Southern Water: Hampshire Update

18 July 2024

from
Southern
Water

Agenda

- Welcome and Company update – Jude Winstanley
- Wastewater – operational update – Andy Webb, Alex Saunders and Simon Tomlinson
- Clean Rivers and Seas Task Force – Nicole McNab
- Water – operational update – Nik Rogers, Simon Potter and Matt Edgar
- Our work in the community – Alex Willumsen and Nick Eves
- Closing words

Company update

Jude Winstanley, Managing Director for Wastewater

from Southern Water

Our Business Plan – 2025 to 2030

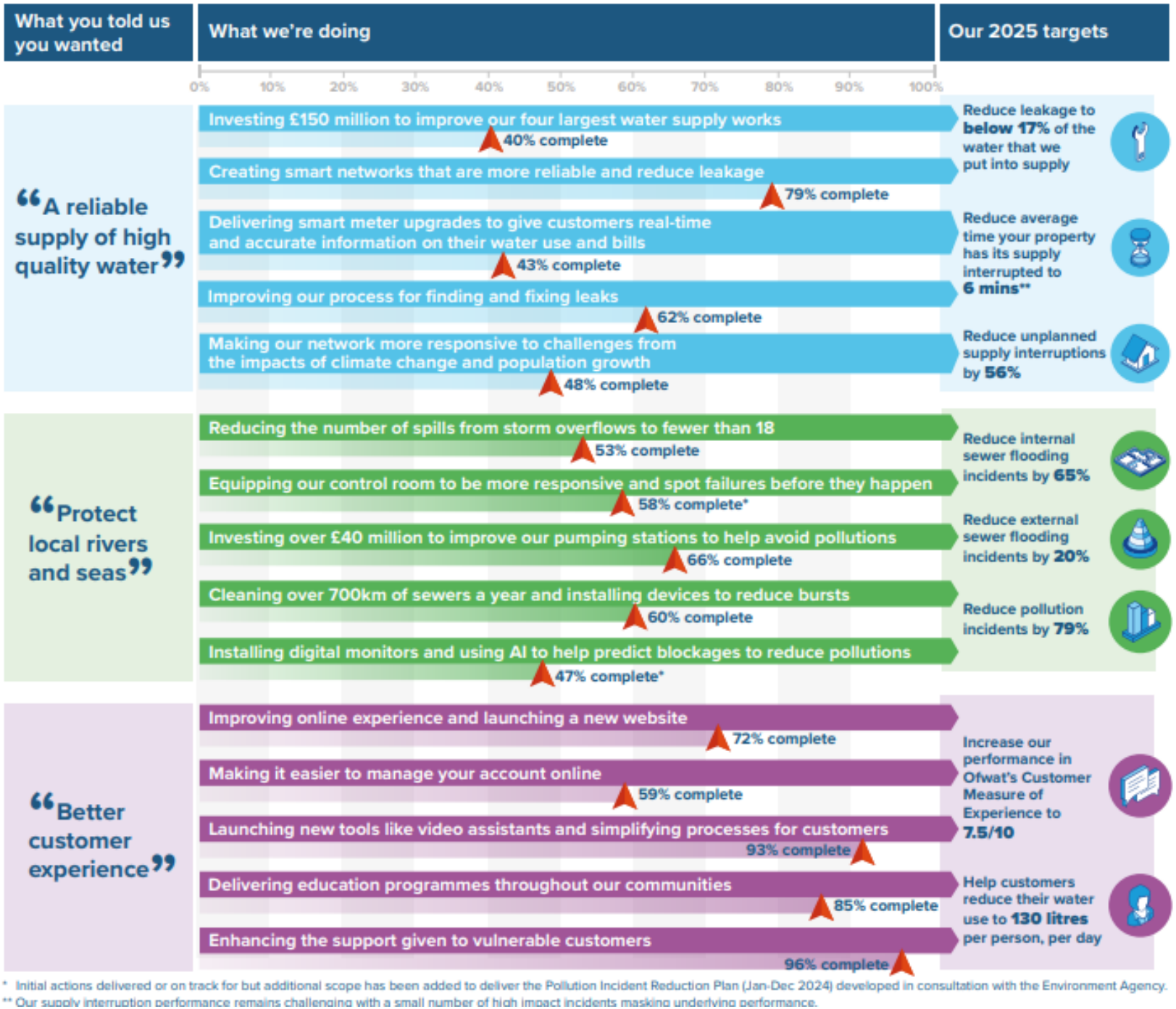
- In October 2023, we submitted our ambitious Business Plan to Ofwat for the period 2025-30. On the 11 July we received initial feedback from Ofwat on our plan, which we'll now carefully review.
- We'll publish our response on the 28 August, ahead of Ofwat's Final Determination in December 2024.
- Our plan is the company's largest ever – **c.£8 billion** to enhance the health and wellbeing of our communities, protect and improve the environment and help to sustain the local economy.
- More than **25,000 customers** spent over **8,000 hours** telling us what they think to help us develop it.
- Our customers are telling us – and we agree with them – that we need to increase our investment now so we can deliver the real change our communities expect, and our environment deserves.

WATER for LIFE from Southern Water

Some highlights from our plan for 2025-30…

Turnaround Plan

- In April 2023, we launched an ambitious Turnaround Plan to deliver a step-change in our performance over two years.
- Our overall goal is to provide a better service to our customers and to ensure that we're doing everything we can to protect our environment in the years ahead.
- Until 2025, we'll be reporting on progress every six months.
- Our plan is a short and sharp strategy to boost performance and it's showing continued signs of progress.
- It focuses on quick improvements in producing a reliable supply of high quality water, protecting the environment, and providing excellent customer service, as well as a number of other areas.



- Take a look at our latest update, which explains in detail where we are in our plan.

- Turnaround Plan – May 2024 update

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from Southern Water

Wastewater – operational update

from
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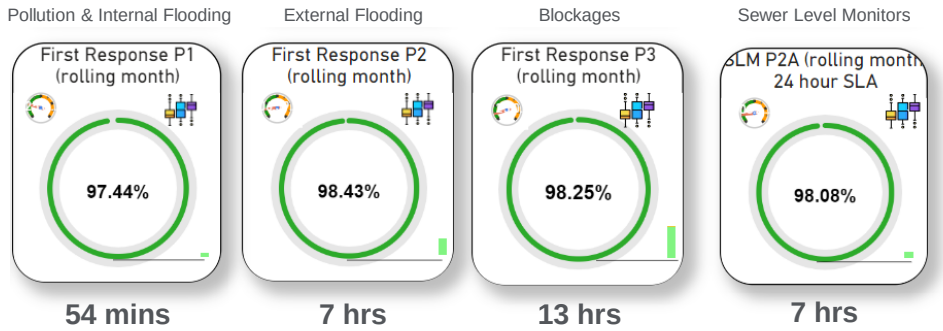
Wastewater Networks



A very wet winter

- This winter we experienced extreme levels of rain and the ground in certain areas of Hampshire became heavily saturated.
- The local drains and sewers were inundated with surface water run-off, which put significant pressure on our local wastewater pumping stations.
- A industry leading case study demonstrated that deployment of private lateral sealing (Tubogel) in addition to sewer lining has been successful in further reducing infiltration in North Hampshire (Mullens Pond) where tankering levels (despite higher groundwater) reduced by 90% year on year from 2022 to 2024.
- We are investing heavily this summer and plan to invest further in AMP8 to reduce infiltration and the subsequent risk to customer flooding and the environment.

Looking to the future

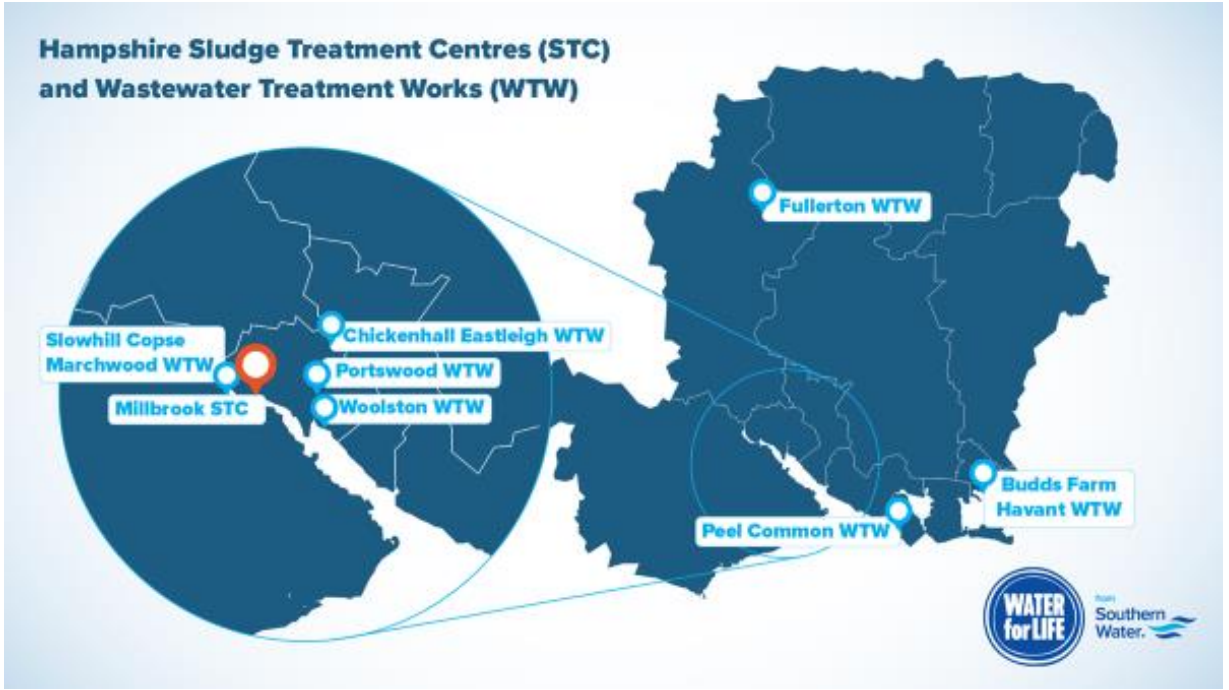
- We are currently reprocuring our core Waste Network services for 2025 to 2033.
- We are procuring a specialist lot aiming to focus on manhole response and repair to improve:
  - Speed of response
  - First time fix resolution
  - Reduce end-to-end journey time
- Once we have awarded to our preferred supplier in the coming weeks, we would like to engage with you at the earliest opportunity to help ensure our final solution delivers an improved service

- Polymer modified mastic asphalt technique
- Reduced material waste
- Increased productivity
- First time fix
- Reduced carbon footprint

Sewer relining video

Wastewater Treatment Operation in Hampshire

- 65 Wastewater Treatment Sites across Hampshire
- Largest treatment site at Budds Farm WTW in Havant, serving 380,000 customer (PE)
- 3 of the sites in Hampshire are large sites which treat products from the other 62 smaller wastewater treatment sites and have large anaerobic digestion processes – generating 23 GWh/year
- Significant mix of coastal, rural and urban treatment assets, particularly into some sensitive areas incl SSSI and Shellfish Areas – with quality parameters withing our permits which reflect this – including UV disinfection techniques and tertiary treatment.
- Groundwater, particularly in North Hants has been challenging this year – particularly at sites like Fullerton WTW:
  - Worked with the EA and local teams to push Fullerton WTW's inlet flow capability 35% beyond design over this winter period.
  - Plans in place with our network team to reduce the impact on groundwater year on year, particularly learning from such high levels last year.
- Work at Portswood WTW is underway to improve final effluent from the site beyond what is required in the permit set by the EA. Work is currently underway to implement process intensification measures in the initial process – EA attended site on Tuesday 16th July in order to review our plans and were happy with progress.



