Pennon Stakeholder Forum

Let's Talk Environment

Thursday 29 June

10:00 – 12:00

South West Water

Bournemouth Water

Bristol Water

Welcome

You have told us that you want to hear more about our work to protect and improve the environment

So, this 5th Let's Talk Water event will be a 2-hour webinar to share with you the full breadth of our environmental projects and initiatives

Housekeeping

- Please keep cameras off and muted
- If you have questions, please post them in the chat or ask during the Q&A sections
- We will record the session (hence cameras off). Any objections, please let us know.
- *Please introduce yourselves in the chat*

What we will cover today

1. **Updates** DWMP, WaterFit Live, Drought, PR24
2. **Overview of our environmental work** Carolyn Cadman
3. **Biodiversity on SWW's land** David Smith
4. **Delivering peatland restoration in partnership** Justine Read
5. **Controlling Invasive Non-Native Species** Kate Hills
6. **Fish conservation & fisheries management** Phil Turnbull
7. **Catchment management** Jacob Beale
8. **Bioresources management** Andrew Roach

Update

DWMP Publication, Storm Overflows, Drought & PR24

Nick Paling

Stakeholder Engagement

South West Water

Bournemouth Water

BRISTOL WATER

Drainage & Waste Water Management Plan

Stakeholder Forum
Let's talk water

WHAT WE WILL DELIVER BY 2030

We're making bathing and shellfish waters and areas that are ecologically sensitive our priority for the first five years.

Our DWMP sets out a plan for radical change and environmental improvements. We're increasing the pace of delivery so working with others and looking for innovation will be a real focus for us.

BY 2030 WE WILL HAVE...

- **Invested in improving 275 storm overflows to reduce spills to a minimal level and always less than 10 per year**
- **Invested in half of our storm overflows at designated Bathing Waters and Shellfish Waters to reduce spills to a minimal level and no more than three each season**
- **Removed over 350 hectares worth of land drainage from our sewerage network**
- **Added over 150,000m³ of storage to capture rainwater and reduce overflows, that's the equivalent of building 60 Olympic sized swimming pools**
- **Upgraded 48 of our wastewater treatment works to remove nutrients and reduce our impact on river health – that is more than 20% of treatment works that need upgrading by 2050**
- **Invested in 715km of sewer to prevent water infiltrating and increasing flows – in a line they'd stretch from Lands End to the Scottish border!**

£1.7 billion
of new investment

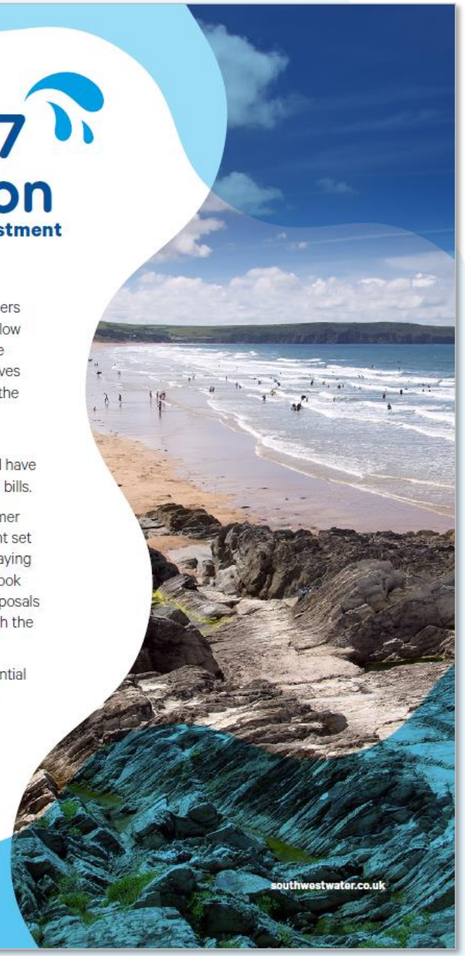
ACTING QUICKLY

Reflecting the strong views of customers and stakeholders and the storm overflow targets from the Government, we have put together a plan that rapidly improves overflow performance in key areas in the next five years.

This is our largest ever investment programme and we know that it could have a significant impact on our customers bills.

We know from our research on customer bills that we can deliver the investment set out without our resident customers paying much more than they do today – we look forward to working through these proposals with regulators as we continue through the business planning process.

You can find out more about the potential impact on bills in our Regional Plan.



WHAT DO WE WANT TO ACHIEVE?

We know that our customers and stakeholders want our future performance to improve our impact on the environment.

WHAT'S A WWTW?
WWTW is the acronym for wastewater treatment works – the facility where we treat sewage

OBJECTIVES FOR 2050
Common objectives set for all water companies

1	2	3	4	5	6
Internal sewer flooding risk	**Pollution risk**	**Sewer collapse risk**	**Risk of internal sewer flooding in a 1 in 50 year storm**	**Storm overflow performance**	**Risk of WWTW quality compliance failure**
The instances of sewage in homes – which can be from blockages in the system and overloaded sewers	The forecast number of pollution risks	The forecast number of risks, measuring how well we maintain our assets	The predicted number of properties that could experience flooding from our sewer network in a severe (1 in 50 year) storm	The number of storm overflow discharges in our catchments	Assessing if the quality of the final effluent leaving our wastewater treatment works complies with our environmental permits

OUR BESPOKE OBJECTIVES

As well as keeping our assets in good health and responding to the six common objectives mentioned above, we are also going further by committing to additional objectives that keep pace with population growth and climate change and deliver multiple benefits for our environment and the region.

We will need to create new approaches to deliver these objectives and work with our partners and customers.

7	8	9	10	11
Risk of sewer flooding in a 1 in 10 year storm	**Risk of WWTW compliance in dry weather flow**	**Serious pollution incidents**	**Nutrient reduction and improvements to river water quality**	**Coastal risks due to climate change**
The forecast number of properties that could experience flooding from our sewer network in a moderate (1 in 10 year) storm	A measure of how we ensure our assets are correctly sized for the population they serve	The number of serious pollution incidents (defined by the Environment Agency as Category 1 and 2)	A reduction in the amount of phosphorus and nitrogen in the wastewater we discharge to rivers, improving water quality and enabling new development	The likelihood that our assets in coastal locations are at risk of coastal flooding and erosion

We are adding our own objectives to raise standards and tackle the impacts of climate change

Drainage & Waste Water Management Plan

Stakeholder Forum
Let's talk water

HOW WE'LL MANAGE THE PLAN

We are responsible for providing reliable and efficient wastewater services for customers across a wide area of the South West; from the Isles of Scilly, throughout Cornwall and Devon, and in small areas of Dorset and Somerset.

PARTNERSHIP WORKING

We share responsibility for drainage – the assets that carry sewerage and surface water and impact on our network – and so we will be working in partnership to achieve the DWMP ambitions. This is not new to us – but what is different is the scale.

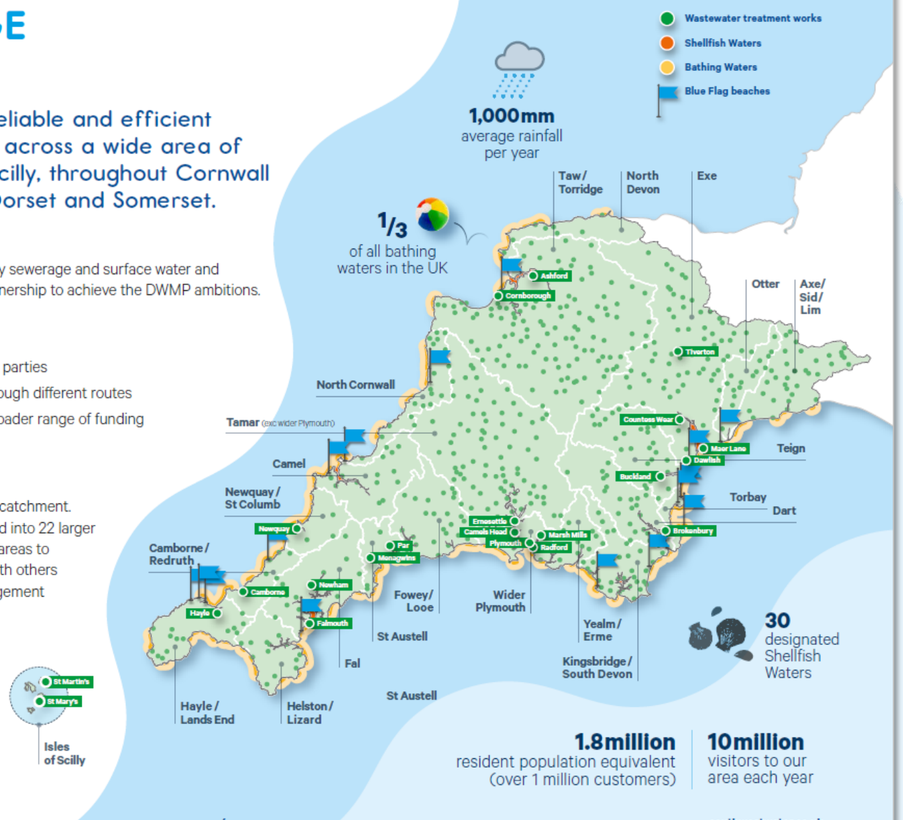
We recognise that:

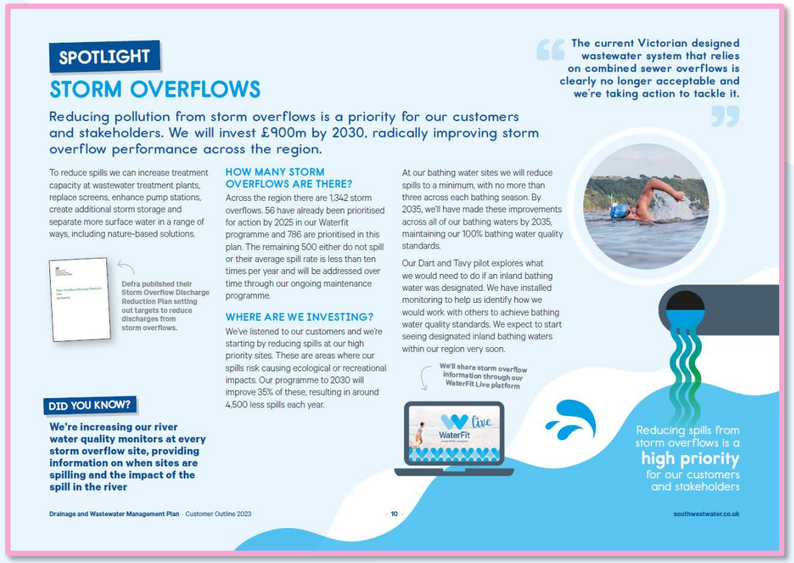
- The responsibilities for drainage are often split between parties
- We have different drivers, objectives and are funded through different routes
- Working across organisations we can access a much broader range of funding and deliver more impactful solutions.

