

Southern Water: East Sussex update

23 October 2024



Agenda

- Welcome – George Eykyn
- Company update – Richard Manning
- Wastewater – Groundwater Infiltration update – Alex Saunders, Dave Bennett-Tomlin and Simon Tomlinson
- Clean Rivers and Seas Task Force – James Latter
- Water – operational and capital delivery updates – John Maguire and Eric Mattocks
- Water Resources Management Plan (WRMP) – Sam Underwood and Sandra Norval
- Closing words



Company update

Richard Manning, Company Secretary



Our Business Plan – 2025 to 2030

- In October 2023, we submitted our Business Plan to Ofwat for the period 2025-30.
- On the 11 July we received initial feedback from Ofwat, known as the Draft Determination
- We have now published our response, 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



Draft Determination response

- After carefully reviewing Ofwat's Draft Determination, we don't believe it would secure the investment required to deliver change required
- In our response we've said that to secure the investment required, essential change is needed to its draft determination to make plans affordable, deliverable and financeable.
- We've spoken to thousands of customers to inform our proposals, to further understand their priorities
- Our revised plan will achieve this and includes additional investment
- These changes will deliver more environmental improvements in a shorter timescale



Sussex Environmental investment 2025–30



Total proposed
environmental
investment

**£967
million***

Arun and Western Streams

£542m

- Nutrient reduction at 18 sites.
- Reducing spills in catchment by 54% by improving 29 overflows.
- 145km of river improved.

Cuckmere and Pevensey Levels

81.5m

- Nutrient reduction at seven sites.
- Reduced use of storm overflows – 20% at 18 overflows
- Coastal resilience scheme at Eastbourne.
- 55km river improved.

Rother

£119m

- Nutrient reduction at 20 sites.
- Reduced use of storm overflows – 36% at 21 overflows.
- 112km of river improved.

Adur and Ouse

£194m

- Nutrient reduction at 18 sites
- Reduced use of storm overflows – 34% at 34 overflows.
- Coastal resilience scheme near Brighton.
- 135km of river improved.

Hardham Water Supply Works

£30m

- More reliable supplies to 246,000 properties.
- Enhanced treatment.

* This is the proposed level of investment set out in our 2025–30 business plan, but is subject to change following Ofwat's Final Determination.

Wastewater – Groundwater Infiltration update



Our role

- Southern Water is responsible for managing flows within its network, taking wastewater from customers' homes to Wastewater Pumping Stations (WPS).
- Across East Sussex, we have more than 450 WPSs, which then pump flows into nearby Wastewater Treatment Works (WTWs).
- There are a variety of sewer network flooding risks, and we work very hard to find and fix an issue before it arises, but some are out of our control.
- Risks include:
 - High groundwater levels / rainfall
 - Fat, oil and grease (FOG) / Unflushables entering our network
 - Illegal connections



A very wet winter

- Last winter we experienced extreme levels of rain and the ground in certain areas of Sussex became heavily saturated.
- The local drains and sewers were inundated with surface water run-off, which put significant pressure on our local WPSs. We experienced extreme levels of rain, which meant groundwater found its way into the sewer network.
- Areas that particularly suffered from groundwater infiltration were Winchelsea and Hellingly.