Capital Investments in Hampshire - Wastewater

- **During AMP7 (2020-2025)** we've **invested £147m** so far which includes:
- **Network Projects**; Growth Schemes (£9m) & Rising Mains (£6m)
- **Treatment Enhancement**; Additional Storm Storage (£9m), Increase Flow to Full Treatment (£12m),Shellfish (£57m) & Improved quality of treated wastewater, including Phosphorus removal (£42m)

- **£74m still to spend** this AMP, largely relates to **Treatment Enhancement**, vast majority schemes now on site.

- **Key Projects**: Southampton Water (£78m), Budds Farm (£12m), Portswood (£7m)

Millbrook WTW - U_IMP5 works

South Harting

Clean Rivers and Seas Task Force
Hampshire update July 2024

from Southern Water

Task Force evolution

Established Nov 2021 → Set up Pathfinder projects with £7m funding 2022 → Agreed £35m accelerated funding April 2023 → Launched the Clean Rivers and Seas Plan Nov 2023

↓

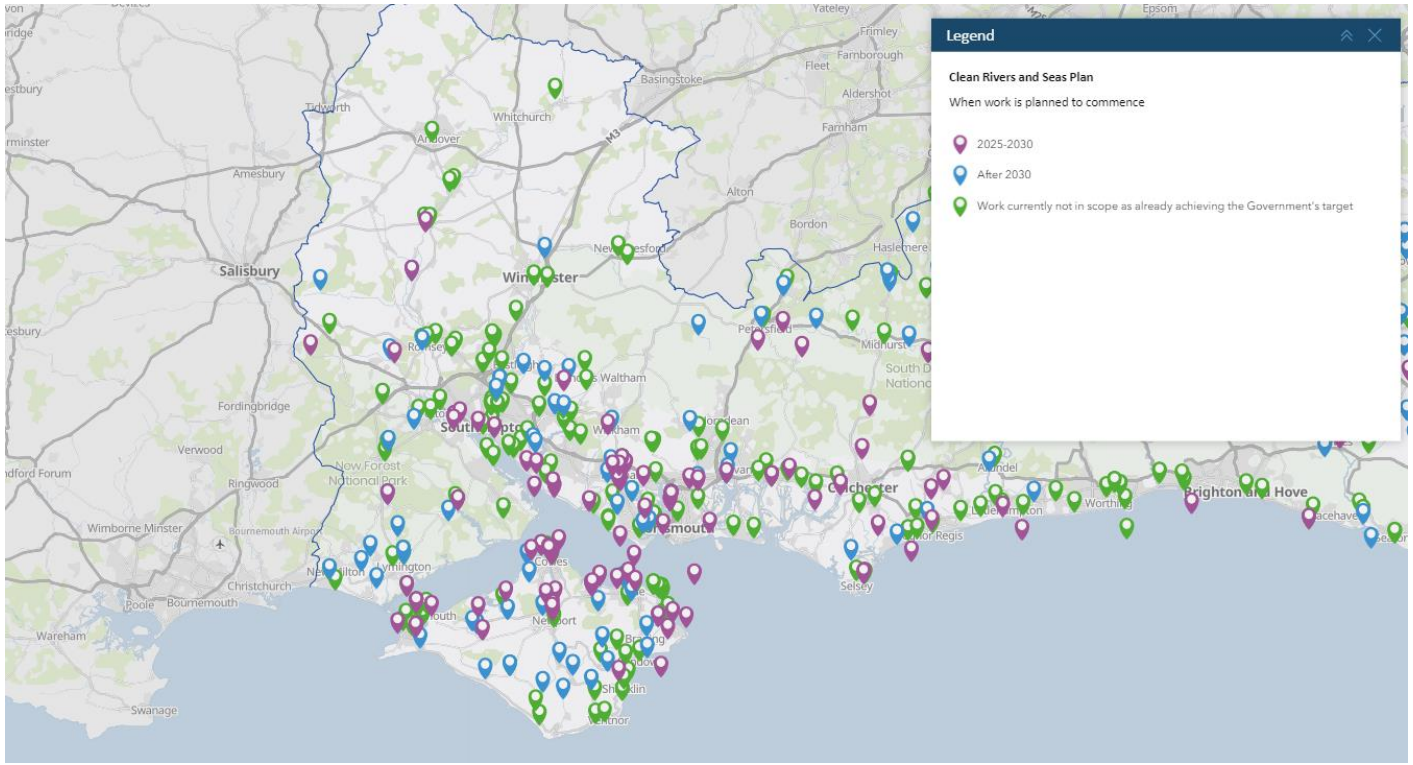
Agreed another £10m accelerated funding March 2024 → Starting AMP 8 work early, focusing on priority areas → Delivering overflow reduction for the next 5-year period

Overflows in Hampshire

Key stats

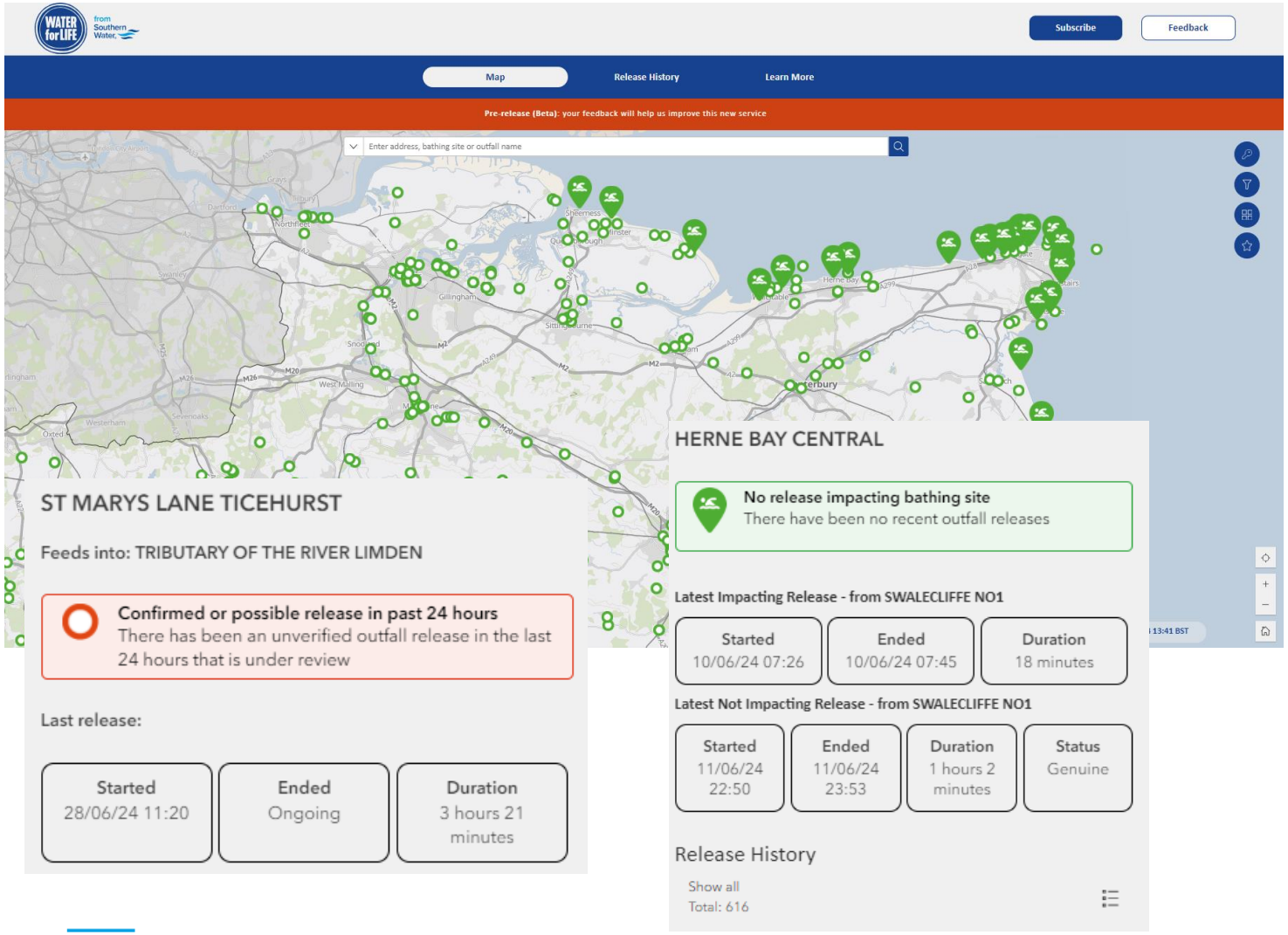
186	Storm Overflows in Hampshire
89	Require work/investment to achieve Govt. targets before 2050
50	Overflows working on between 2025-2030