STRATEGIC PLANNING AREAS

Each wastewater treatment works serves an area called a catchment. There are 653 catchments in our region which are grouped into 22 larger Strategic Planning Areas (SPAs). We can use these larger areas to help us manage the region as a system and collaborate with others who also have responsibilities for flooding and river management such as the Environment Agency and local Councils.

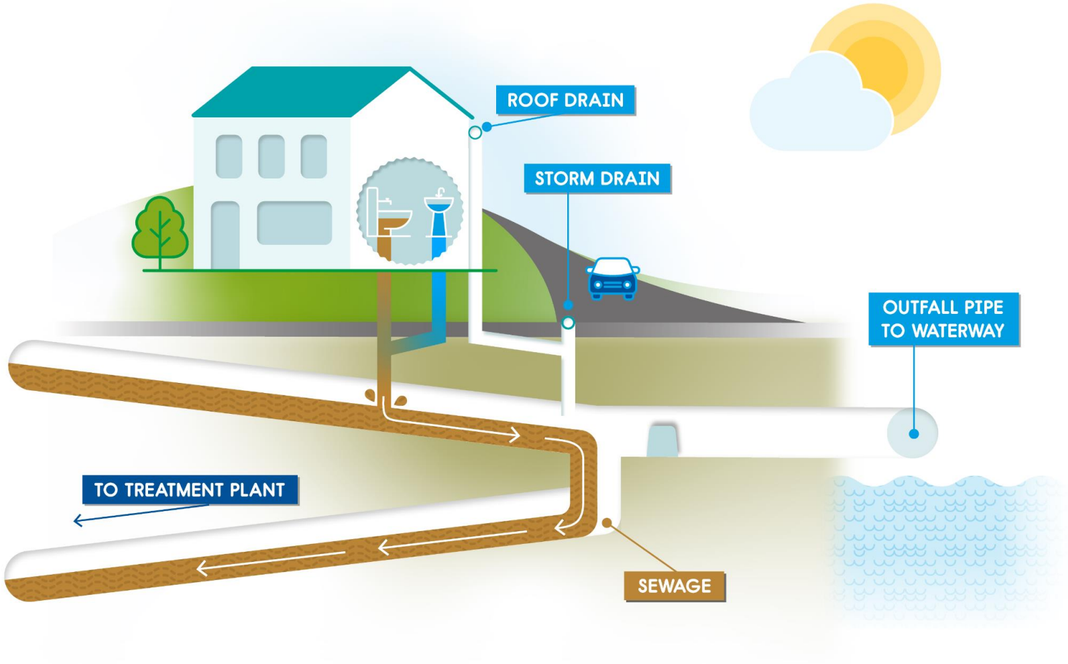
We have an individual plan for each Strategic Planning Area, as well as our region. All of these documents can be found on our website.



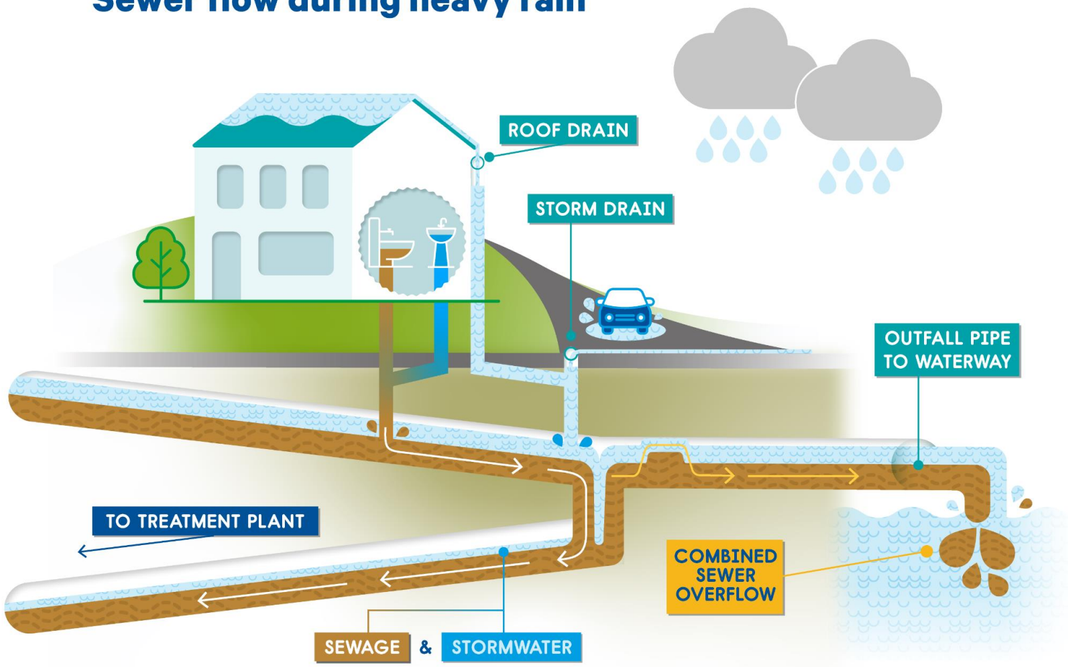


Investing to reduce storm overflows

Sewer flow during dry weather



Sewer flow during heavy rain



South West Water

Bournemouth Water

Bristol Water

Investing to reduce storm overflows

- Waterfit investment of **£330m** reducing average spills per location to **20 per year by 2025**
- **DWMP** further investment reducing average spills per location to **10 per year by 2050**
- **Accelerated delivery** investment to start by **2025**
- Significant further investment planned for next 25 years…

Stakeholder Forum · Let's talk water ·

South West Water
Bournemouth Water
BRISTOL WATER

WaterFit – happening now...

- Additional treatment capacity at 59 wastewater treatment works
- Replacement of 54 inlet screens at wastewater treatment works
- Enhancements to pump stations
- Additional storm storage
- Root cause analysis of frequent spillers and rapid intervention for any quick wins
- EDM installation of 100% of all storm overflows
- **WaterFit Live** ...

South West Water
Bournemouth Water

Pennon

South West Water

WaterFit live

water fit for everyone

WaterFit

Our WaterFit Live website and map provides:

- Context and information related to our network, how it works and why it is designed as it is
- Historical and current information on our wastewater performance; and
- Our next steps – what we are doing to make a difference, including the targets we have committed to and the investment we are making to improve water quality.
- Ways in which customers and community groups can get involved and have their say in our work.

WaterFit live

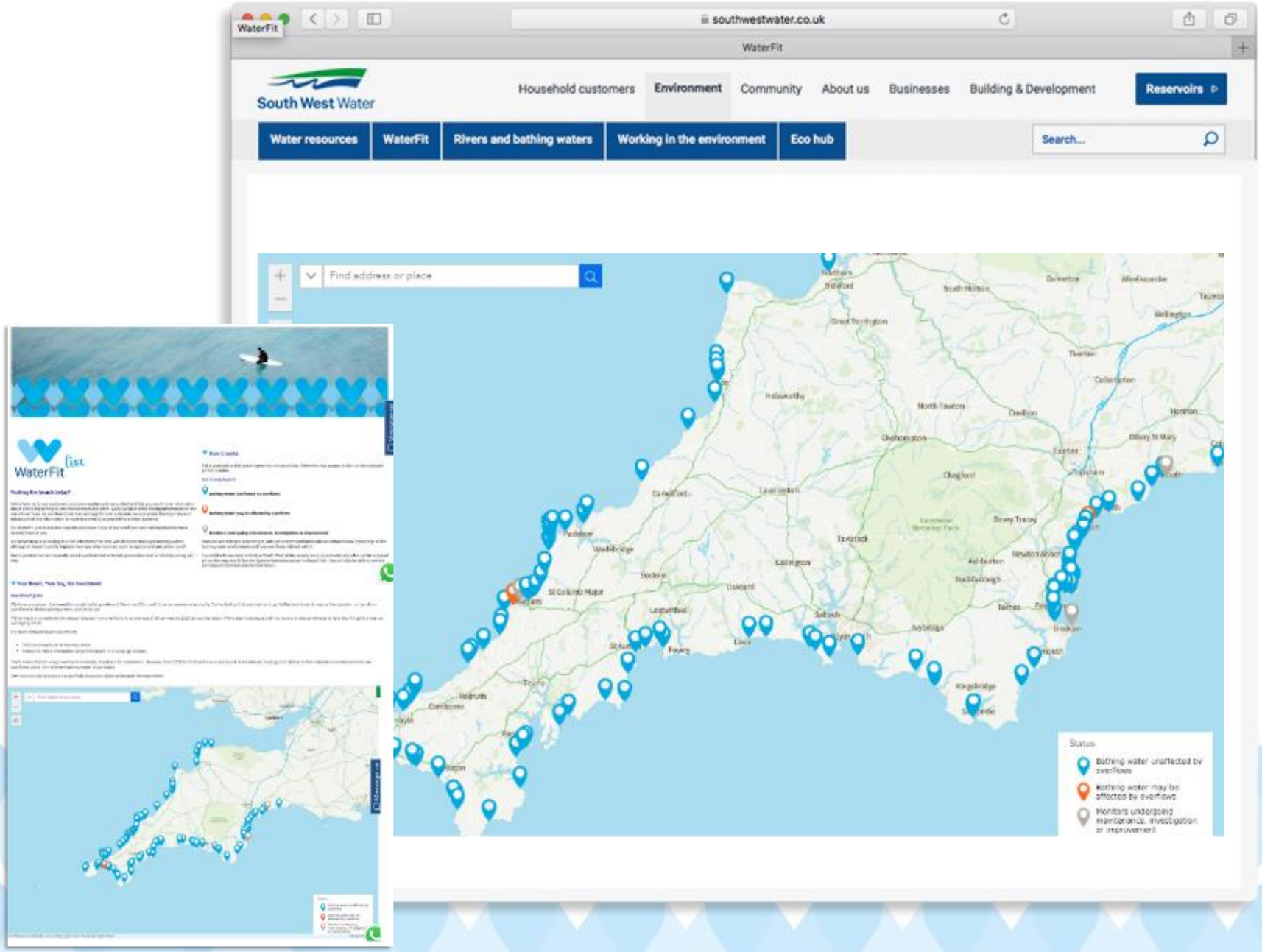
“Following the launch of the first phase of WaterFit Live in March, SWW are taking the next step on our journey towards transparency by providing additional detail on our WaterFit Live website.

