CSO	PYMMES BROOK	Pymmes Brook ups	Yes	No	No	No	No	No	N	Y
PROSPECT ROAD CSO, B	WELLS BROOK	Lower Roding (Loug	Yes	No	No	No	No	No	N	Y
ROUS ROAD,	OVERFLOW BROOK	Lower Roding (Loug	Yes	No	No	No	No	No	N	Y
Snakes Lane	Roding	Lower Roding (Loug	Yes	Yes	No	No	No	No	N	Y
Streatham Storm Relief A	Gravenev	Wandle (Croydon to	Yes	No	No	No	No	No	N	N

About 6% of improvements Nature Based

How will sewer overflows actually be reduced?

- Narrative that we need more Tideway Tunnels
- Seems water companies are keen to use concrete storage – increase asset base
- Commitment to nature-based solutions is too small
- Water companies have a too limited understanding of their networks
- Wrong solutions in the wrong place, costing too much
- Not resilient

Theo Thomas, London Waterkeeper