Approximately **£290m investment** in next five years



southernwater.co.uk/water-for-life/clean-rivers-and-seas-plan/map

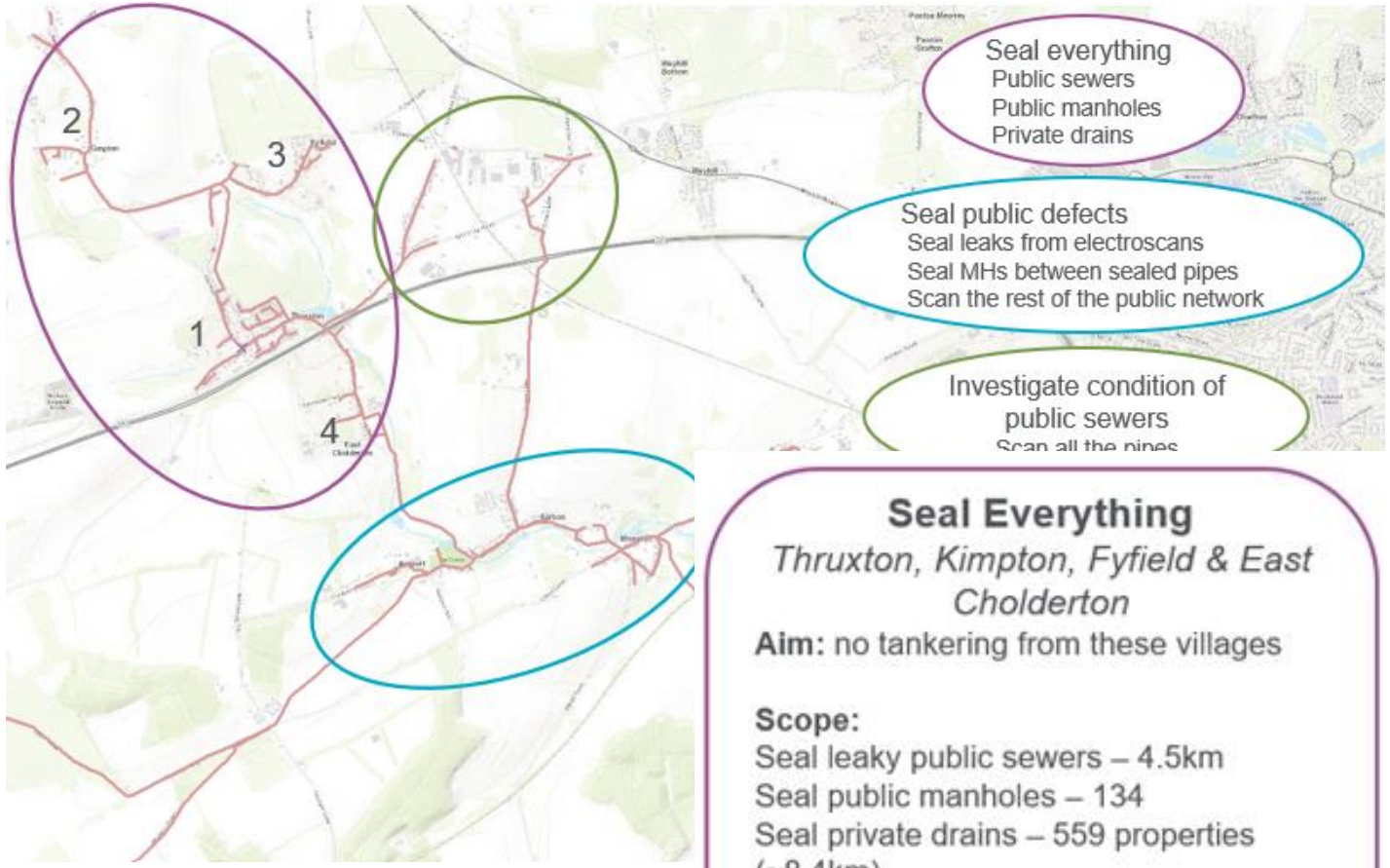
Rivers and Seas Watch



- Launching Rivers and Seas Watch imminently (pre-release version live)
- Co-created with customers and stakeholders
- All storm overflows included
- More transparency, better usability, more features

Pathfinder update – Pan Parishes

- Groundwater area (sending 30 tankers on average per year)
- Commitment with local community to protect the environment
- Seal all of the private and public network



Seal Everything

Thruxton, Kimpton, Fyfield & East Cholderton

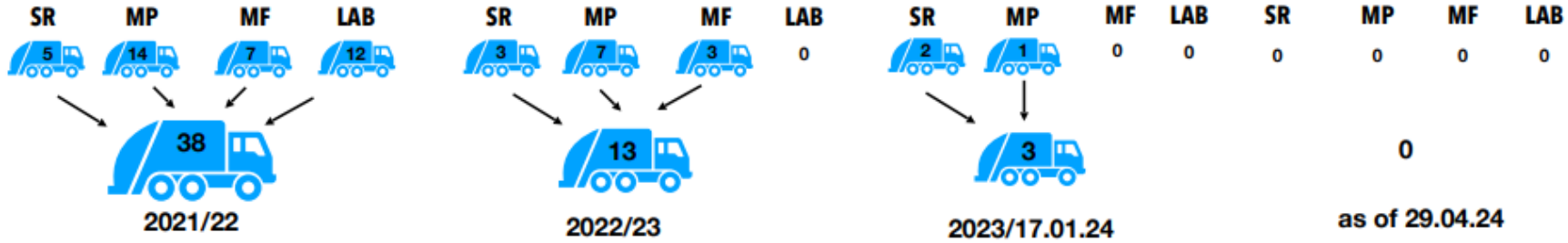
Aim: no tankering from these villages

Scope:
Seal leaky public sewers – 4.5km
Seal public manholes – 134
Seal private drains – 559 properties (~8.4km)
Scan remaining public sewers – 1.9km

Aspiration: completion by Nov '22

Expectation: Seal Thruxton and Kimpton by Nov '22, follow with Fyfield & E Cholderton by Nov '23

Pillhill Pan Parish 3 yr Reduction in Tanker Deployment



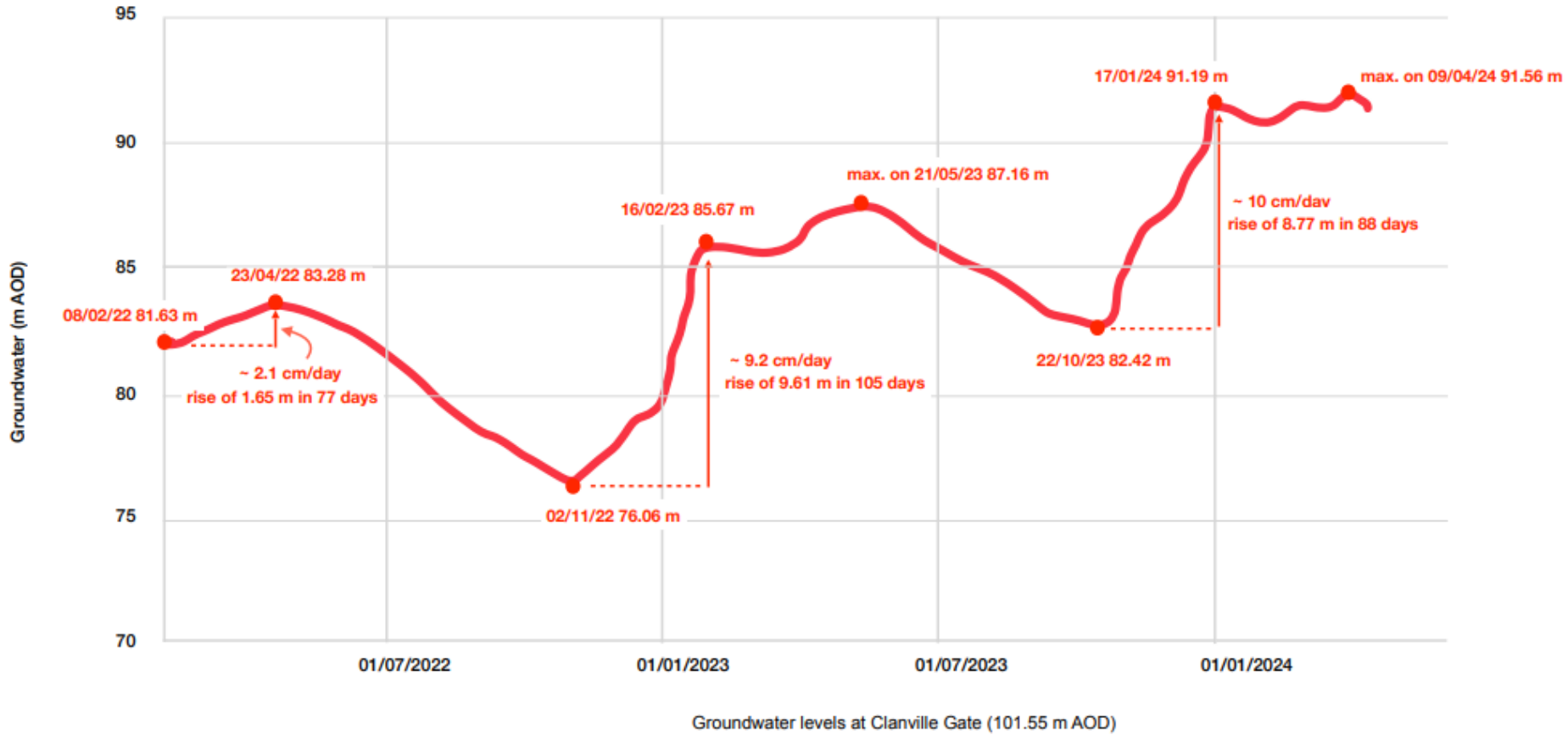
Tankering Sites

SR - Stanbury Road WPS

MP - Mullens Pond WPS

MF - Manor Farm Bell Valve

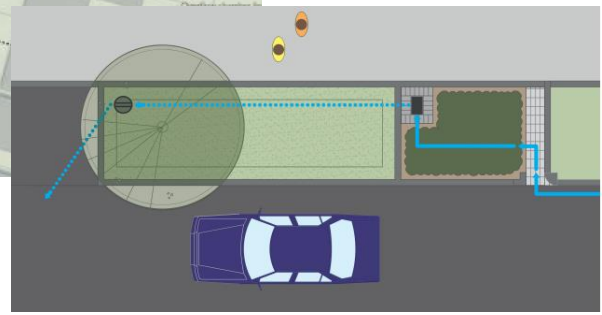
LAB - Little Ann Bridge WPS



Hampshire Highways Programme

- Establishing a highways SuDS programme – removing the equivalent of 160km of highways drainage from the combined sewer