This detail will provide visitors to the site with information on the operation of individual storm overflows in near real time, alongside the information we are already providing for the regions designated bathing waters.”

WaterFit live

Our beach map

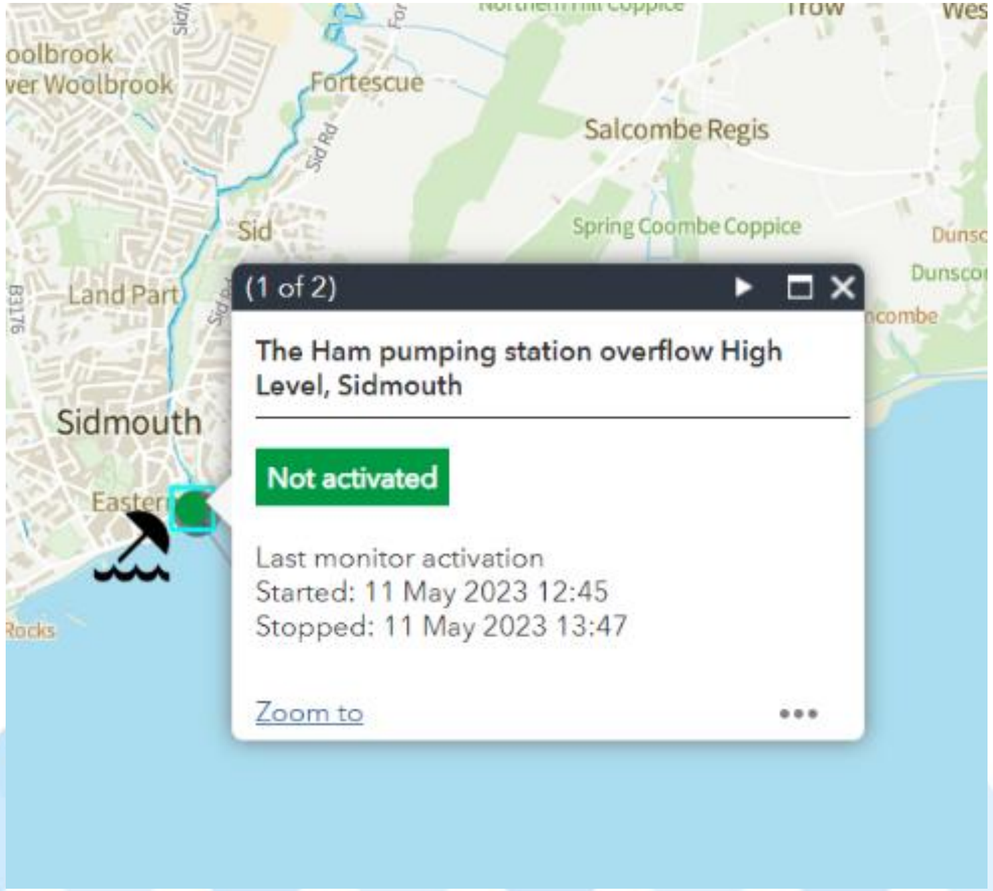
- Beach status
- Zoom function
- Search by beach name
- Investment information



WaterFit live Overflow Map

Green pin and pop up

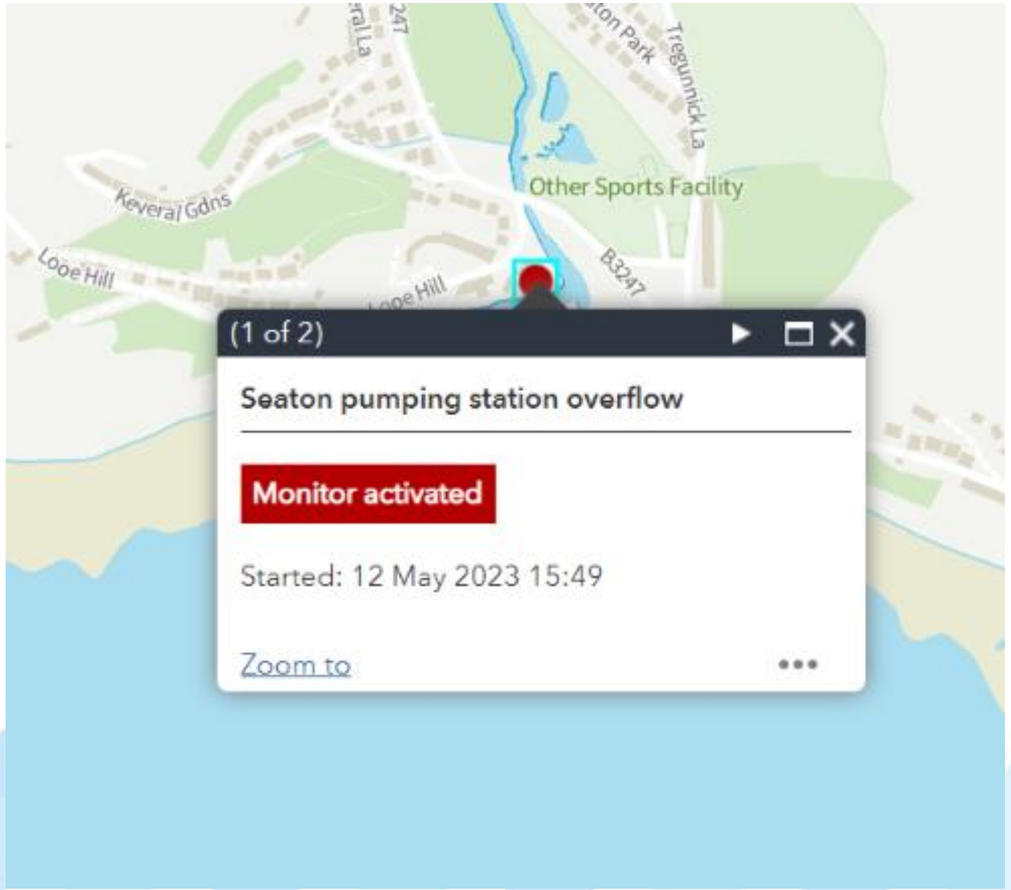
- The Overflow Map provides a detailed view of individual storm overflows.
- The Overflow Map shows when individual storm overflow Event Duration Monitors (EDM) located at our bathing waters are activated (or not).
- Data from our monitor is recorded at a high frequency and typically transmitted within 15 minutes
- The green pin shows that the EDM is not currently activated.



WaterFit live Overflow Map

Red pin and pop up

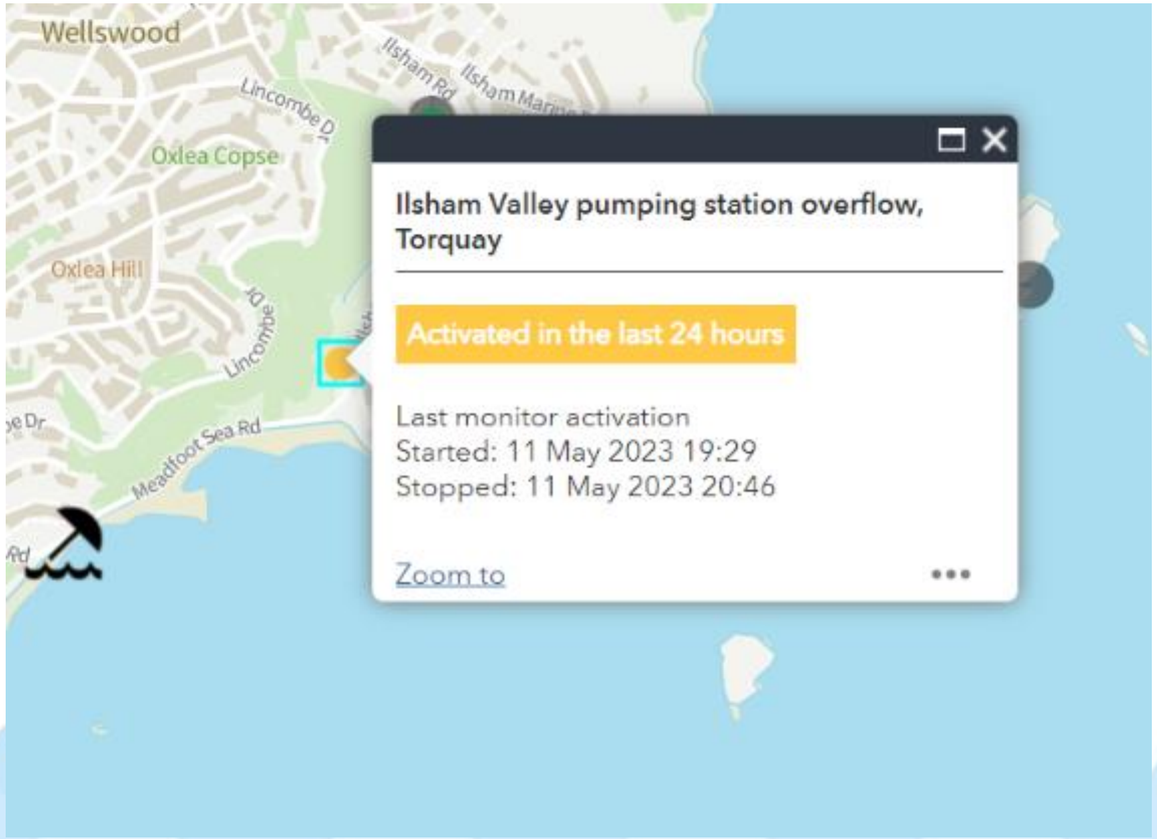
- A red pin shows that the EDM at the storm overflow has been activated, and the overflow is operating.
- A red pin on the Overflow Map differs to an amber pin on the Beach Map; the amber pin involves an assessment of whether the bathing water may be affected
- A red pin occurs when an overflow monitor is activated
- As these are near real time alerts using live data, the activation is unvalidated, so it is possible that the status may have errors.