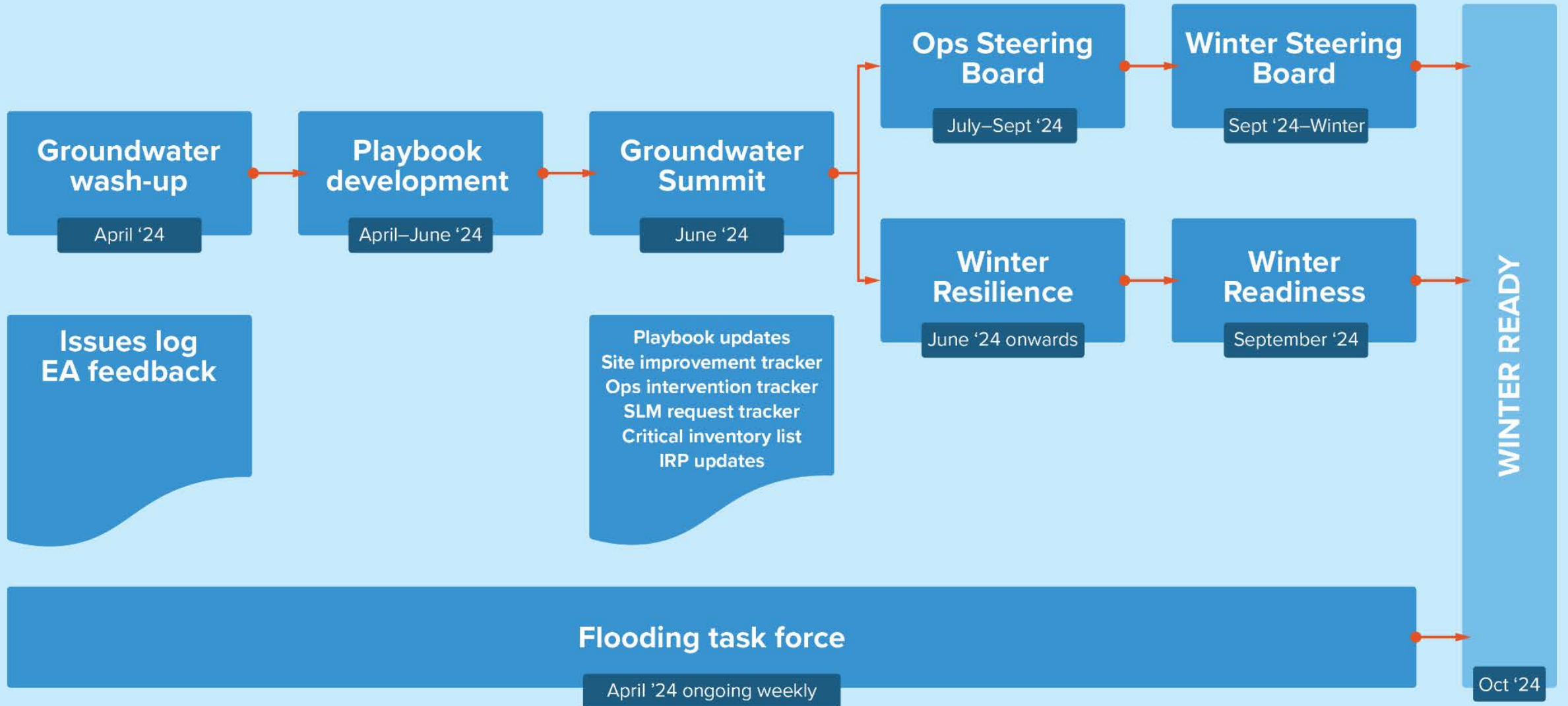
Preparing for this winter



from
**Southern
Water** 

The Southern Water logo graphic consists of three stylized, wavy lines in shades of blue, representing water.

Our approach



Improving our response this winter – operational

- Created Groundwater playbooks for different scenarios, to ensure we are best prepared for potential issues
- Enhanced use of our Sewer Level Monitors (SLMs): Live monitoring of our catchments, so we can react quickly if we see sewer network levels rising
- 22 Wastewater Pumping Station winter readiness checks completed, to ensure they are working as they should. More than 20 wet well cleans have also taken place, and this work is ongoing.
- More than 800m of Infiltration CCTV surveys completed across Sussex.
- Pre-season jetting of our sewers in 'hot spot' locations, ensuring our sewer network is in the best possible condition before winter.



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240808_141000_206.jpg, 00:08:15, 65.04 m
Infiltration, gushing at joint at 3 o'clock

East Sussex Sewer rehab and whole catchment view



Improving our response this winter – communication

- Spoke with customers on the ground to look at how we can reduce potential impact (tankering / generator locations etc)
- Improved customer communications with SMSs messages
- Improved transparency by using our Incident Map System, which customers can access to show areas where we have live groundwater issues
- Proactive stakeholder updates with elected members
- Weekly calls with the Environment Agency



How we're changing

Our future delivery model:

Southern Water

Lanes Group  **Lanes Group plc**

- Key Services:**
- Blockages
 - Cleaning
 - CCTV
 - Patch Lining
 - Gravity Sewer Tankering
 - Smart Network SLMs
 - Manholes – S81 & Customer led (Mainland)

Cappagh Browne 

- Key Services:**
- Dig down repairs
 - Rising Main repair
 - Low/No dig solutions
 - Chamber & benching repairs
 - Activity related flow management
 - Manholes – S81 & Customer led (IoW)

McAllister 

- Key Services:**
- Full length lining
 - Activity related flow management



Making sure our Wastewater Treatment Works (WTW) are ready for winter



Winter readiness – wastewater treatment

- To help with our groundwater infiltration response, we're also making sure our WTWs are also prepared for the winter months.
- Our winter readiness programme includes a 45-point check per site, to ensure we are resilient. Checks range from making sure our backup generators are working as they should in case of an emergency, to ensuring the site is gritted and staff are safe.
- Reviewing how we work with the Environment Agency and build on our work from last winter, pushing more flow through sites which have additional capacity beyond the flow to full treatment, to reduce storm spills and the impact of groundwater.
- We've also implemented storm outfall checks, following discharges. We are using machine learning and static models to generate tasks for our teams to check outfalls following genuine releases to the environment.



Peacehaven WTW



Wastewater Capital Delivery Investments – East Sussex



Wastewater Capital Delivery Investments - East Sussex

During AMP7 (2020-2025) we've invested £103m so far which includes:

- **Network Projects;** Rising Mains (£11m). Growth (£5m)
- **Treatment Enhancement;** Additional Storm Storage (£6m), Increase Flow to Full Treatment (£5m) and improved quality of treated wastewater, including Phosphorus removal (£34m)
- This AMP, we've invested £7.2m specifically in Sussex on flooding and groundwater schemes, which includes sewer relining and manhole sealing in **Chichester, Shripney Lane, Hellingly** and **Sayers Common**

£15m still to spend this AMP, largely relates to Treatment Enhancement, vast majority schemes now on site.

Key Projects: Crowborough Redgate Mill WWTW (£8m), Hailsham (£25m), Cinque Port Rising Main (£10m)



Wastewater Capital Delivery Investments - East Sussex



Photos

Redgate Mill

Blower mechanical installation complete



NSAF MIECA installation progressing well



Barcombe WTW

Storm Tank Online – UIMP6 Reg. Output Achieved



Wastewater Capital Delivery Investments - East Sussex

Top Ten Schemes

Project Name	Detailed Programme	Budget
Hailsham South WTW - Habitats	WINEP AMP6 Carryover	17,586
Cinque Port Rising Main	Rising Mains	10,876
Crowborough Redgate Mill WWTW	WINEP WFD Quality	8,108
Hailsham North WTW catchment	WINEP AMP6 Carryover	7,756
Barcombe New WWTW	WINEP WFD Quality	7,421
Battle WWTW	WINEP WFD Quality	7,382
Netherfield WWTW (WFD)	WINEP WFD Quality	4,665
Ticehurst WWTW (no det)	WINEP WFD Quality	3,946
Bexhill Growth	Waste - Network Reinforcement	3,775
S101A Three Oaks WTW	WTW Growth	3,643