- Current status…



Hampshire CC

Held two technical workshops

Scoping feasibility study

Portsmouth CC

Held technical workshop

Scoping out potential areas for pilot

Southampton CC

Held initial meeting and booking in technical workshop

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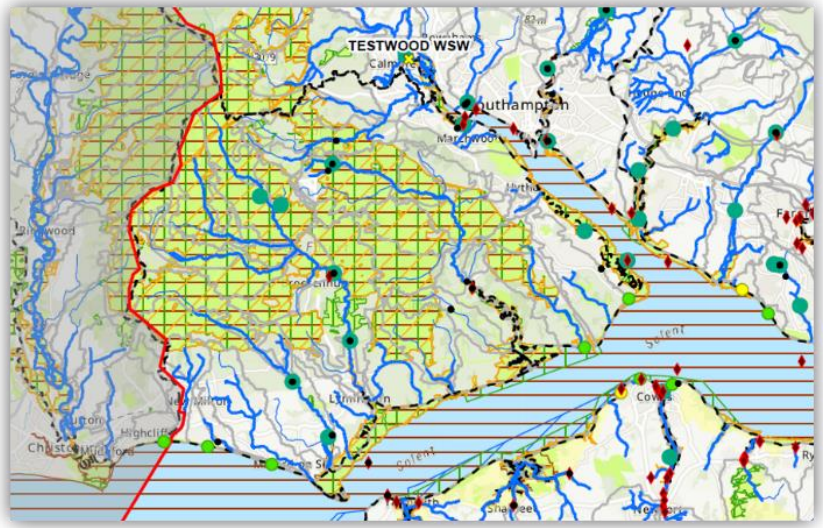
Overview of the PhD project – New Forest

- University of Bournemouth – PhD agreed and actively recruiting
- Starting Autumn 2024
- Supervision includes:
  - Freshwater Habitats Trust (Naomi Ewald)
  - Wild New Forest Biodiversity Network (Russ Wynn)
  - University of Bournemouth (Dr Matthew Hill & Prof Robert Britton)
- Scope:
  - Quantify the ecological impacts relating to storm overflows
  - Track changes as storm overflows reductions is undertaken
  - Focusing on the 3 major catchments in the New Forest (Beaulieu, Lymington, Dark Water)



What will investment/ activities in Hampshire look like for…

By April 2025

- Building a programme to reduce 36 overflows that release into Portsmouth Harbour to under 10 per year.
- Starting a storm water separation programme in Gosport and Fareham to remove roof water that is connected into the wrong pipe.
- Undertake a programme of works to improve the capacity of all wastewater sites so we can maximise the amount of wastewater we can treat.
- MOUs with councils

2025-2030

- Approx. installing 16,000 slow the flow measures such as water butts on domestic properties
- Lining and sealing over 100km of public and private sewers
- Managing over 160km of highway drainage
- Planting over 5000 trees

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Appendix

Overflows in Southampton and Portsmouth

Key stats - Southampton

21 Storm Overflows

9 Require work/investment to achieve Govt. targets before 2050

4 Overflows working on between 2025-2030

Approximately **£61m investment** in next five years

Key stats - Portsmouth

21 Storm Overflows

19 Require work/investment to achieve Govt. targets before 2050

13 Overflows working on between 2025-2030

Approximately **£103m investment** in next five years

Hants excl. Soton and Ports

147 Storm Overflows

61 Require work/investment to achieve Govt. targets before 2050

33 Overflows working on between 2025-2030

Water – operational update

from
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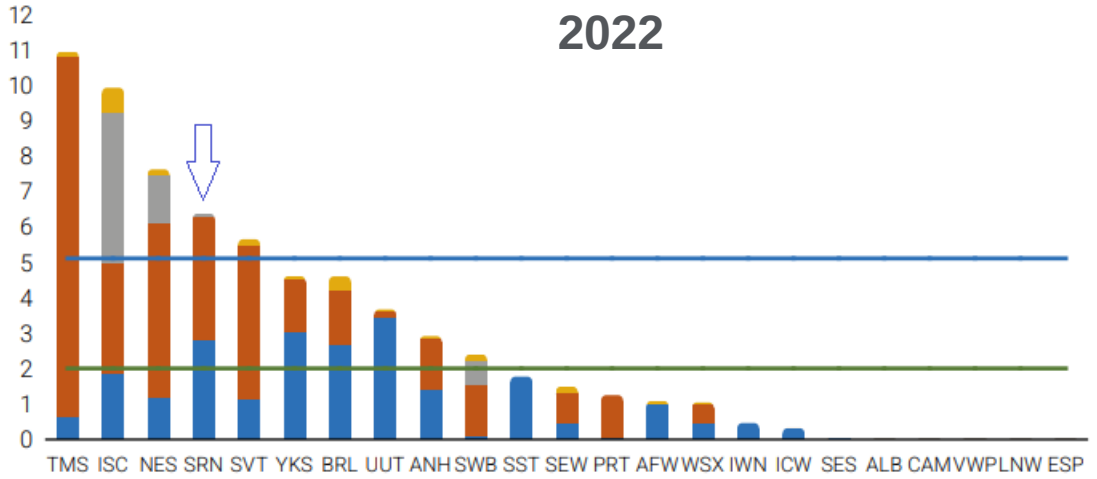
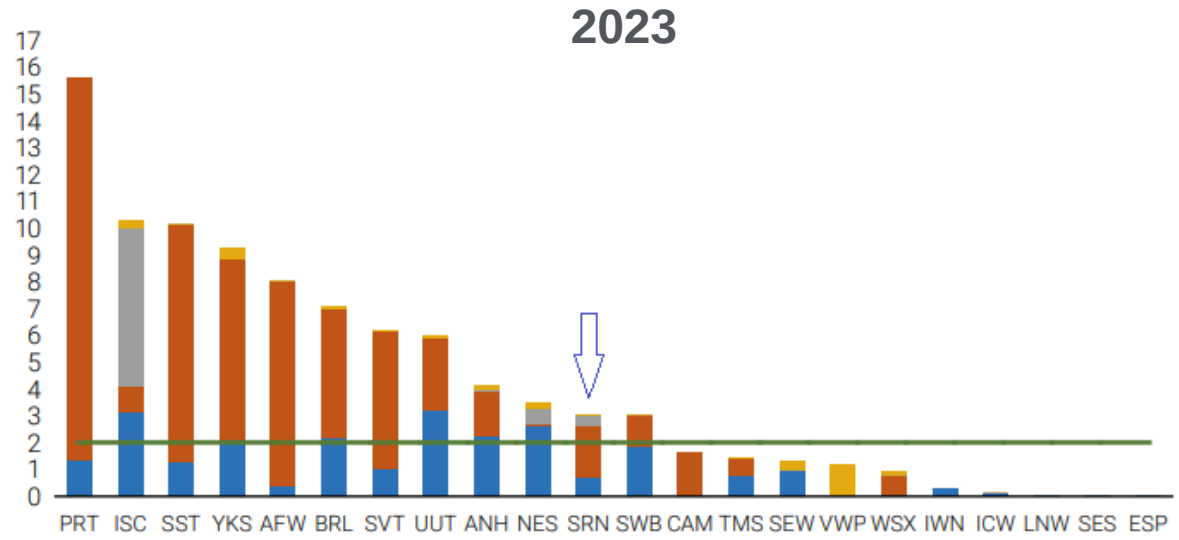
Water production – our sites in Hampshire

- 15 Groundwater sites in Hampshire – all operational
- 2 Surface Water sites – both operational (Testwood and Otterbourne) with major schemes to improve their operability and resilience
- Water production capacity 224Mld, current customer demand 172mld (YTD)

Year-end CRI (compliance risk index) performance





Water network performance

- Leakage in Hampshire is currently 29.5 Mld year to date. With increased proactive leakage resource, we should start to see this reduce

- We have replaced 8km of water mains in Southampton (Lower Shirley/General Hospital area), which will improve water quality and leakage in the area

- We've also increased Water Inspector resource over the last twelve months, which will help us react quicker to customer issues and reactive leaks

- As part of our incident response planning, we have amended contingency plans and have worked on network rezoning options to reduce customer impact, if we experience at outage at one of our treatment sites

Leakage in Hampshire

Total leak repairs 2022/23

	Hampshire
Bursts	739
Customer leaks	177
Network leaks	5490
Total	6406

Total leak repairs 2023/24

	Hampshire
Bursts	531
Customer leaks	95
Network leaks	5787
Total	6413

Our Leakage Technicians - video

Improving and investing in our assets

- **In the next 5 years:**
- Invest c£10m on key ground WSW in Hampshire, to manage raw water deterioration and to reduce unnecessary customer interruptions
- Planning to replace over 300km of water mains to address both leakage, to protect future resources, and aged assets. Hampshire will be part of the targeted replacement programme. Specific areas TBC

- **Between 2020-30:**
- We intent to invest c£300m at two of our Hampshire strategic water supply works, Testwood WSW (supplying 327,000 people in the west of Southampton and the Isle of Wight) and Otterbourne WSW (supplying 250,000 customers in the east of Southampton).
- This will improve asset reliability and resistance to customer outage, along with building in greater asset redundancy

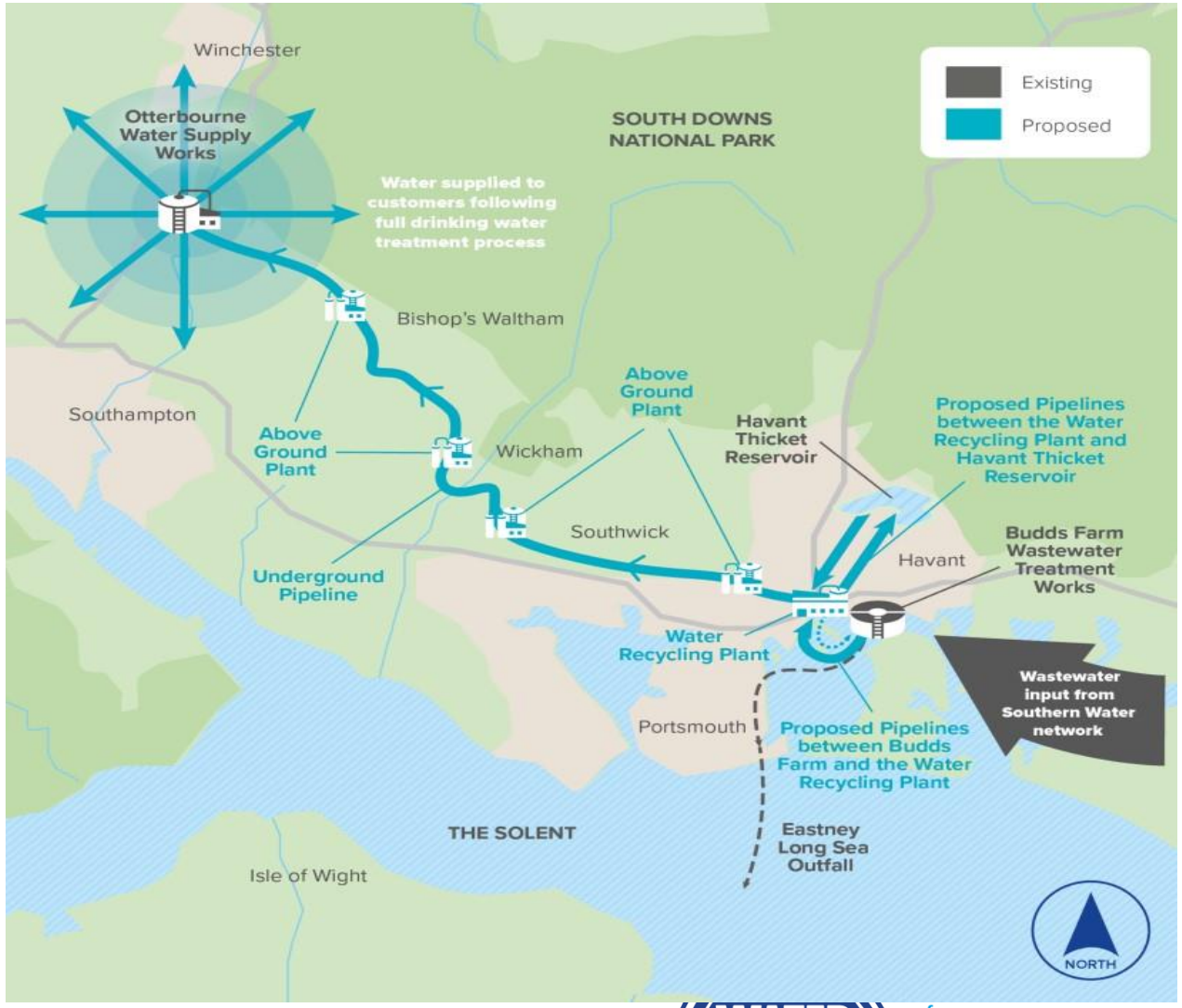
The Hampshire Water Transfer and Water Recycling Project