WaterFit live Overflow Map

Yellow pin and pop up

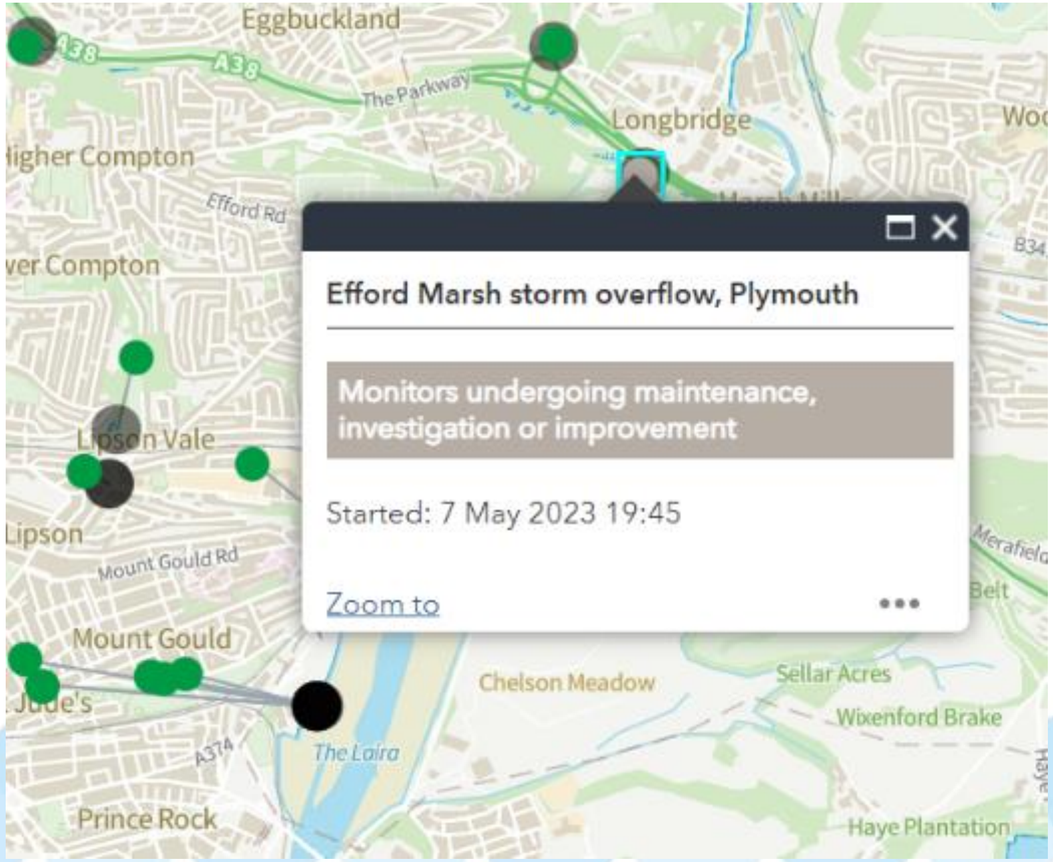
- A yellow pin shows that that the EDM is no longer activated, but has been activated within the last 24 hours.
- Even if the most recent activation was of a short duration, the pin will remain yellow for 24 hours afterwards.
- We will always show the last start/stop time for context.



WaterFit live Overflow Map

Grey pin and pop up

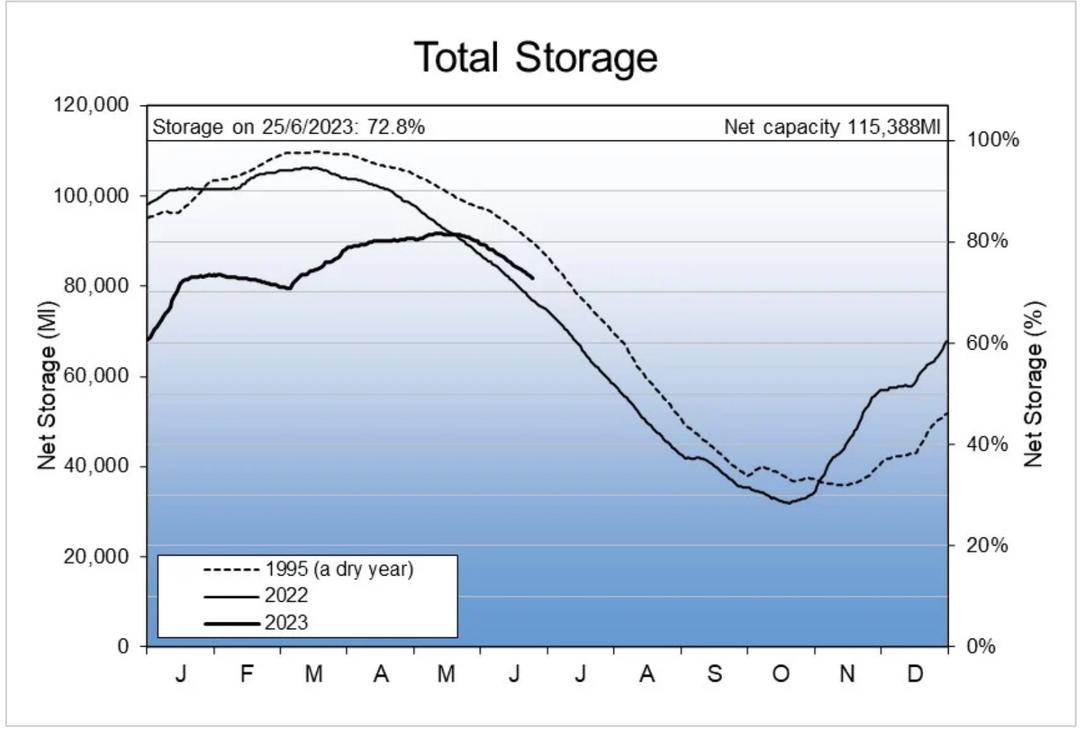
- A grey pin shows that the EDM is in maintenance.
- Whilst a maintenance status is in place, we will be investigating to find the cause of the issue and working to rectify it.