Clean Rivers and Seas Task Force East Sussex update

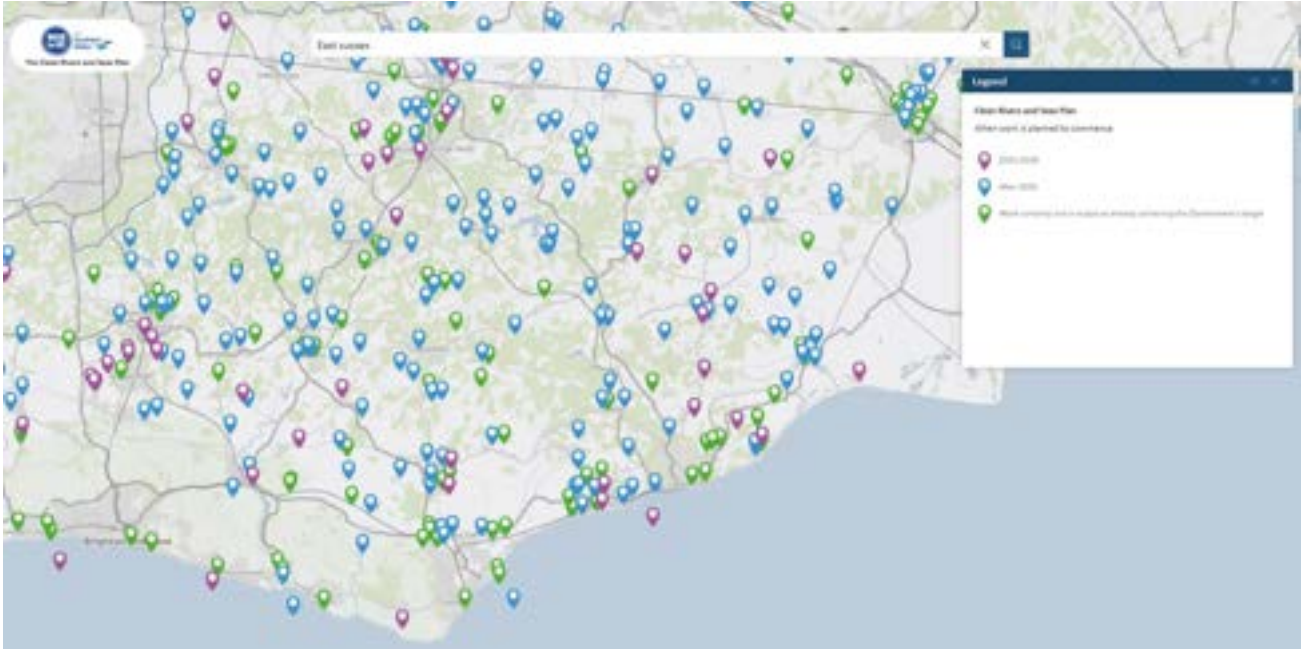


Overflows in East Sussex

Key stats

- 199** Storm Overflows in East Sussex
- 132** Require work/investment to achieve Govt. targets before 2050
- 22** Overflows working on between 2025-2030

Approximately **£220m investment** in next five years



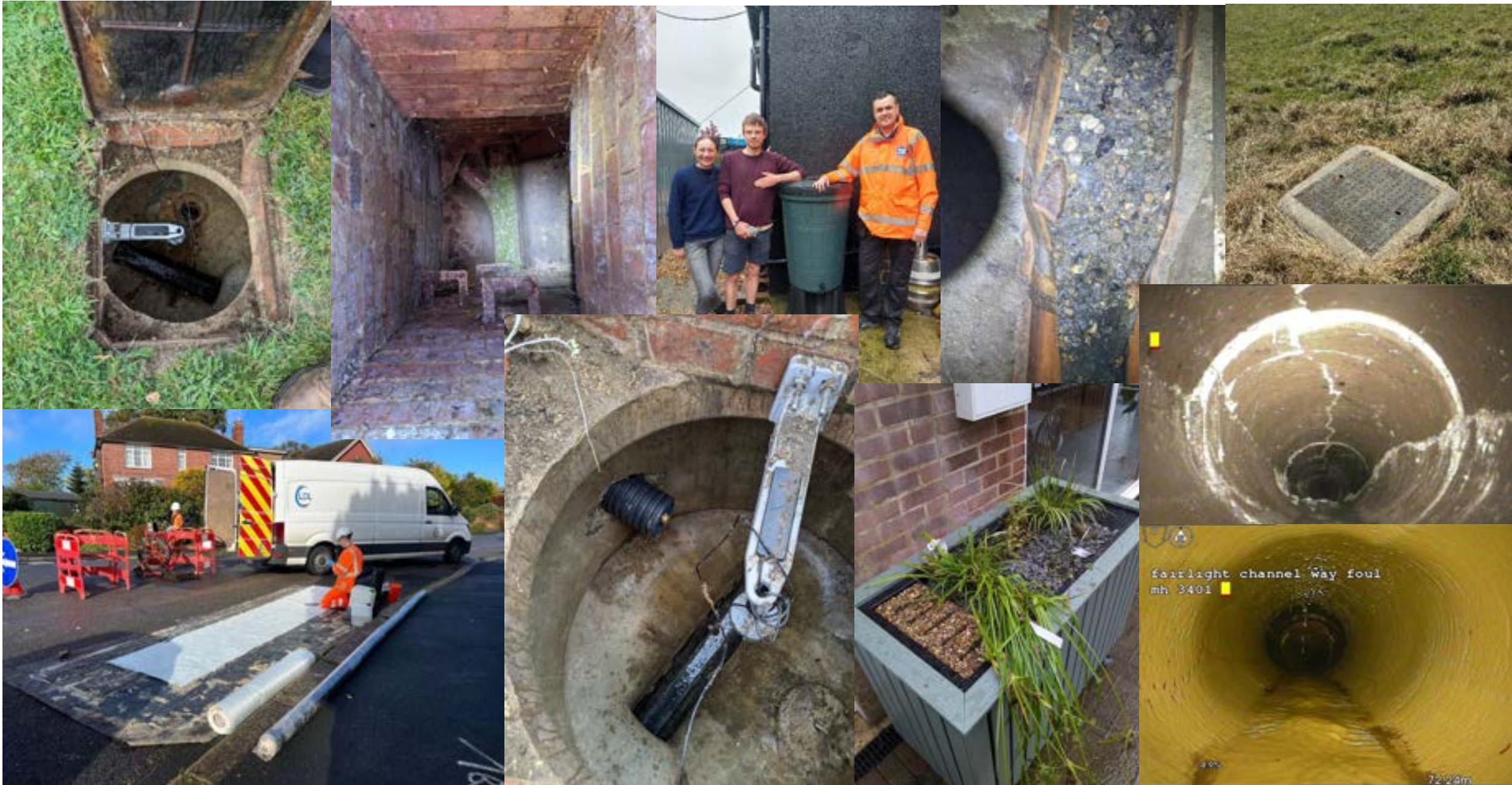
southernwater.co.uk/water-for-life/clean-rivers-and-seas-plan/map