Protecting our natural resources

- More than 700,000 people in Hampshire rely on the River Test and River Itchen for their water supplies.
- Water recycling will enable us to leave more water in these rivers during a drought.

Maintaining public water supplies

- The project would be capable of producing up to 60 million litres of water a day during a drought. Storage in the reservoir increases this to up to 90 million litres.
- All water supplied to customers will continue to meet strict UK Drinking Water standards.
- Our latest public consultation runs until 23 July.
- Construction could start in 2029 with the water recycling plant operational by 2034.



Find out more at:
www.hampshirewtwrp.co.uk

WATER for LIFE

from Southern Water

Our work in the community

Alex Willumsen, Community Partnerships and Programme Manager

Nick Eves, Head of Insight and Digital Experience

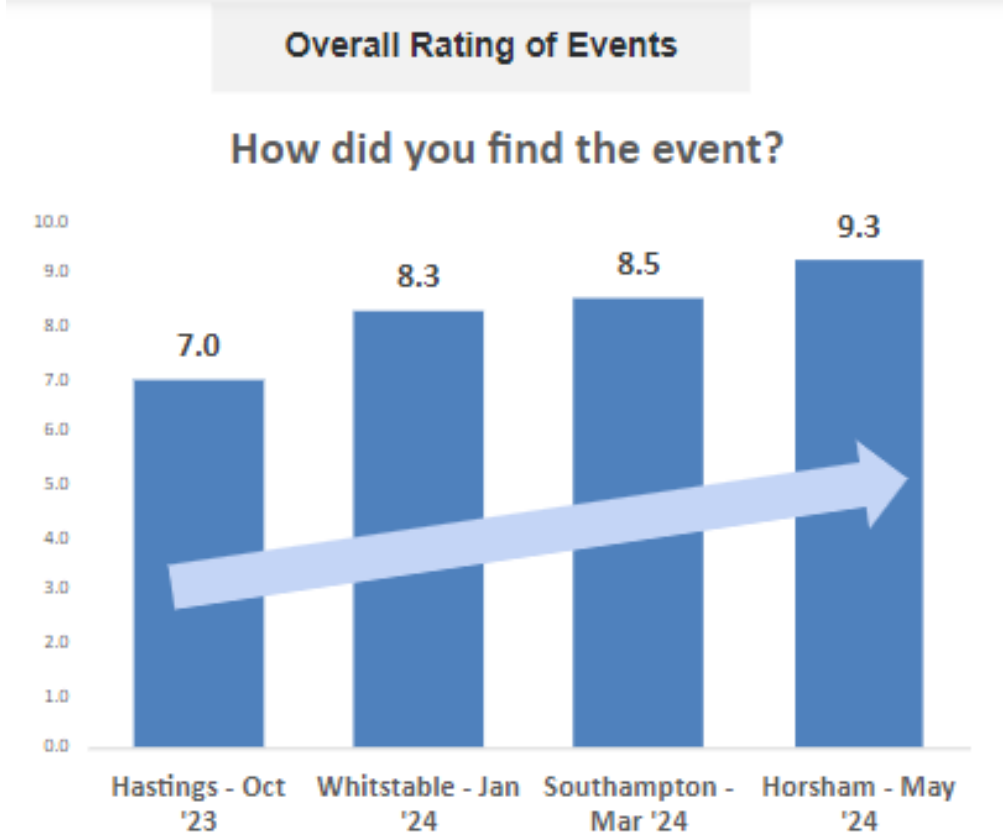
WATER for LIFE

from Southern Water

Community Engagement – Hampshire July 2024

Improving outcomes and building skills for our community	Making the Community stronger	Caring for the Environment together	Demonstrating our role as a good corporate citizen
New Wave Education - 81K Young people reached in past 18 months - 7 Apprenticeships for Multi Skilled Maintenance Technicians – 2 under 18 years 1 Female - 1 Apprentice starting in September – Instrumentation, Controls and Automation	**Outreach activity** - 84 engagements this year - Affordability - Sewer Wise - Clean Rivers and Seas Twyford Water works	Outdoor Learning Session with Southeast River Trust Budds Farm Wastewater site due to open for school tours 2025 Employee volunteering	**Grants** - £145K grants awarded since 2019 - No Limits Southampton - Community Centre Grants x 8 - Hardships Grants - Water Butts - Water Saving Schemes
			

"Website didn't answer my query, but this did right away"



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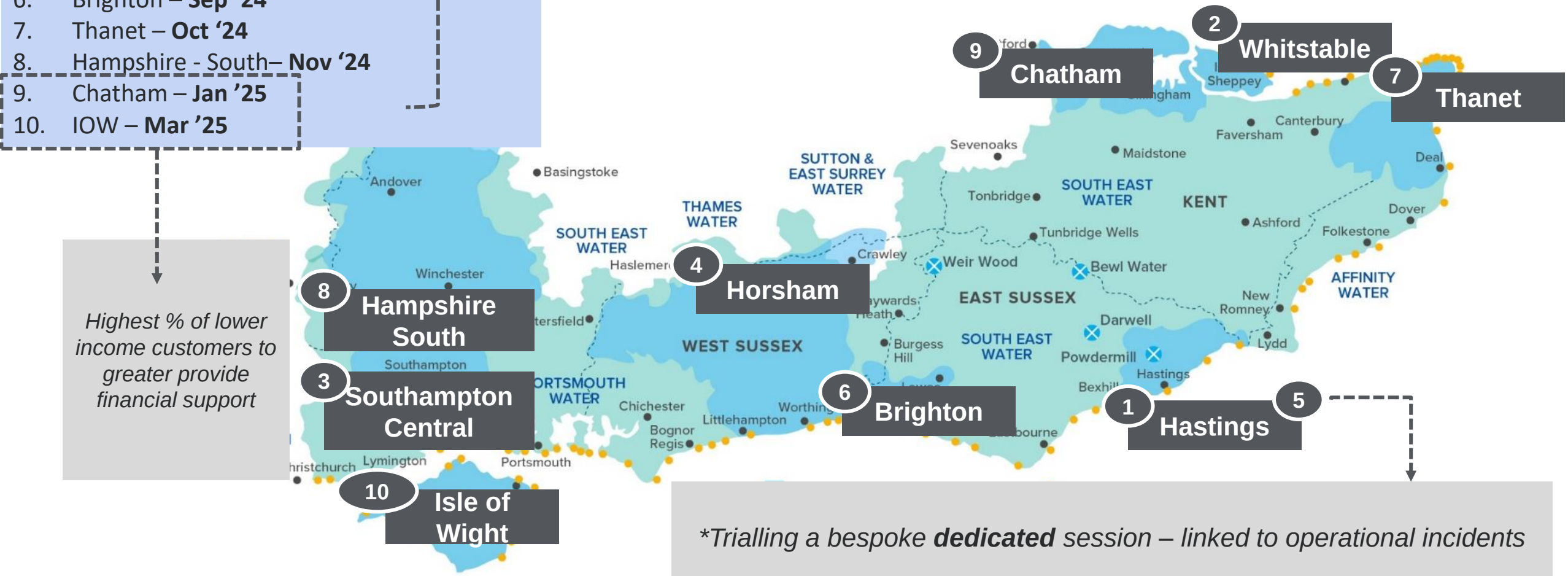
Your Water Matters Drop Ins

1. Hastings – **Oct ‘23**
2. Whitstable – **Jan ‘24**
3. Southampton – **Mar ‘24**
4. Horsham – **May ‘24**
5. Hastings* – **Sep ’24**
6. Brighton – **Sep ’24**
7. Thanet – **Oct ‘24**
8. Hampshire - South– **Nov ‘24**
9. Chatham – **Jan ’25**
10. IOW – **Mar ’25**

Ensuring a spread across the region of high population areas

Wider Engagement:

- From Jul ‘25 - Regional stakeholder workshops
- Regional ‘Your water your say’ sessions (Southern Water led)



Highest % of lower income customers to greater provide financial support

Trialling a bespoke **dedicated session – linked to operational incidents*

AOB

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Appendix

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Water Resources Management Plan (WRMP)

July 2024 update

from
Southern
Water

Our Water resources plan is ambitious and challenging

- Scale of our Water Resources Management Plan (WRMP) larger than other companies and matches regional challenges
  - We need to identify alternative sources for 2/3rds of supplies across our area of operation by 2075
  - We will be delivering significant environmental improvements and future resilience
- Our revised draft WRMP has been submitted to Defra:
  - We've worked with the Environment Agency and Natural England to understand and address technical issues
- Awaiting Defra decision before we can proceed to consultation
  - There are possible impacts from election period, September start estimated
  - A full 12 week consultation planned
  - **Please get involved, we'd love to hear your thoughts!**
- Responses to consultation around January, start date dependant

Our Water Resource Plan

Investment area*	AMP8
Smart metering and water efficiency	£186m
Managing leakage	£239m
Transfer pipelines	£164m
5 Water reuse plants	£651m
Short term drought mitigation options	£91m
Other supply schemes and long-term transfers	£326m
Havant Thicket reservoir	£134m
Total	**£1,791m**