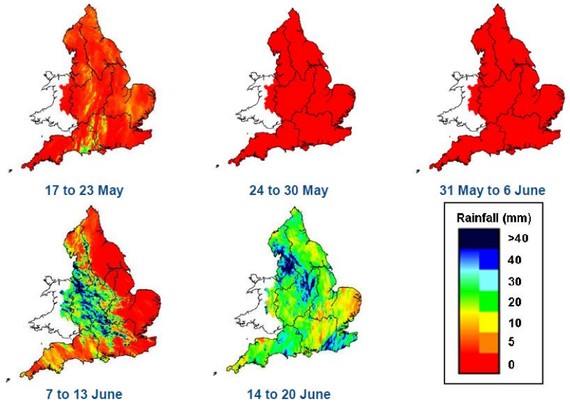


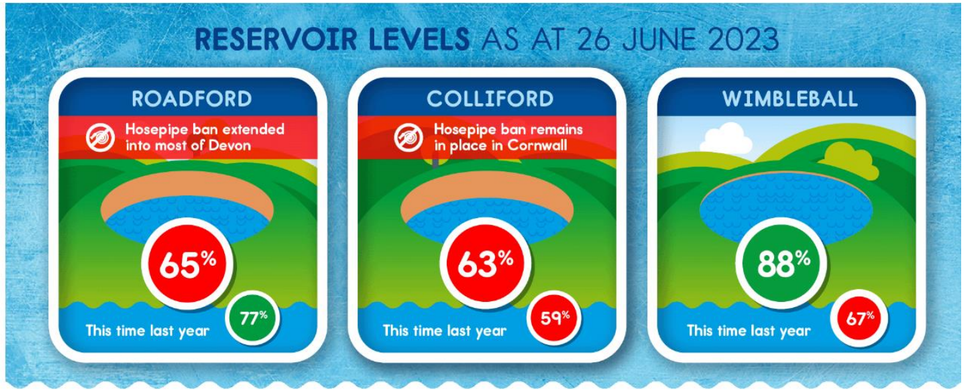
WaterFit

What next: WaterFit roadmap

Prolonged dry weather







www.southwestwater.co.uk/environment/water-resources/current-reservoir-storages/

Prolonged dry weather

1. Safely taking spare water

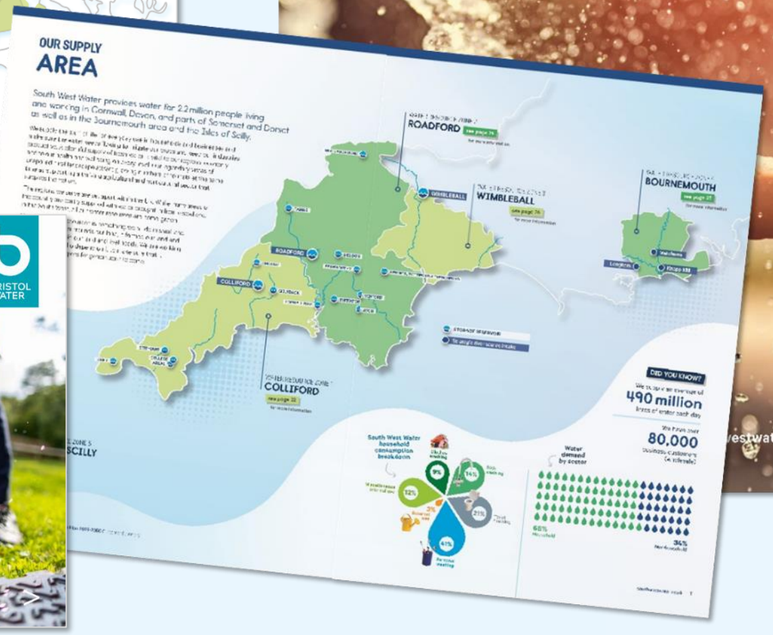
2. Identifying new sources of water

Prolonged dry weather

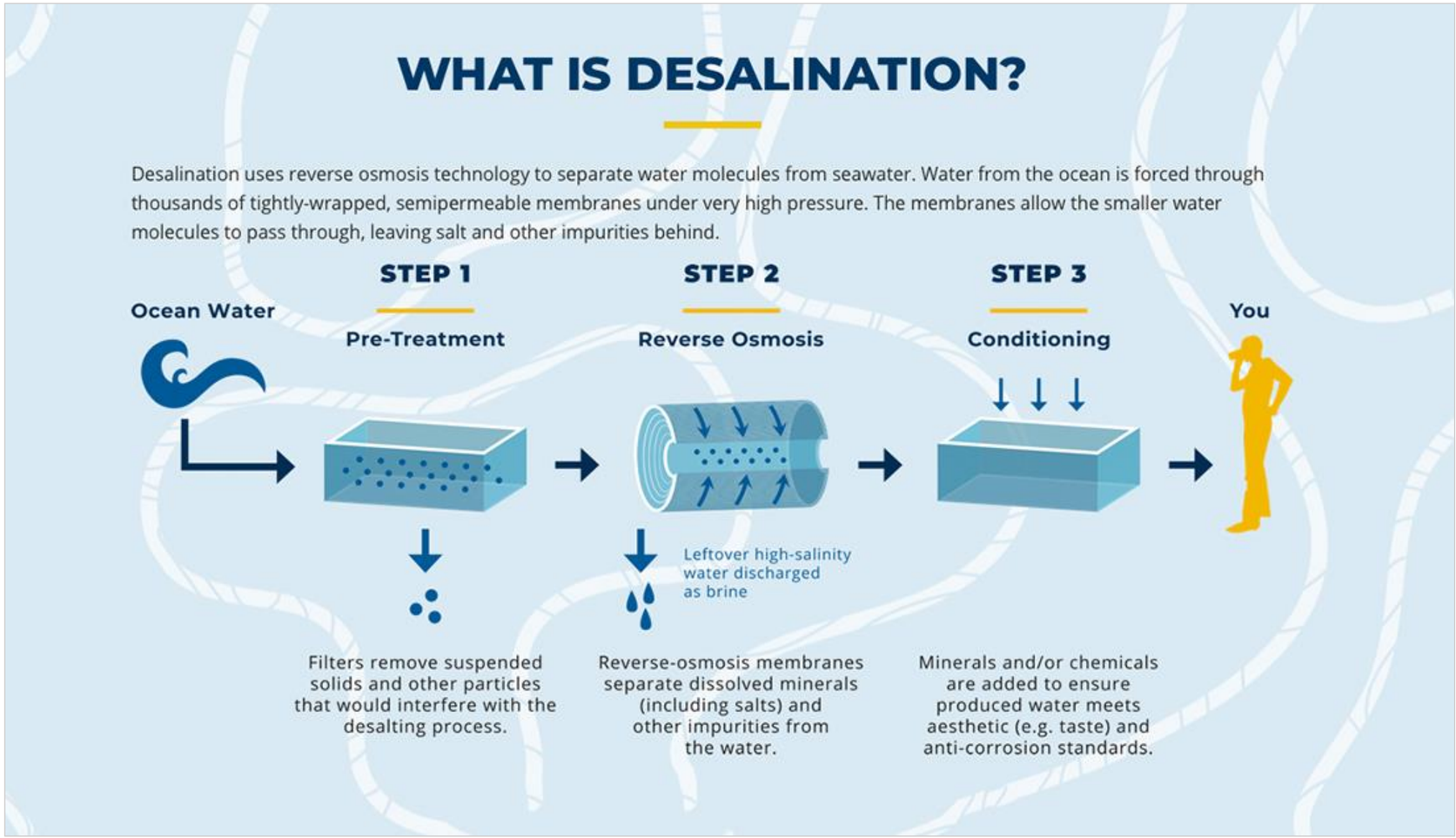
3. Detecting and fixing leaks

1. Increased capacity of existing leak detective team
2. Created leak taskforce
3. Sniffer dogs

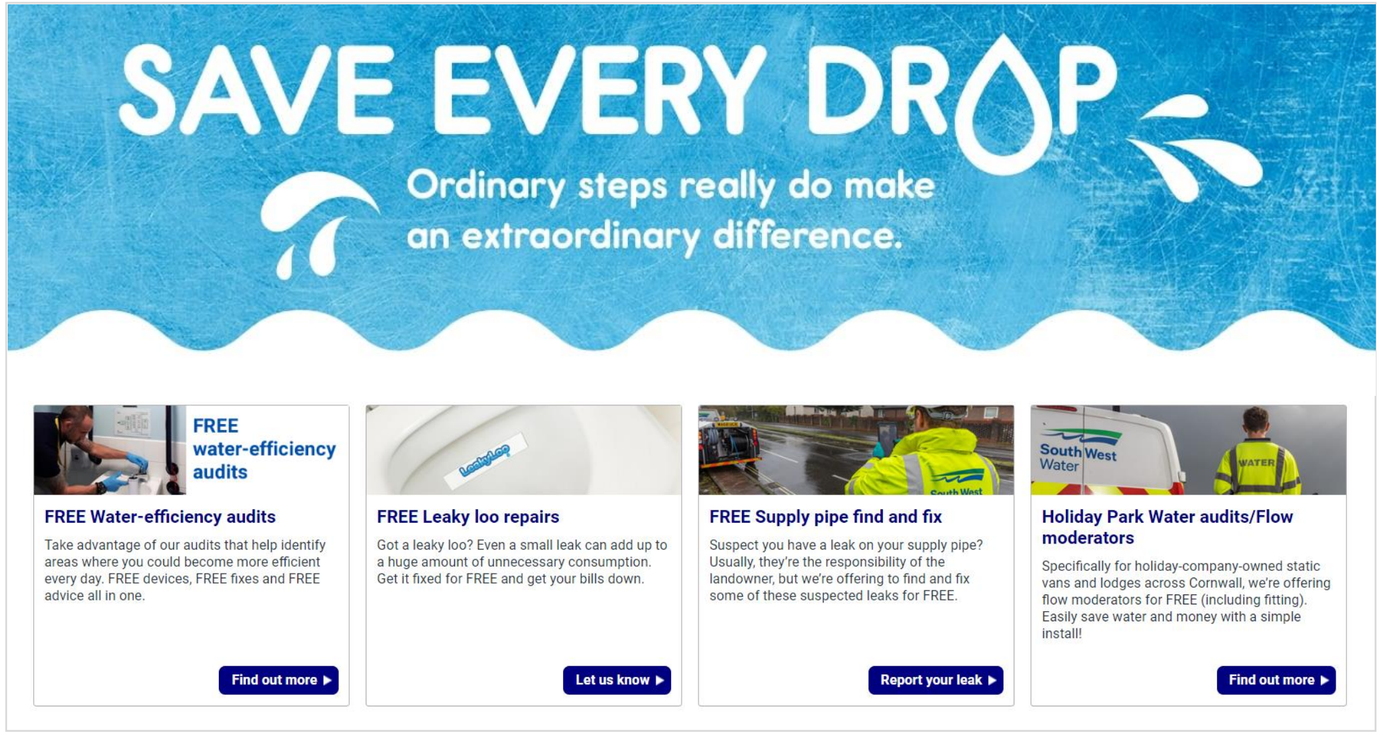
4. Water Resources Management Plans

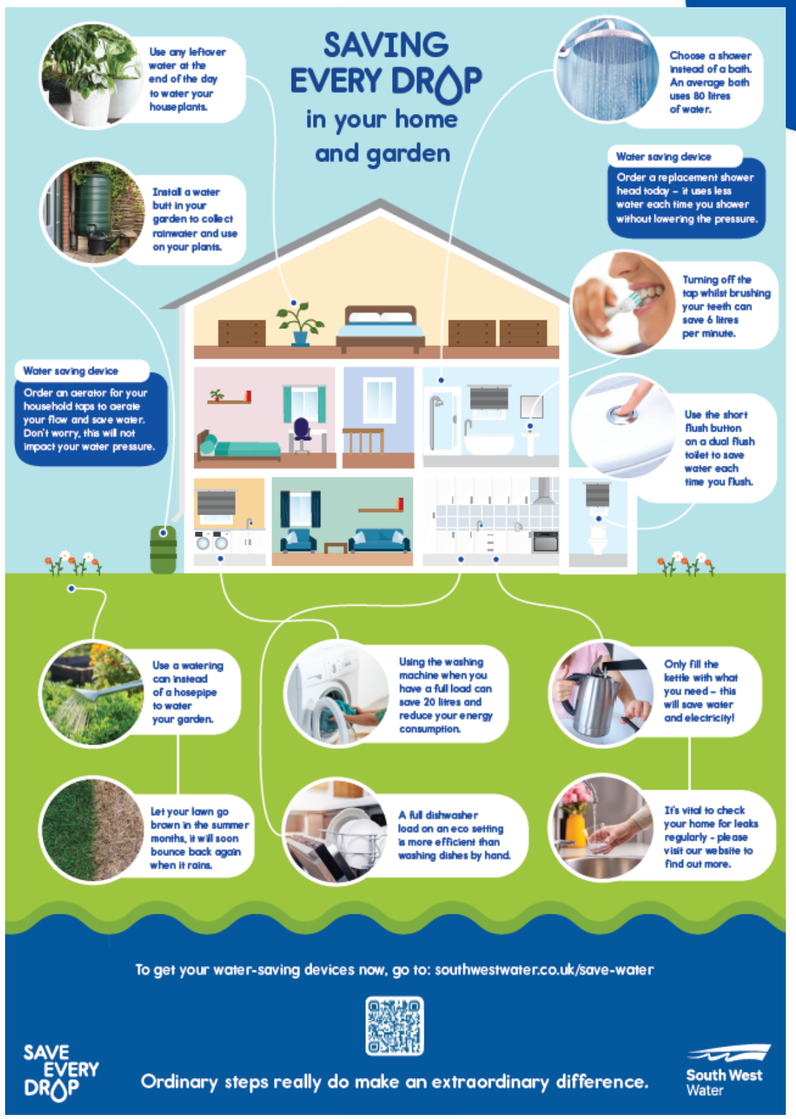


5. Desalination



6. Save Every Drop





www.southwestwater.co.uk/services/save-water/

Overview

Environmental protection & improvement

Stakeholder Forum
Let's talk water

Carolyn Cadman

Director of Natural Resources

South West Water
Bournemouth Water
BRISTOL WATER

YOUR WATER YOUR SAY

Who we are

Pennon

1989 South West Water

2015 Bournemouth Water

2020 Isles of Scilly

2021 Bristol Water

Our purpose

Bringing water to life –

supporting the lives of people and the places they love for generations to come

YOUR WATER YOUR SAY

The regions we serve

Bristol – the South West's business hub

4 National Parks

10 Areas of Outstanding Natural Beauty

Oldest water company

BRISTOL WATER

Water only services

10 million tourists

150 bathing beaches

32 shellfish waters

South West Water

Water & wastewater services

Bournemouth Water

Isles of Scilly

860 miles of coastline

Serving

c. 3.5 million residents and **c. 100,000 businesses**

c. 3,200 employees

new deal

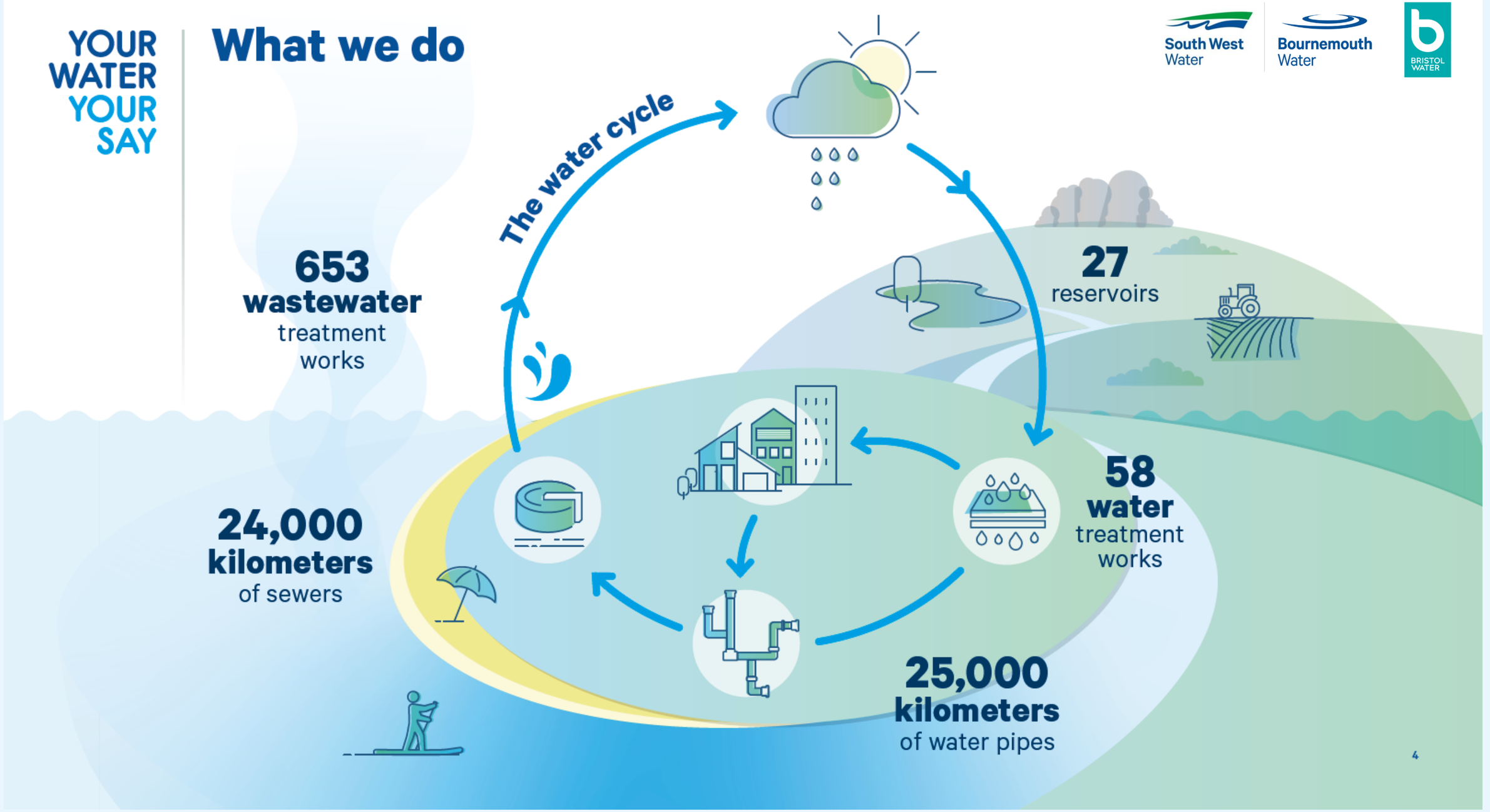
Sharing outperformance

Giving customers a stake in our business

YOUR WATER YOUR SAY

What we do

South West Water | Bournemouth Water | Bristol Water



YOUR WATER YOUR SAY

Challenges we now face

South West Water | Bournemouth Water | BRISTOL WATER

More extreme weather events

- Fivefold increase for heavy rainfall events
- 17% increase in extremely wet days
- Increasing risk of flooding

Hotter and drier summers

- Reservoir levels lower
- River abstraction reduced equivalent to supplying 250,000 people
- Raw water quality impacted

Rising sea levels

- Large coastal population
- 1/5 of our treatment works at risk
- 100's kilometres of network

Growing population

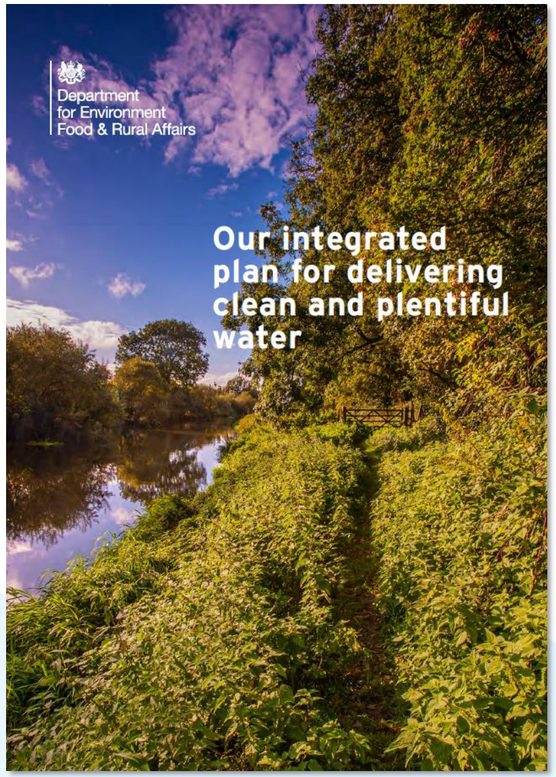
- Another half a million residents by 2050
- 10 million tourists visit the region every year

Water companies are required to meet this challenges while also protecting and improving the environment

Our responsibilities