Fairlight – what we've done so far

- 5km of detailed surveys in the catchment on the main sewer spines
- 1850m of sewer being sealed to lock out ground water
- 341 slow the flow water butts installed managing 0.6Ha
- Knowle Road eight illegal surface water connections within existing foul manholes managing 0.5Ha
- Knowle Road illegal surface water connection rectified
- Replacement of damaged manholes that posed a H&S risk
- Fairlight WTW-storm return optimised and under review
- Trailing a new planter at the coastguard cafe
- Cleaning and remedial works to our CSOs
- Redundant Sewer to the WTW capped off and remaining 125m to the WTW to be sealed
- Investigations into manhole chamber condition along sealed sewer lines





Water – operational update



Leakage in Sussex

Total leak repairs 2022/23

	Sussex
Bursts	663
Customer leaks	256
Network leaks	7,576
Total	8,495

Total leak repairs 2023/24

	Sussex
Bursts	533
Customer leaks	1,201
Network leaks	7,241
Total	8,975

Total leak repairs Apr 24 to date

	Sussex
Bursts	213
Customer leaks	591
Network leaks	3,531
Total	4,335

Leakage in Hastings and Brede

Total leak repairs 2023/24

	Hastings and Brede
Bursts	73
Customer leaks	75
Network leaks	706
Total	854

Total leak repairs Apr 24 to date

	Hastings and Brede
Bursts	58
Customer leaks	24
Network leaks	441
Total	523

Water production in Hastings

Assets

- 2 Surface water supply works
- Production capacity = 33 million litres per day
- Water demand = 25 million litres per day

People

- 11 Operators, Mechanics, Electricians, Apprentices and Field Managers

The geographical spread of water production assets in the Hastings operational area



Water process performance

- £1m additional funding for operational teams to replace several key assets to improve reliability of:
 - Darwell pumping station (four new pumps, motors and drives)
 - Water supply works in Brede and Beauport (new treatment equipment). The bulk of the replacements are underway and due to deliver by mid-2025.
- Looking after our heritage
 - Planning permission is being sought to replace the Brede Steam Building composite-concrete roof tiles with original Welsh-slate and gargoyles, as described in early documents about the building.

Day Trips (first Saturday of every month)
Search: 'Brede Steam Giants'

Some of the operational team who responded to the Darwell main burst in May 2024



Brede steam engine building



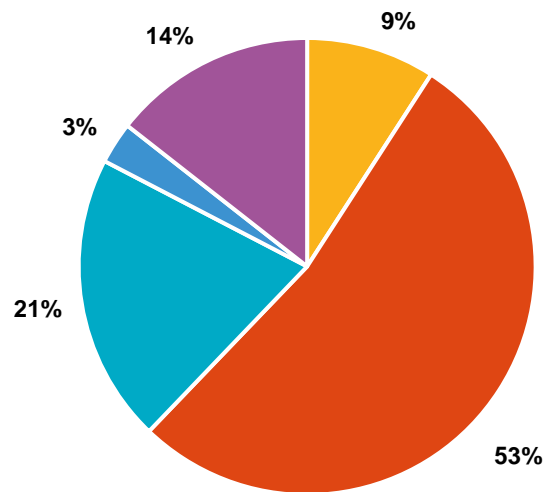
Water Resources Management Plan (WRMP)

October 2024 update

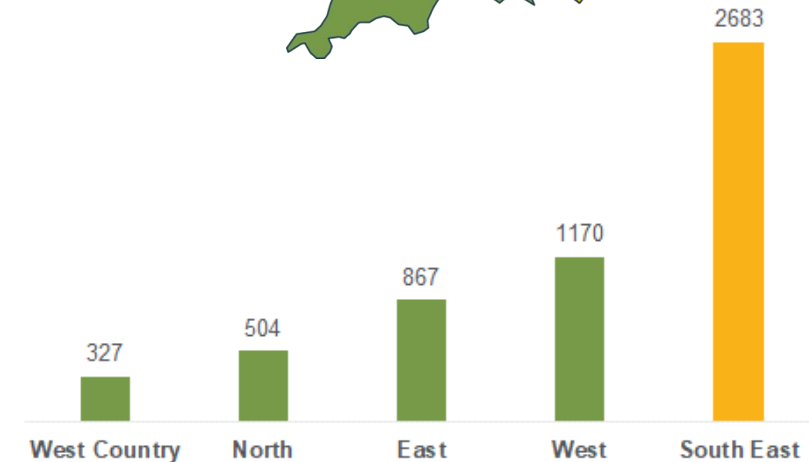
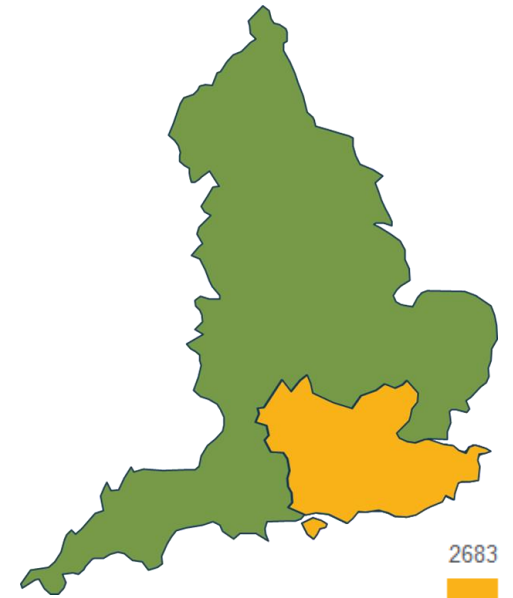