We will be smart metering all our customers to help them manage usage and identify leakage

5 Water reuse schemes providing new sources of water through recycled water

We are delivering a new reservoir with Portsmouth Water as part of an integrated system for Hampshire

Replacing 300km of water mains to drive our lowest levels of leakage and provide increased resilience

We are working on collaboratively on long term plans to bring water from a new reservoir proposed in the Thames area

*As submitted in Oct. 2023 and subject to finalising the revised draft WRMP24
** need to understand the impacts on timeline of general election

Risks remain in our plan that we will need to continue to develop mitigation for collaboratively with regulators and stakeholders

Issue	Risk	Mitigation	Other actions
Risk of drought orders and permits in the Western Area post 2030 until Western Area solution is delivered	Risk we won't get these approved if required	We have proposed short term supply options covering more than half the deficit	Maintain adaptability in plan for new mitigation solutions alongside needed review of the S20 agreement
Water neutrality in the Central Area	Water neutrality remains a challenge in Sussex North	Accelerated package plant for Weir Wood by 2025, alongside smaller schemes for headroom and ongoing work with LA's	Assessing the potential of an intertidal abstraction options *(will not be ready for consultation)*
5 significant recycling schemes key to delivery between 2030 - 2033	Gated processes alongside consenting, and permitting	As part of PR24 schemes planned for DPC style route and proposed RAPID process	Maintaining current delivery activities across all schemes, Sandown and Budds well progressed and land purchased
Significant investment in future proposed transfers – SESRO / Thames to Southern needed to 2040+	Risk of delay to these very large complex projects	We are now leading on the T2S project and embedded in the core team for SESRO	Remain as key deliverables in the plan to be consulted on – aligned to Thames plan
Significant leakage reductions required by 2030	Risk we don't deliver leakage start point by 2025	Additional investment in our execution plan driving for end of AMP target level	Leakage strategy review underway alongside enabling key deliverables on mains replacement and meter rollout
Significant customer demand reductions required by 2030	Risk that we don't see savings expected	Enabling Investment targeted (metering) in the high-risk areas 1st – Sussex North and Hampshire	National Water Efficiency Fund and group established, key to recognising the true level of benefit possible and gov. requirements

Hampshire bathing waters

from
Southern
Water

Hampshire

Bathing Water	District	No. samples 2024	Samples above Excellent threshold	% Excellent samples	2022	2023	Projected 2024	Headroom 2023	Projected 2024 headroom	Change	Comment	Explanantion
Eastney	City of Portsmouth	14	0	100%	Excellent	Good	Good	42%	41%	↔	Single very high sample in 2023	All samples Excellent so far. Recoverable to Excellent at end 2025
Southsea East					Sufficient	Poor	Poor	-32%	-32%	↔	All samples Excellent so far in 2024	Much good work by Portsmouth City Council, EA and SWS has resolved issues at the pier and the drainage connection to the main sewer. Recoverable to Sufficient by the end of 2025. Investigation in AMP8.
Hillhead	Fareham	7	0	100%	Excellent	Good	Good	49%	49%	↔	High concentration samples in July/August 2023	All samples Excellent so far. Recoverable to Excellent at end 2024
Stokes Bay	Gosport	11	0	100%	Excellent	Excellent	Good	1%	-1%	↔	High concentration samples in August/Sept 2023	All samples Excellent so far. Recoverable to Excellent at end 2024
Lee-on-Solent					Excellent	Excellent	Excellent	36%	36%	↔	All samples Excellent so far in 2024	
Eastoke	Havant	12	0	100%	Excellent	Excellent	Excellent	53%	53%	↔	All samples Excellent so far in 2024	
Beachlands Central					Excellent	Excellent	Excellent	59%	59%	↔	All samples Excellent so far in 2024	
Beachlands West					Excellent	Excellent	Excellent	47%	47%	↔	All samples Excellent so far in 2024	
Calshot	New Forest	12	0	100%	Excellent	Excellent	Excellent	72%	72%	↔	All samples Excellent so far in 2024	
Lepe					Excellent	Excellent	Excellent	72%	72%	↔	All samples Excellent so far in 2024	
Milford-on-sea					Excellent	Excellent	Excellent	78%	78%	↔	All samples Excellent so far in 2024	
Christchurch Bay					Excellent	Excellent	Excellent	78%	78%	↔	All samples Excellent so far in 2024	
Highcliffe	Bournemouth, Christchurch and Poole	7	0	100%	Excellent	Excellent	Excellent	54%	55%	↔	All samples Excellent so far in 2024	

- All samples have been Excellent so far in 2024..
- Partnership work with Portsmouth City Council and the Environment Agency has led to a significant improvement in investigatory sample concentrations at Southsea East.

Future Growth and Developer Services

Working with planners and developers to enable a water resilient future

from Southern Water

Our Delivery Teams

1

Future Growth Team

- ✓ Local plan consultations
- ✓ Neighbourhood plan consultations
- ✓ Planning application referrals

2

Developer Services

- ✓ Sewer & Water main diversions/requisition/' build over' applications
- ✓ Sewer & Water main connection applications

3

Asset Strategy & Planning

- ✓ Plan infrastructure growth schemes as required

4

Capital Delivery

- ✓ Deliver capital schemes, from diversions, connection & requisitions, to larger infrastructure growth schemes

Sustainable Development

Future Growth Team - Introduction

- We are a Statutory Consultee on Local and Neighbourhood Plans (5–20-year plans) & a Non-Statutory Consultee on individual Planning Applications (2–5-year plans)
- For Local Plans we seek to influence **policy provisions** that mitigate the impact of the proposed housing allocations on the operation of our infrastructure, promotes water efficiency & protects water quality
- For Planning Applications, should there be insufficient capacity to serve the development, we will request **planning conditions** to allow for the occupancy of the development to be **phased** in line with the upgrade to our infrastructure
- This is required as we have limited powers to prevent connections to our network, even when capacity is limited; for example, under Section 106 of the Water Industry Act, developers have a right to connect foul drainage on 21 days' notice

Developer Services - Introduction

- We administer developer applications for water & wastewater connections, diversions, requisitions and ‘build overs’ within regulatory levels of service Water UK Developer Services
- The above provides the *quantitative* measure for the Developer Measure of Experience (DMEX) alongside quarterly developer questionnaires, which provide the *qualitative* measure; these measures are combined to provide a **DMEX score -** Customer and developer services experience – Ofwat,
- The DMEX score determines our position on the Ofwat DMEX table, which in turn determines the associated financial rewards or penalties for water companies
- We also provide technical approval & guidance for developer plans; this is supported by industry & national technical standards
- Aswell as, receiving revenue from developers through application fees, including the developer infrastructure charge, which is utilised for capital growth schemes where required

Our Policy Statement on Sustainable Development

We have the following expectations for developers when building new homes and commercial buildings:

Water efficiency – designs for developments must meet 100 litres per person per day.

Water efficiency labelling – water consumptive appliances fitted by developers will use water efficiency labelling.

Water neutrality – developments in Sussex North must demonstrate Water Neutrality for any new development with designs meeting 85 litres per person per day.

Smart metering – Our programme to roll out smart metering for new and existing connections is in development.

Sewer connections – Connections from new developments to Foul or Combined Sewers for surface water runoff will not be accepted unless all options to separate surface water have been applied.

Sustainable drainage – Designs must include features to slow the flow of surface water runoff as close to the source as possible, for example, green roofs, permeable paving, rain gardens and water butts.

Water recycling – incorporate rainwater capture and grey water recycling systems into designs, linking it to blue-green infrastructure and joining or establishing partnerships where practical to eliminate rainwater from drains.

Nutrient Neutrality – developments in the Stodmarsh area in Kent and parts of South Hampshire and Chichester new developments are required to demonstrate Nutrient Neutrality.

Water Offsetting – where opportunities to offset water consumption are available these will be adopted as a planning gain principle.

These expectations contribute to our transformational programmes:

- Target 100
- Sustainable Drainage
- Catchment First
- Network 2030

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Sustainable Development - Industry Updates

- **Surface Water**: Sustainable drainage systems are currently optional, however the proposed inclusion of Schedule 3 to the Flood and Water Management Act 2010 will make it mandatory to install sustainable drainage to manage surface water on a new development (*this has been delayed due to the general election*) New approach to sustainable drainage set to reduce flood risk and clean up rivers - GOV.UK (www.gov.uk)
- **Government's Environmental Improvement Plan 2023:** Working with the Future Homes Hub and other stakeholders, Government have developed a roadmap on water efficiency in new developments and retrofits, proposing 10 actions over the next decade Environmental Improvement Plan 2023 - GOV.UK (www.gov.uk)
- **Building Regs Water Efficiency Review – Feb 2024:** Report commissioned by Water Wise and delivered by Welsh Water & Water Resource Centre, found the need to address deeper concerns related to enforcement and compliance of building regulations Building Regulations Water Efficiency Review – Database WW (waterwise.org.uk)