Water companies have been challenged by the Government to provide –

- A resilient, safe, and affordable water supply and wastewater services
  - for today's users and future generations
- A thriving natural environment with increased value, clean rivers and a sustainable ecosystem
- Provide excellent service, support for vulnerable consumers and act in the long-term interests of society and the environment



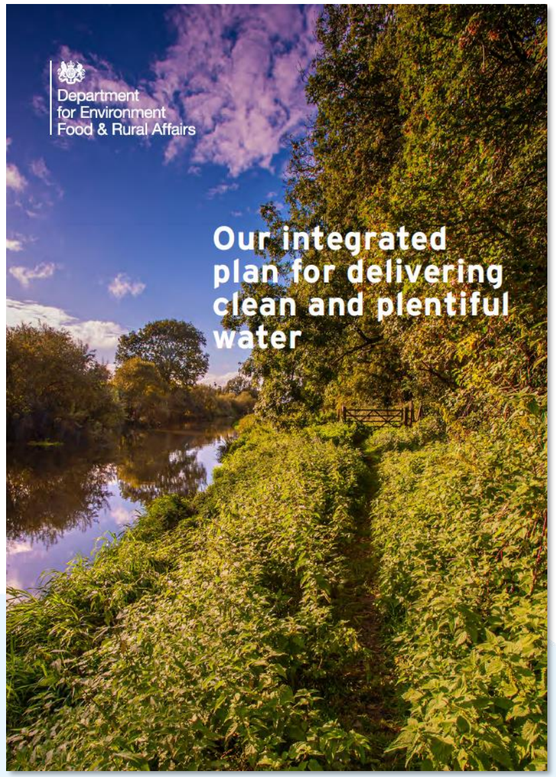
South West Water
Bournemouth Water
Bristol Water

Our responsibilities

The Environment Agency and Natural England expect water companies to achieve:

- a thriving natural environment
- expected performance and compliance
- resilience for the environment and customers

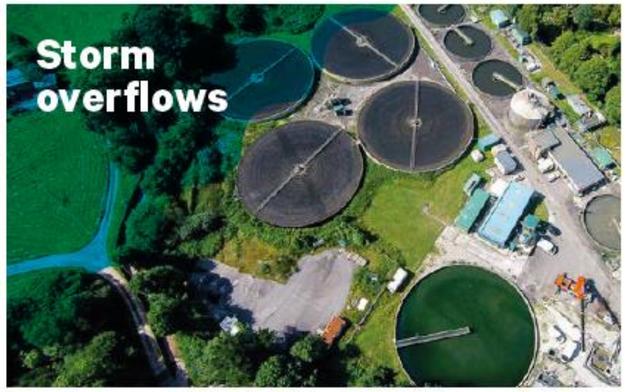
- Includes duties relating to biodiversity, protected sites, priority habitats, freshwater fish (esp. migratory), invasive non-native species, Local Nature Recovery Strategies, Marine Conservation Zones, River Basin Management Plan objectives, sustainable sludge management, etc



South West Water
Bournemouth Water
Bristol Water

YOUR WATER YOUR SAY

Key areas of investment for 2025-2030



- Reducing leakage by up to 15% (enough to fill 2,600 Olympic swimming pools per year)
- Investing in new sources – equivalent to water used by 150,000 people
- Start building new regional sources of water, including a new reservoir at Cheddar
- Help people use less water by installing half a million smart meters

- Everyone has water that is safe, looks good and tastes great
- Major upgrades to 16 water treatment works
- Replace cast iron mains that can affect how your water looks
- Replace up to 50,000 lead pipes across the region

- Prioritising beaches – making water fit for recreational use all year round
- Protecting ecologically sensitive rivers – halving our negative impact
- Using sustainable solutions which boost and protect nature

South West Water | Bournemouth Water | Bristol Water

YOUR WATER YOUR SAY

Key areas of investment for 2025-2030

South West Water | Bournemouth Water | Bristol Water

- Upgrading 90 works to meet ever tighter environmental standards, protecting rivers and wildlife
- Including 7 works, as part of doing our bit to unlock stalled housing development in environmentally sensitive areas
- Extending mains sewerage, removing septic tanks which could harm the environment
- Innovation to address micro-plastics and forever chemicals

- Improvements to treatment of biosolids to reduce nutrient runoff into rivers
- Generating 58 GWh of energy from sewage – enough to power 20,000 homes
- Saving 11,000 tonnes of carbon each year – c.10% of our journey to net zero by 2030