The South East of England is seriously water-stressed

- The Environment Agency has identified that by 2050, almost 5 billion extra litres of water will be required every day, to maintain public water supplies in England.
- More than half that need is in the South East.
- The main driver in the South East is what the EA defines as “Environmental Destination” which means improving and enhancing the natural world.



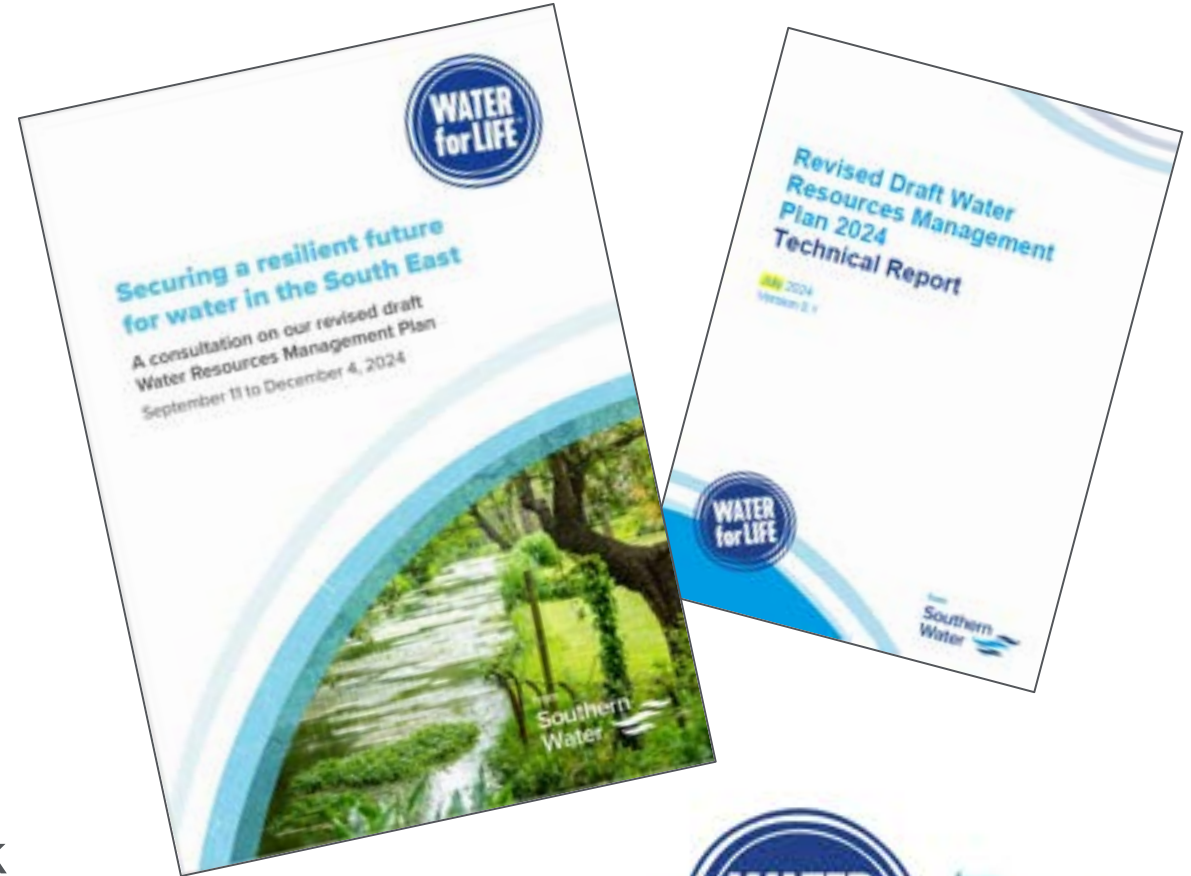
- Climate Change
- Environmental Destination
- Household Population Growth
- Business Growth
- Drought Resilience



Water Resources Management Plan (WRMP)

Consultation 11 September to 4 December 2024

- What is the WRMP?
- Why are we consulting on it?
- Where can you find it?
- How to provide feedback



Visit www.waterresources.southernwater.co.uk



East Sussex water strategy 2025-35



East Sussex and Brighton

20. Reduce leaks ●

21. Help customers use less water ●●

15. Catchment schemes to address nitrates and pesticides and improve the resilience of our water sources

18. Groundwater improvement schemes in West Sussex and a groundwater scheme in Brighton to provide more water ●●

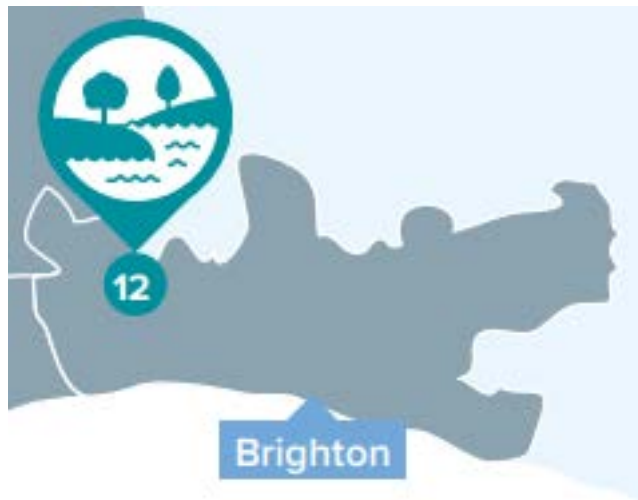
Key

- Less than five million litres of water each day.
- Between five and 50 million litres of water each day.
- More than 50 million litres of water each day.