Wastewater Asset Strategy and Planning

from
Southern
Water

There are four key themes encompassing our delivery plans

The Challenges

Climate Change

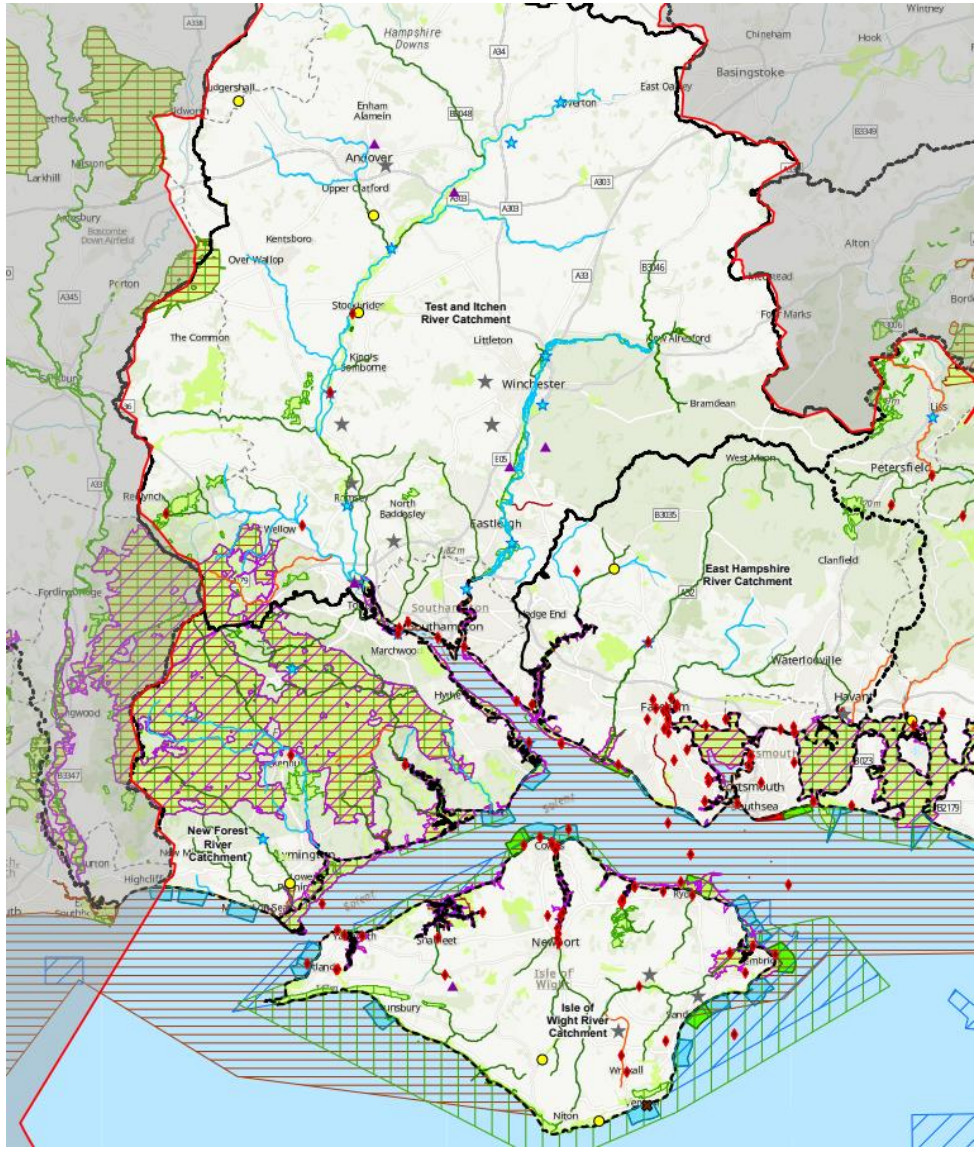
Population Growth

Environmental Capacity & Resilience

Affordability

Network flow management to reduce flooding and spills	• **Surface water separation** and **sustainable drainage systems** to keep rainwater out of sewers and prevent spills from storm overflows • Build **storage tanks** where other methods do not deliver. • **Smart networks** - sewer level monitors with artificial intelligence • Increasing **sewer capacity** for new homes and businesses
Recycling wastewater and nutrient removal	• Enhancing wastewater treatment to remove **nutrients and chemicals** • Increasing **wastewater treatment** capacity for new homes and businesses • Additional **UV treatment** to improve water quality for shellfish waters
Asset health and resilience	• Enhanced **maintenance programmes** to improve resilience • Improving **resilience** to power outages, increasing heat and flood risks • **Partnership working** to address coastal erosion • Enhanced **sewer sealing** to improve resilience to high groundwater
Bioresources	• Consolidate treatment sites and move to **Advanced Digestion** technology • Increased biogas production and **renewable energy** • Explore **Advanced Thermal conversion** technology

Hampshire and Isle of Wight environmental schemes



Hampshire

- Sealing sewers to reduce groundwater infiltration which can cause spills from storm overflows
- Improving water quality in Harbours through reduction in storm overflows and nutrient removal to protect shellfish waters
- Reducing nutrients discharged to internationally important chalk streams - key sites Fullerton and Portswood.

Isle of Wight

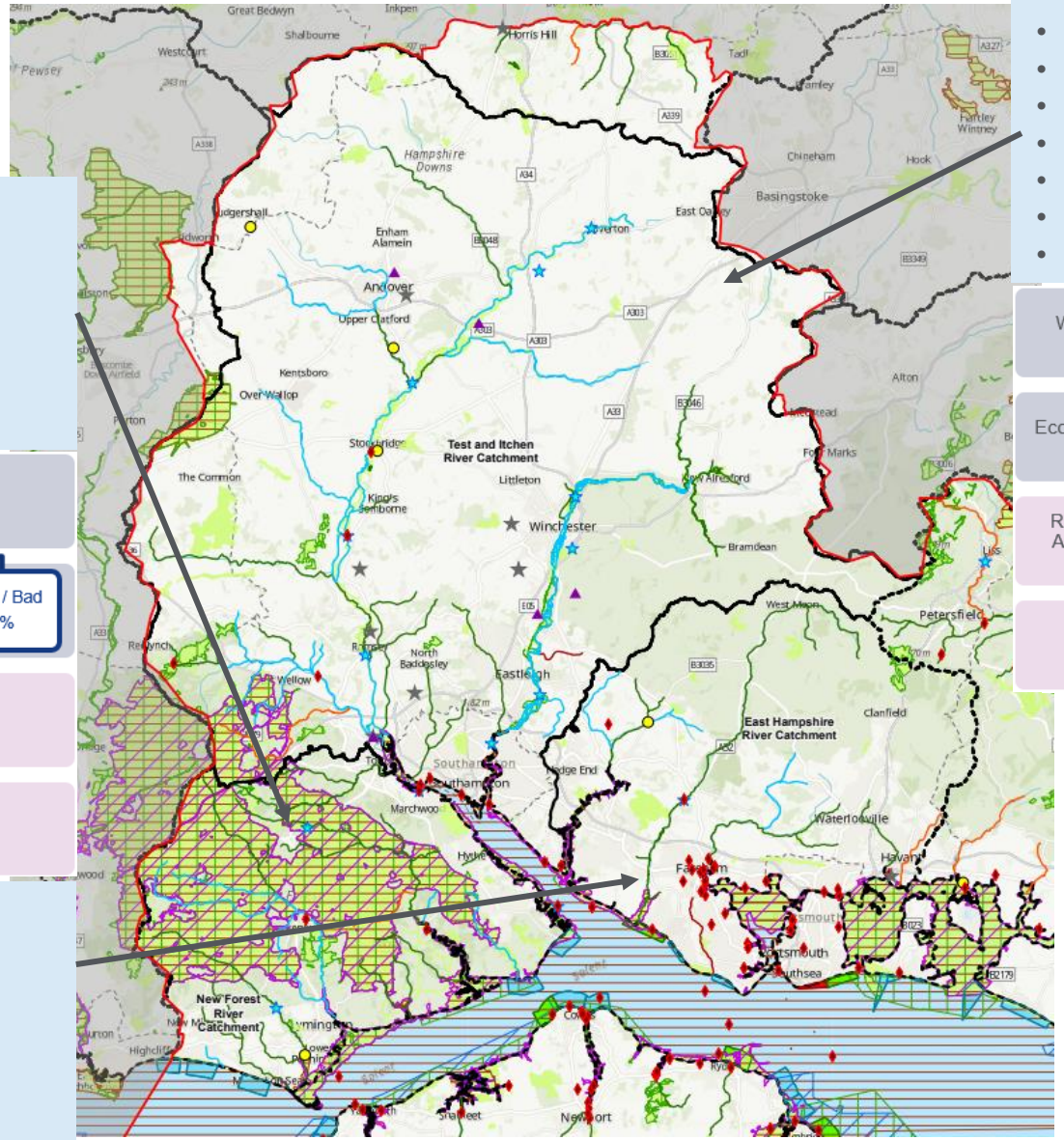
- Reducing spills from storm overflows through better management of rainwater and keeping it out of foul sewers
- Improving resilience from coastal flooding – working with Environment Agency to protect communities and critical infrastructure
- Water recycling to improve resilience of water supplies on the island

Hampshire

New Forest
- 4 nutrient removal sites
- 6 storm overflows
- 48km river improved
- 36% reduction in storm overflows
- Environmental investment circa £70m

Waterbodies in Catchment	18		
Ecological Status or potential	Good 16%	Moderate 78%	Poor / Bad 6%
Reasons for Not Achieving Good Status	Agriculture 27%	Water Industry 9%	Others 64%
Activity	Treatment Works 8%	Storm Overflows 0%	Other 1%

East Hampshire
- 1 nutrient removal site
- 47 storm overflows
- 8km river improved
- 59% reduction in storm overflows
- Environmental investment circa £220m



Test and Itchen
- 9 nutrient removal sites
- 11 storm overflows
- 2 Water supply resilience schemes
- 3 growth treatment schemes
- 118km river improved
- 48% reduction in storm overflows
- 190 ML/d reduction in abstraction (60%)
- Environmental investment circa £1400m

Waterbodies in Catchment	32		
Ecological Status or potential	Good 44%	Moderate 53%	Poor / Bad 3%
Reasons for Not Achieving Good Status	Agriculture 5%	Water Industry 7%	Others 88%
Activity	Treatment Works 4%	Storm Overflows 1%	Other 2%

Nature-based solutions as a first choice

- Defra principle: "Rainwater should be discharged back to the environment as close as possible to where it lands or channelled to a close watercourse without first mixing it with sewage"

How:

- Separating and "slowing the flow" at source where the rain falls
- Reducing groundwater infiltration into sewers

Approach:

- Catchment and nature-based solutions
- Wetlands, swales, ponds
- Rainwater capture and harvesting
- Green roofs, planters, water butts

Lavant WTW wetland: using nature to prevent harm from discharges from the storm overflow

Current Growth Process

We are notified that planning permission has been granted or receive a local plan for future developments.

We are not statutory consultees and can only comment on applications.

A preliminary capacity check completed.

Yes

A connection point is agreed and the development can connect with no conditions

No

A detailed detriment analysis to give a better view on network capacity

Yes

No

The Site is Tracked and prioritised for reinforcement

Prioritising Growth

How:

1. Development size and expected build out.
2. Developments impact on existing issues
3. Spread of growth and potential 'Hot Spots'
4. Working alongside Councils and Developers to understand when large strategic developments will start.
5. Having a Local Plan is key to having well informed network growth schemes

Approach:

1. Reduce Surface water inundation & Ground water infiltration
2. Remove existing rainwater connections and facilitate the building of surface water drainage systems to local environment
3. Removal of system pinch points that cause hydraulic issues
4. Increase storage within the system
5. Upsize sewers

Catchment Resilience

from
Southern
Water

Catchment Resilience

- Protecting the environment by ensuring abstractions are sustainable and enhancing biodiversity
- Protecting water quality and the environment by working with stakeholders including agriculture
- Safeguarding our drinking water supplies by making our catchments more resilient
- Working with Catchment Partnerships

Our priority water areas

Hampshire groundwater Nitrate

Sustainable abstraction and chalk stream

Kent groundwater Nitrate, pesticides and PFAS

Sustainable abstraction

Isle of Wight turbidity and nutrients

Sustainable abstraction and chalk stream

West Sussex groundwater Nitrate, sediment, pesticides and PFAS

Sustainable abstraction Arun & Rother

East Sussex groundwater Nitrate

Sustainable abstraction

WATER for LIFE

from Southern Water

Hampshire

Water Quality

- Nitrate is impacting our groundwater drinking water sources, and we are working in partnership with landowners and farmers to reduce the risk.
- We are investigating potential risks to water quality from sediment sources in the Test and Itchen.