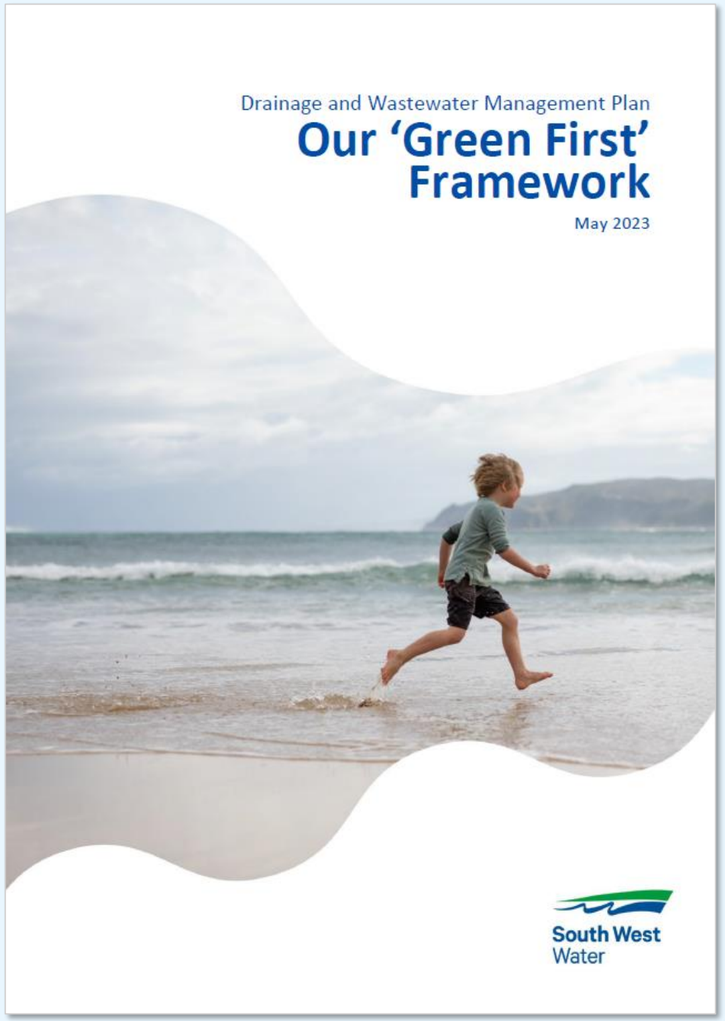
- 125,000 hectares of habitat creation, including peatland and seagrass restoration
- 1,000 smart ponds to attenuate flood water and protect river flows
- Zero carbon footprint from our operations
- 50% renewable energy generation at our sites

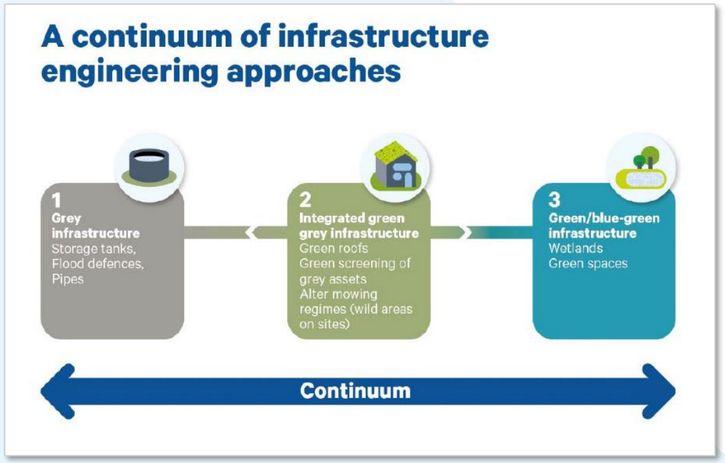
South West Water | Bournemouth Water | Bristol Water

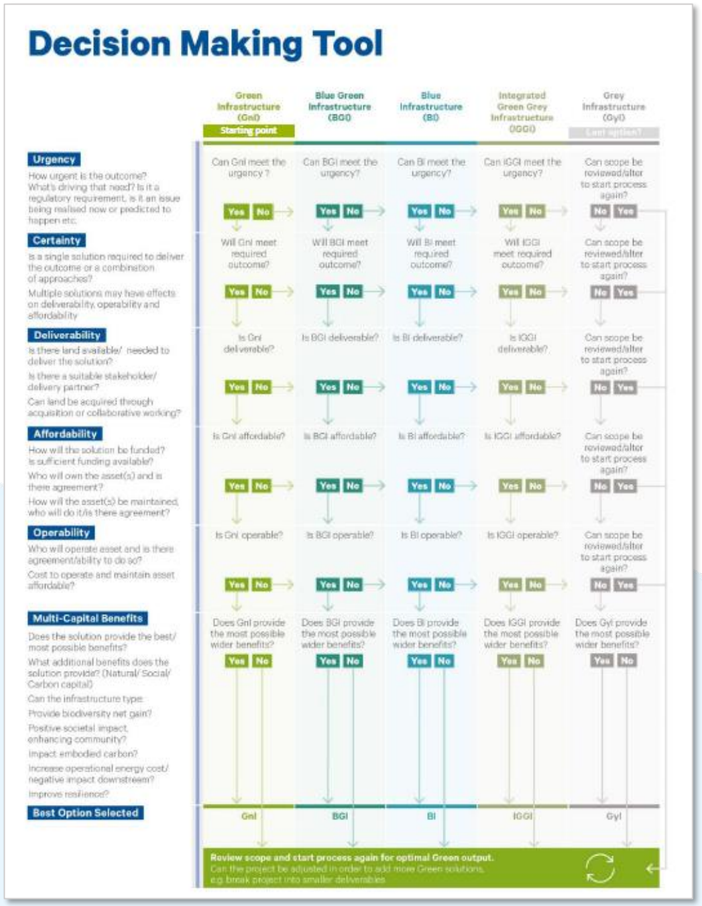
Our environmental programme

Map

Our ‘Green First’ framework…





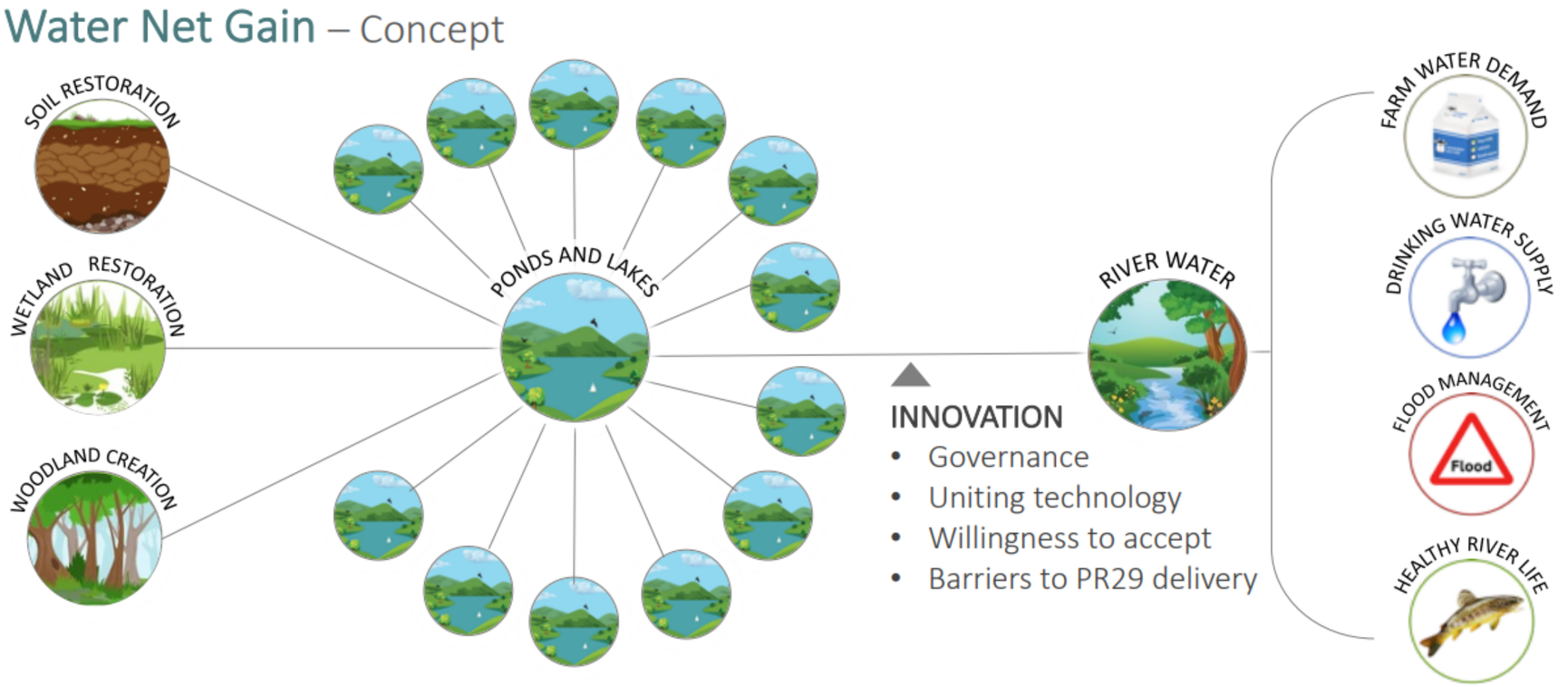


Decision-framework to support selection of right blend of solutions:

1. Urgency
2. Certainty
3. Deliverability
4. Affordability
5. Operability
6. Multi-capital benefits

South West Water
Bournemouth Water
Bristol Water

Ofwat Innovation - Water Net Gain



Use Nature Based Solutions to passively contribute to base flows alongside a distributive ecologically connected network of smart ponds offering usable flow to reduce farmer demand, increase supply during drought, dilute summer pollution and provide a net gain for river water.

South West Water · The Rivers Trust · United Utilities · Severn Trent · anglian water · Portsmouth Water · south east water · Southern Water · Saputo Dairy UK · Environment Agency · Duchy College

Stakeholder Forum · Let's talk water

South West Water · Bournemouth Water · Bristol Water

Overview

Environmental protection & improvement

Stakeholder Forum
Let's talk water

Carolyn Cadman

Director of Natural Resources

South West Water
Bournemouth Water
BRISTOL WATER

Increasing biodiversity on SWW landholdings

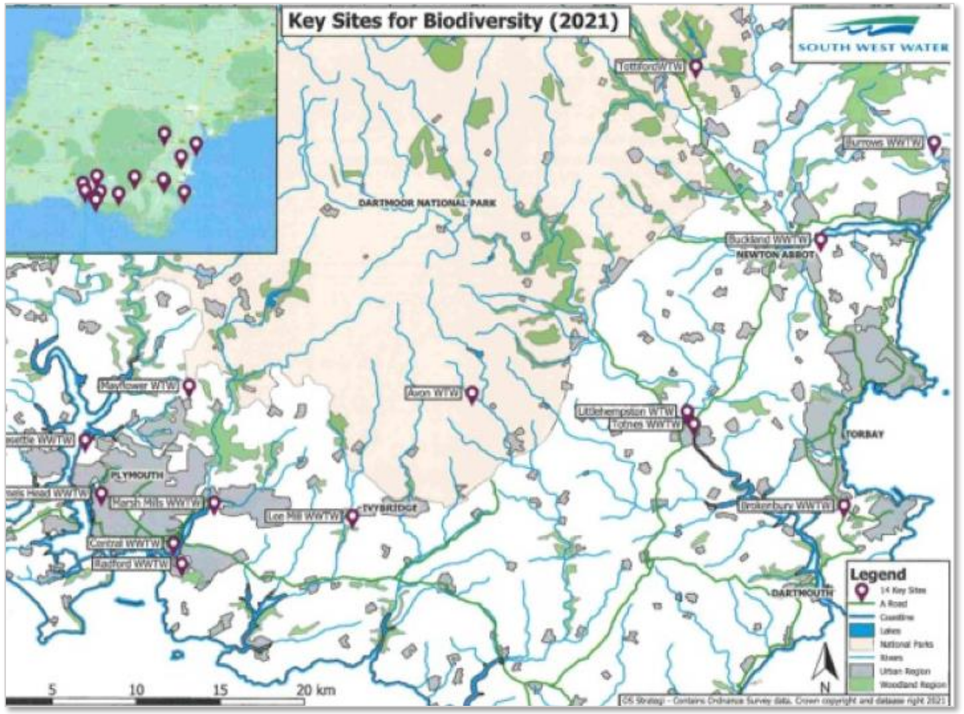
How are we actively managing our landholdings…?