- Reduce demand for water
- Drought action
- New sources of water and transfers
- Catchment or nature-based scheme



East Sussex water strategy 2035-50



East Sussex and Brighton

- 18. Reduce leaks ●●
- 19. Help customers use less water ●●
- 22. Import water from South East Water to Canterbury and Rye ●●
- 23. Improve a groundwater source near Rye to provide more water ●
- 12. Build a new reservoir in Sussex to store water from the River Adur ●●

Key

- Less than five million litres of water each day.
- Between five and 50 million litres of water each day.
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- Reduce demand for water
- Drought action
- New sources of water and transfers
- Catchment or nature-based scheme

East Sussex water strategy 2050-75

Key

- Less than five million litres of water each day.
- Between five and 50 million litres of water each day.
- More than 50 million litres of water each day.
- Reduce demand for water
- Drought action
- New sources of water and transfers
- Catchment or nature-based scheme

East Sussex and Brighton



- 9. Reduce leaks ●
- 10. Help customers to maintain a sustainable level of water use
- 12. Recycle water near Hastings and store it in Darwell reservoir before treating it at a nearby water supply works ●●



- 7. Ongoing work to use catchment management and nature-based solutions to improve the environment
- 8. Import water from South East Water to Brighton ●●





from
Southern
Water. 

Our consultation on securing a resilient water future for the South East

Have your say on our revised draft Water Resources Management Plan before Wednesday 4 December 2024.

Please encourage your local communities to take part....

We'd love to hear from you!

Visit waterresources.southernwater.co.uk



from
Southern
Water. 

AOB



Appendix



from
**Southern
Water** 

Community Centre Grants



Community Centre Grants - East Sussex

- As part of our programme to support making the community stronger, our Community Centre grant is back for a third year.
- This year we're providing over 30 grants of £1,000 each and five will be awarded in East Sussex.
- These grants have directly alleviated the burden of rising energy and operational costs, ensuring that vital services continue to be accessible to the local community.
- Previous Community Centre Grants have been awarded to:

Hangleton community association	West Hill & District Community Association
Sussex Community Development Association	Ringmer Village Hall and Library
The Crew Club	Crowborough Community Pantry
The Clock Tower Sanctuary	The Beatrice Drewe Trust
BMECP CENTRE	



“Thank you for notifying me that BMECP has been awarded £1000 towards our energy bills. These funds will help quite significantly with running the centre.”

Juliet Centre BMECP Manager

Apply now

Applications opened on 1 October and close on 31 October 2024 at 5pm.



Business Partnership Fund



Business Partnership Fund goes live

- The third round of our popular Business Partnership Fund is now open.
- We're on the look-out for new and innovative ideas to help reduce water use in businesses across our region.
- Ideas include harvesting rain or shower water, fitting flow restrictors on taps or harnessing new technology to save water.
- The fund is open to all retailers, businesses and third-party conservation providers.
- More details: [Business Partnership Fund – Southern Water](#)



Apply now

Applications close on 31 December 2024.



Future Growth and Developer Services

Working with planners and developers to enable a water resilient future



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

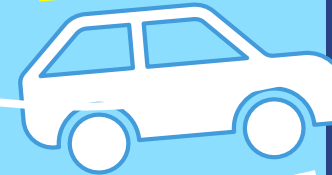
- ✓ Plan infrastructure growth schemes as required

4

Capital Delivery

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

Developer



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



Catchment First



Sustainable Drainage



Network 2030



from
Southern
Water

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



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

Sussex environmental schemes – key areas of focus

- Improving river water quality through nutrient reduction and reduction in storm overflows
- Increasing capacity of our wastewater systems to support new homes and businesses
- Enhancing climate resilience with greater use of green solutions to reduce spills from storm overflows, power resilience at treatment works, and protecting 1 site from coastal erosion



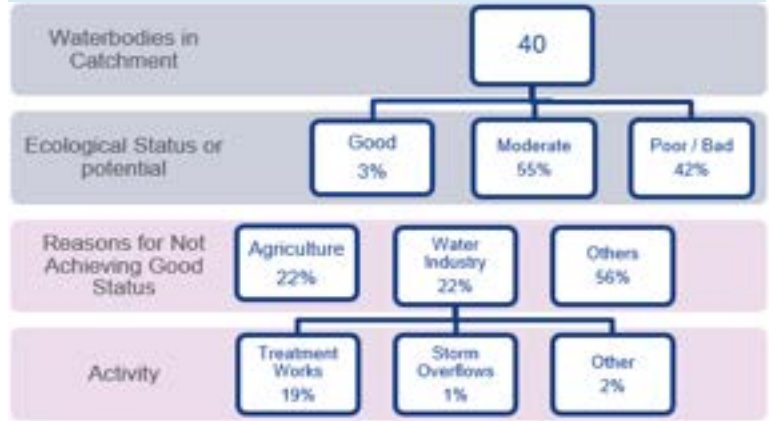
Sussex enhancements

(slide 1 of 2)