Water Resources

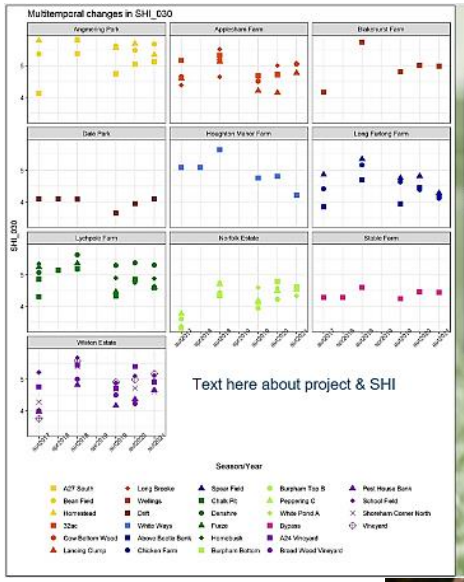
- We are creating a sustainable abstraction regime to protect important habitats.
- We are delivering a programme of river environmental enhancements for ecological resilience, including a national flagship Chalk stream restoration of the River Anton.

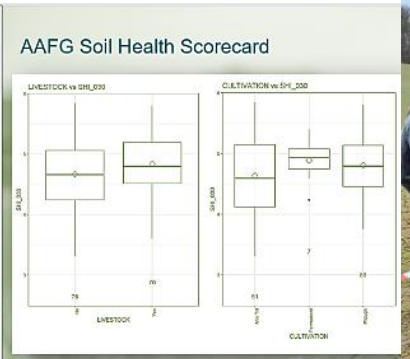
Environment Strategy

- We are developing a holistic Environment Strategy to help define our strategic environmental ambition.
- We are embedding natural capital approaches within our decision making.
- We need to deliver a programme of Biodiversity Net Gain (BNG).

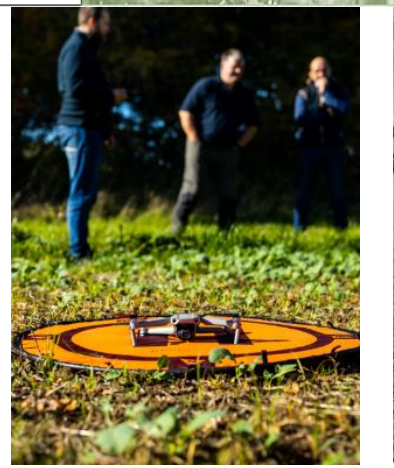
Working with farmers

Farm payments and measures, pilots, demos, events, training, co-design





Data shows farms with livestock and FYM inputs have marginally higher soil health index (SHI) than non-livestock farms



Find the real value of your soil

Let the latest technology and scientific developments help you to fully understand the true value of your land and make greater environmental gains as we work towards Net Zero

Carbon Measurement Methodology

Our state of the art sampling equipment allows us to accurately measure and analyse the following:

- Bulk Density
- Total Carbon
- Total Organic Carbon (Organic Matter)
- Total Inorganic Carbon
- Total Nitrogen
- Textural Classification given as percentage Sand, Silt and Clay

Data Gathering & Presentation

Utilising the data collected through land use mapping, EC scanning and accurate soil sampling, we can then calculate the current levels of carbon within the soil on a t/ha basis.

Results include field specific data sets and a variety of detailed maps produced by GIS based software all of which are compatible with Gatekeeper and other farm management systems.

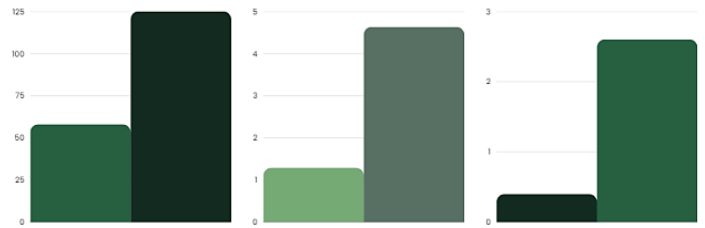
Scenario Planning & Implementing Change

Our field specific data and land use maps showing baseline carbon stocks will enable you to make clear and specific gains to your carbon assets.

At each stage we will consult with you to discuss current land use and farm practice and how to implement change to improve soil organic matter and sequestration.

Year 1 Facts & Figures

Host Farms	6
Soil Types	16
Area Scanned & Sampled	27 fields – 240ha
Aggregated Samples Taken	206



Tonne of Carbon per ha	OM% per Field	Soil Organic Carbon
Lowest 58 – Highest 125	Lowest 1.29 – Highest 4.63	Lowest 0.4 – Highest 2.6

Of the area sampled during the project, we have identified that an increase in organic matter of 0.1% relates to an increase in soil organic carbon stocks of 4.7t/ha (DUMAS method).

Test & Itchen Catchment Partnership

Hosted By

Wessex Rivers Trust

The Vision

A healthy water environment which is valued and nurtured by residents, businesses and the wider community

Our Catchment Management Specialist attends the Quarterly Catchment Partnership meetings where we present key business updates and discuss options to progress partnership work.

Monthly meetings with the Catchment Partnership host allows our team to progress internal collaboration by updating decision makers on catchment wide initiatives and aligning them with our own goals for maximum benefit

Test and itchen catchment partnership meeting

The Test & Itchen Catchment Partnership brings together local people and organisations to plan and deliver positive actions that will improve our water environment and society. Typical organisations involved are:

- Statutory agencies (EA, NE etc)
- NGOs (Rivers Trusts, Wildlife Trusts, RSPB etc)
- Local Authorities
- Local Community Groups
- Landowners and farmers
- Angling Societies/Trusts

... And many more!

Hot topics

- Salmon Abundance
- Septic Tank Awareness
- Highways Runoff
- Agricultural Land Use
- River Corridor Habitats

Southern Water input timeline

Task	Q2 23/24	Q3 23/24	Q4 23/24	Q1 24/25	Q2 24/25	Q3 24/25	Q4 24/25	AMP8
1 Collating SWS info								
2 Collating CP info								
3 Defining shared goals								
4 Co-creation of a plan								
5 Co-delivery of a plan								

WATER for LIFE from Southern Water

Incident Response

from
Southern
Water

Improvements Made

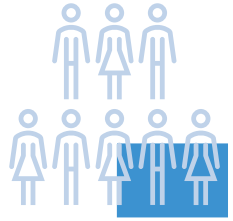
Bottled Water

- Increased amount of water available per day to 400,000 litres. Equivalent to water for 40,000 people.
- Identified, visited and gained pre-approval for 127 bottled water supersites.
- Created a process for using small community hubs to distribute water.
- Increased our rota of Southern Water employees to manage bottled water stations.
- Secured funding to create a rota of Southern Water colleagues to distribute water at Bottled Water Stations, reducing the need for external volunteers.

Vulnerable Customers

- Introduced a secondary supplier to complete doorstep deliveries to vulnerable customers.
- Increased the number of deliveries that can be made – over 12,000 properties delivered to in 1 day in Hasting's incident.
- Introduced a proof of delivery system with both suppliers to ensure we are accountable and transparent.
- Increased internal bottled water storage to speed up replenishment of water.
- Encouraged suppliers to open a water storage facility in Hampshire – 400 pallets stored in Fareham.

Engagement



- Commitment to regular meetings with Local Authorities.
- Involvement and collaboration on planning, including agreement on Bottled Water Stations outside of incidents.
- Attendance at Water Disruption Meetings, where information is shared, and processes improved.
- Involved in the National Digital Twin data sharing pilot in Hampshire.
- Invitations shared to participate in exercises and test situations, specific to a response in the Marchwood area.

Ongoing Improvements

Water Distribution

- Investment in becoming more self-sufficient; Increased water storage and internal capabilities to distribute water. Part of PR24 investments.
- Ability to better support key customers, such as schools and care homes with “Always in Supply devices”.
- Introducing improved internal and external traffic management and safety measures at our Bottled Water Stations.
- Conduct a live exercise with Water Direct and Cobra Hydro in the Marchwood area.

Vulnerable Customers

- Introduce an improved internal management system for vulnerable customers to enable a more efficient and accurate delivery process, with live delivery status and post incident reporting.
- Ensure bottled water stations are located in such a way to accommodate and support all customers, including the use of Community Hubs.
- Incorporate an information leaflet with the first PSR water delivery, to explain why water is being delivered.
- Increase pre-identified vulnerable customers through promotion of the PSR.

Planning

- Engagement with vulnerable sites such as schools to understand their exact needs in a loss of supply incident to prevent closure.
- Combine alternative water actions into one clear plan in collaboration and agreement with localised partners.
- Increase available resources for incidents by continuing to build resilience into our rotas.
- Agree all locations to be used to distribute water in order of preference, including operational requirements needed to open and be successful.

Case Study – Easton WSW January 2024

Incident Overview

Incident occurred on 12th January, where a chlorine leak occurred as part of a routine gas cylinder change over. Gas leak was isolated; however, Easton WSW was shutdown later in the evening.

Impact to various DMA's in the Winchester area, with a mixture of no water or low pressure.

All customers were back in normal supply by 16th January.

Vulnerable Customers

Vulnerable customers were supported through doorstep water deliveries.

1,395 PSR customers initially identified. Increased to 1,987 as incident progressed and through shared vulnerability data.

Decision made to deliver to all addresses at height due to difficulties with low pressure.

Bottled Water Stations

3 Bottled Water Station Locations used during this incident: Winchester Park and Ride, Worthy Lane Coach Park and Sainsbury's.

Locations were agreed in partnership with the LRF at the time of the incident.

Locations were reviewed to support the incident as it changed and progressed.

Alternative Water

300,060
Litres of water delivered to vulnerable Customers.

12,458,721
Litres of water added to the network by tankers.

130,272
Litres of bottled water distributed from Bottled Water Stations

81,504
Litres of water delivered to care homes and vulnerable sites

Collaboration

PAT and TCG were held to support the response to the incident and share information.

DEFRA and the DWI were engaged with throughout.

Post-Incident multi-agency debrief was completed.

Key Learnings

Requirement to better identify internal resources, including re-tasking contractors and partners.

Improved mapping of hydrant locations to maximise tankering impacts.

Need to increase available support for PSR customers – secondary courier company.

Bespoke response plans for specific scenarios.