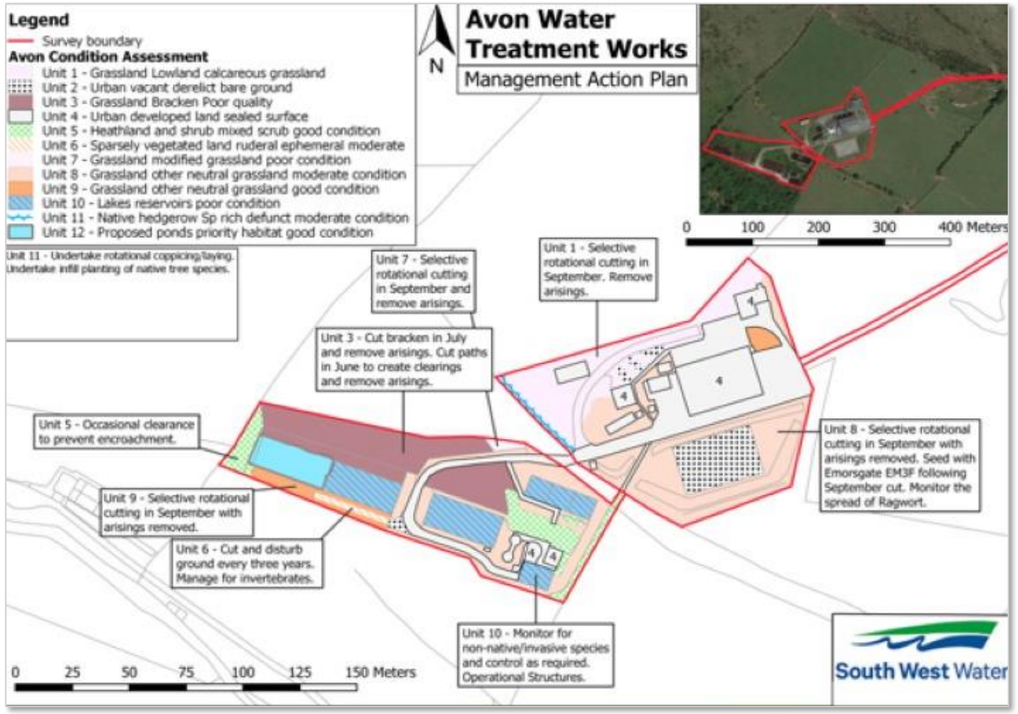
Three strands -

- Delivery by SWW on our operational sites
- Delivery by SWLT around our reservoirs
- Park & Stannon Pit restoration

Delivery of Habitat management on operational sites

- Current focus on 14 operational sites
- Each site has a management plan
- Ambition to get every operational site into active management – there are >2000





Examples of habitat management

- Grass cutting
- Tree planting
- Wildflower meadows
- Pond creation
- Bird & Bat Boxes
- Species surveys

Delivery of habitat management around reservoirs

- Map of sites
- Delivered in partnership with South West Lakes Trust
- Some areas of focus around designated sites*
  - County Wildlife Sites
  - SSSIs

These are sites we have a duty to look after because of their designation as being of special importance for wildlife

South West Water | Bournemouth Water | Bristol Water

Examples of work around reservoirs

- Studying invasive species
- Collecting species data - including protected species
- Working in partnership – e.g., Buglife
- Groundworks –
  - Scrub and woodland management
  - Tree planting
  - Wildflowers
  - Ponds

Park & Stannon Pit restoration

- Former china clay pits on Bodmin Moor
- Total site area = 358Ha
  (Park = 125Ha, Stannon = 233ha)
- Both sites have an active management plan and already being ‘reclaimed by nature’
- Supported by SW Peatland Partnership
- Tree planting
- Fish passage
- Invasive species control
- Collaborative approach – Park now County Wildlife Site and Stannon in application.

Further information...?

- If you have any questions about this work...
- Or have any ideas or potential collaborations

- Please get in contact with Hannah Bailey

  Email – biodiversity@southwestwater.co.uk

Slowing the flow: Peatland Restoration

Justine Read

SWPP Communications Officer

jjread@southwestwater.co.uk

South West Water

Bournemouth Water

BRISTOL WATER

Why peatlands?

Vital for people, wildlife & planet

Peatlands are wetland landscapes shaped by waterlogged soils formed of dead and partially decaying plants: peat.

Healthy peatlands underpin a range of ecosystem services:

- **Water quality & quantity**
- **Carbon storage**
- **Wildlife habitat**
- **Plant species**
- **For people, farming & recreation**
- **Historic environment & archaeology**

"Occupying just 3% of the Earth's land surface, peatlands are our largest carbon store on land. They are places where people derive clean water and food, and can act as buffers for environmental disasters, such as flooding. They are also of global significance for biodiversity."— Inger Anderson, Director of the IUCN

Images:
a) An area of peatland restoration has created a pool of water, slowly becoming covered by sphagnum moss.
b) Sundew, an insect-eating plant found on peat bogs.

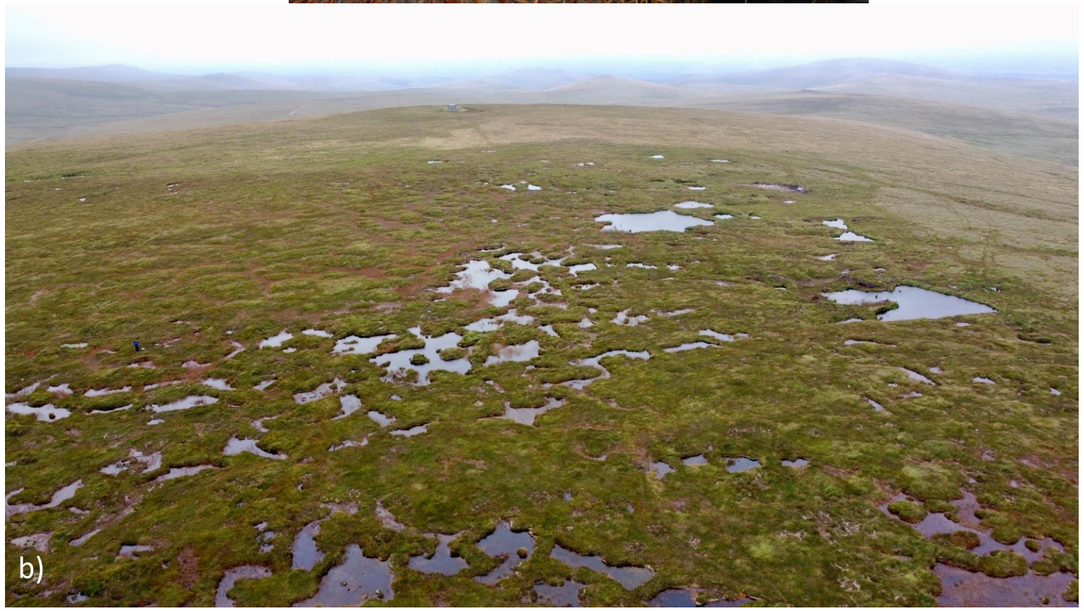
Peatlands & Water

Helping to slow the flow.

Peat can hold up to 10x its weight in water, slowing down the flow of water and reducing flash flooding.

Healthy peatlands can also help to improve water quality, reducing sediment and carbon runoff into rivers & streams.

This is increasingly important in a changing climate and extreme weather events.



Images:
a) David, Restoration Officer, holding sphagnum moss, a key plant in the formation of peat
b) Aerial image of Dartmoor restoration site (with dry unrestored control site visible on the left) taken during the dry period of Summer 2022. Water can be seen being held in the areas where works had taken place previously.

Human Impacts

However, peatlands are in a bad state.

Human activity such as mining, peat extraction, burning and industry has left peatlands in a poor condition

In England, 87% of peatlands are dried or degraded. That means that only 13% of England's peatlands are in a near natural state[1]

University of Exeter research estimates that less than 1% of Dartmoor's blanket bog is still functionally intact[2]

This has led to increased carbon emissions into the atmosphere and waterways, impacted water quality and quantity, reduced variety of wildlife habitat and threatens our historic environment

Images:
a) George & Jonny, Restoration Officers, assessing a large erosion gully with exposed peat, Dartmoor
b) The outline of a medieval peat platform, where cut peat would have been stacked to dry out, Bodmin Moor.

[1]*England Peat Action Plan, March 2021*
[2]*Mires on the Moors, Science and Evidence Report, 2020*

Our Approach

Restoring peatlands for good, together.

In 2021, SWPP received £9million in funding from Natural England's Nature for Climate Peatland Grant Scheme. This was match funded by South West Water, National Trust, Duchy of Cornwall, Cornwall Council and the Environment Agency.

A range of partners including charities, governmental bodies, landowners, contractors, farmers and businesses enable the delivery of peatland restoration right across the South West.

Monitoring of works includes hydrology monitoring, fixed-point photography, livestock-tracking collars, vegetation transects, bird surveys, invertebrate survey & greenhouse gas monitoring.

Images:
a) Eddie, Monitoring Officer collecting water level data from dipwells, Bodmin Moor
b) Timber-rounds installed in the landscape to raise the water table, Bodmin Moor
c) Leaky-wooden dams, helping to slow the flow of water and create pools, Exmoor

Upcoming

A vital challenge for the future of peatlands.

We have hugely ambitious plans to restore over 2,500 hectares of peatlands before 2025. Partnership working, collaboration locally and consultation with key stakeholders is vital in us reaching these targets.

Follow along & get involved:
Social media channels: @SWPeatland
Website: Southwestpeatlandpartnership.co.uk

South West Peatland Partnership

Images:
a) A contractor installing woollen bunds on a restoration site, Dartmoor
b) Maddy, Restoration Officer, inspecting peat bunds post-restoration at Crowdy Marsh, Bodmin Moor

Q&A Session