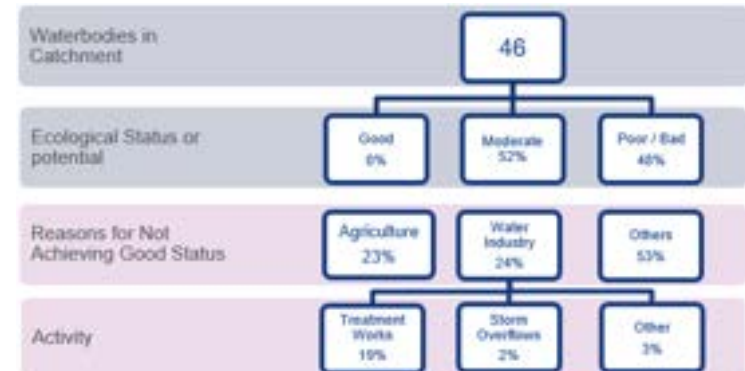
Arun & Western Streams

- Nutrient reduction at 13 sites
- Storm overflows at 28 sites
- 5 growth sites
- Length of river improved 145km
- 54% reduction in storm overflow discharges
- Total environmental investment £330m



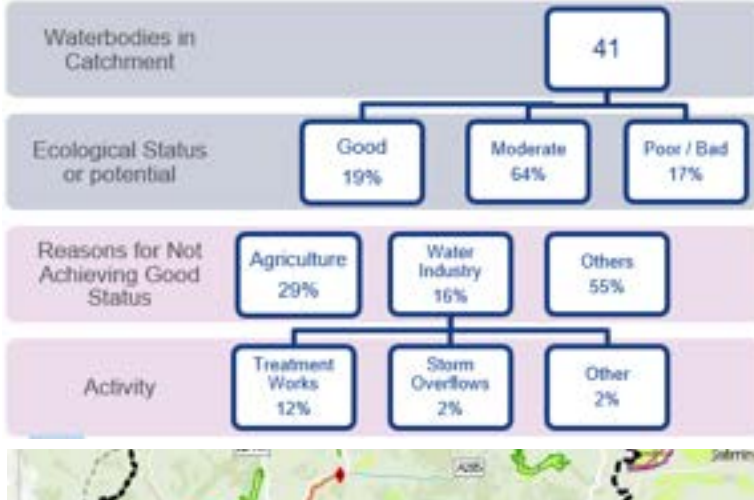
Adur & Ouse

- Nutrient reduction at 13 sites
- Storm overflows at 34 sites
- 3 growth sites
- 1 coastal resilience scheme
- Length of river improved 135km
- 34% reduction in storm overflow discharges
- Total environmental investment £260m



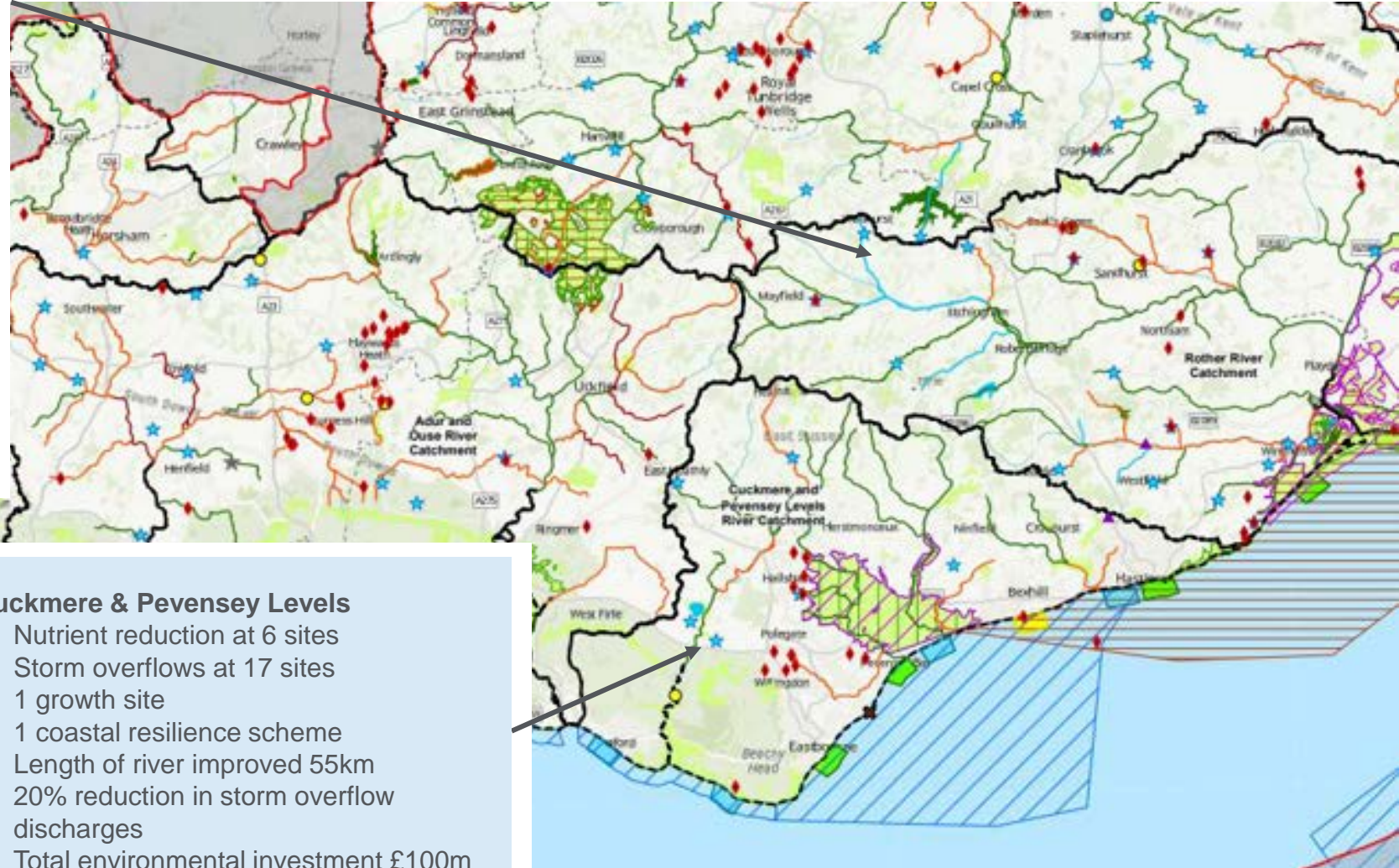
Rother

- Nutrient reduction at 18 sites
- Storm overflows at 11 sites
- 4 growth sites
- Power resilience at 2 site
- Length of river improved 112km
- 36% reduction in storm overflow discharges
- Total environmental investment £130m



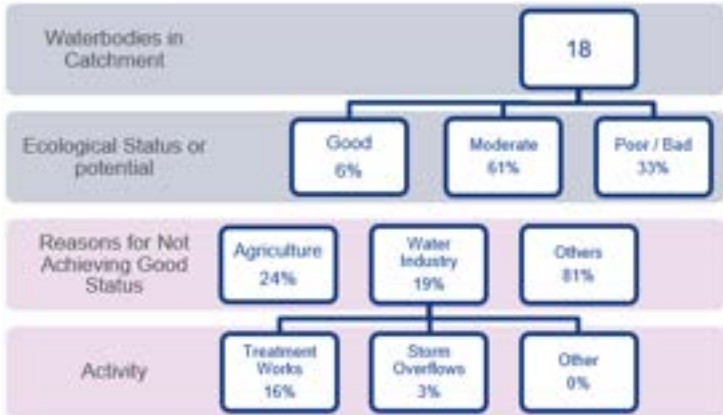
Sussex enhancements

(slide 2 of 2)



Cuckmere & Pevensey Levels

- Nutrient reduction at 6 sites
- Storm overflows at 17 sites
- 1 growth site
- 1 coastal resilience scheme
- Length of river improved 55km
- 20% reduction in storm overflow discharges
- Total environmental investment £100m



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:

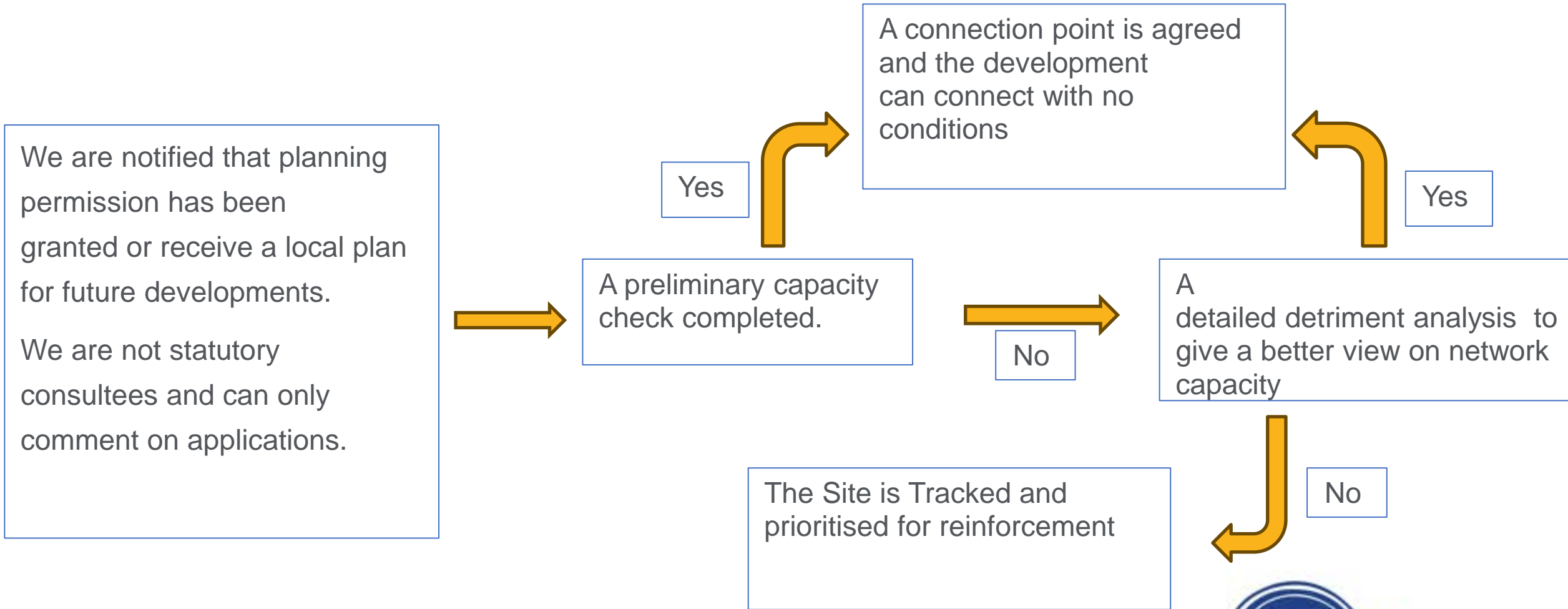
- Catchment and nature-based solutions
- Wetlands, swales, ponds
- Rainwater capture and harvesting
- Green roofs, planters, water butts



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



Current Growth Process



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



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



East Sussex

Water Quality

- Nitrate is impacting our groundwater drinking water sources, and we are working in partnership with landowners and farmers and Brighton & Hove City Council to reduce the risk.

Water Resources

- We are creating a sustainable abstraction regime to protect important habitats.
- We have delivered river environmental enhancements for ecological resilience on the Lewes Winterbourne.

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).



Lewes Winterbourne AMP7 WINEP Implementation Project 2023

The Lewes Winterbourne, a tributary of the River Ouse in East Sussex.

We implemented in stream improvements on land owned by Lewes District Council to provide long-term ecological benefits by reintroducing natural features, creating improved flow conditions for the Chalk stream ecology, and enhancing public access for the local community to enjoy the river.

