Southern Water's catchment work in the Itchen Fluvial Catchment

SW's catchment team includes three catchment officers (one covering Hampshire & Isle of Wight), whose work is to engage with farmers and other land users to reduce impacts on water quality in drinking water resources (both ground and surface waters).

Working with Farm Clusters
Engagement work in Hampshire commenced in late 2020, and continues to build on close collaboration with two key farm clusters:
- Winchester to Test Farm Cluster
- Winchester Downs Farm Cluster

The two clusters combined have a membership of around 50 farmers, all farming within the Test and Itchen catchments.

Farm clusters provide an invaluable way to engage with a large number of farmers with agreed environmental objectives. They hold regular meetings and workshops with speakers on a wide range of environmental topics, including protection of water quality.

A key engagement activity in 2023 has been to run a field trial to explore fertiliser use efficiency. Southern Water gained agreement from one farmer to host a crop nutrient field trial. NIAB was commissioned to design and monitor the randomised replicated trial on winter wheat, with three levels of fertilizer application. Soil and tissue samples have been taken for analyses of all plant nutrients, and the grain will also be analysed. The results when presented to the Clusters will help focus farmers' attention on their fertilizer use efficiency, and help them determine the optimal level to apply without excess being available for leaching after harvest.

Incentive schemes

As well as providing information and workshops on the potential impacts of farming on water resources, Southern Water also offers two incentive schemes:

- **Nitrate Scheme**

This offers payments to farmers in priority groundwater catchments (Twyford and most of Easton catchments also falling within the Itchen fluvial catchment) for a range of measures. Although the primary objective is to reduce nitrate leaching as an AMP7 WINEP regulatory scheme, the measures offered will also have wider water protection benefits, eg improved soil structure and water-holding capacity, overwinter plant cover to lessen run-off, etc.

Summary of Nitrate Scheme uptake by farms with land in Itchen catchment 2022-23

Total number of participant farms with land in Itchen catchment	Total area of cover crops funded	Total area of herbal leys funded	No. farms funded for soil, manure or tissue testing	No. farms funded for variable rate fertilizer application
11	402 ha	81 ha	7	5

- **Farm Capital Grant Scheme**

Farmers anywhere within the Test and Itchen catchments can apply for this scheme which offers 50% contribution (up to £10k cap), with applications being assessed on a case-by-case basis according to the benefits the new infrastructure or equipment will bring in protecting water quality.

Within the Itchen catchment, two grants have been made for GPS-enabled equipment to improve precision of pesticide and fertilizer applications.

- **ADAS Specialist Advice Visits**

Southern Water funds specialist advice visits on a range of farm infrastructure or soil husbandry topics.
Two advice and design visits for new crop sprayer filling/washdown areas have been provided to farms within the Itchen catchment.

Septic Tanks

Septic tanks are regulated by the Environment Agency. Southern Water does not have any regulatory authority to request improvements or to ask people to join our sewerage network and pay for treatment. We have in the past done a leaflet campaign about septic tanks and phosphorus.

Environment Agency/Gov.UK guidelines on Septic Tanks - Septic tanks and sewage treatment plants: what you need to do: Overview - GOV.UK (www.gov.uk)

Overview

You are responsible for (the 'operator' of) a septic tank or sewage treatment plant if:

- *you own the property that uses the system*
- *your property shares the system with other properties (you are jointly responsible)*
- *you have an agreement with the owner of the property that you are responsible for the system, for example you're renting and it's in your tenancy agreement*

Your septic tank or treatment plant will treat your sewage and release liquid ('sewage discharge') into the environment. What you must do depends on:

- *whether the sewage discharge goes into the ground or into surface water*
- *if the treatment system existed before 2015 and has not changed significantly since 1 January 2015 (an 'existing discharge')*
- *if the treatment system was installed or has changed significantly since 1 January 2015 (a 'new discharge')*

Leakage

Reducing leakage is at the forefront of our activity to secure resilient and sustainable water resources.

Per our draft Water Resources Management Plan (available to view on our website - Our Draft Water Resources Management Plan (southernwater.co.uk)) we're proposing to reduce leakage by at least 50% by 2050, and could increase this to 62% depending on how we deliver it.

We have one of the lowest levels of leakage of all the water companies. At present, it accounts for 17% of the total water we put into supply. By 2050 we will have reduced leakage to less than 8% under average weather conditions.

How could we do it?

- improve the monitoring of our water network by installing more sensors and bring all our leakage data together into a digitalised system to help us detect and prioritise repairs
- improve how we manage pressure in our network
- replace water mains that are prone to frequent bursts and leaks
- roll out smart meters to our customers which alert us to leaks at their homes and businesses and we'll help get them fixed quickly
- make use of emerging technology such as remote sensors, thermal imagery, satellites and drones to detect leaks
- progress the development of innovative, fibre optic technology to provide data about leakage across the network

Drought:

Our Drought Plan sets out how we would deal with a drought in Sussex, Kent, Hampshire and the Isle of Wight. It outlines the steps we would take to ensure we can maintain supplies of drinking water to our customers while minimising the impact on our rivers and the environment during drought events Our Drought Plan (southernwater.co.uk)

Winter of 2022/23 was significantly wetter than average (the Itchen Catchment received ~160% of the long term average "Winter" Rainfall (Oct-Mar) according to EA data and, as a consequence, we think dry weather risks this year are low – flows in the Itchen.

Our drought plan includes thresholds linked to the actions we will take during spells of dry weather. For Hampshire these are based off a combination of rainfall and river flow with the Level 1 threshold being set approximately 3 months (90 days) before we expect the Hands-off-Flow thresholds to be crossed for the rivers under a worst case scenario (i.e. little to no rainfall). Through the summer months we regularly update and run our forecasting models to allow us to predict when our various drought triggers and any linked actions, including increased water efficiency measures and communications. The implementation of any formal water use restrictions such as Temporary Use Bans will be linked to the timing of any application we might need to make for the River Test Drought Permit. For 2023, and because of the wet Winter our forecasts suggest that we are unlikely to need to impose any restrictions this year unless we have a dry autumn. However, there will likely be the normal water efficiency messaging over the summer.

Regarding future resilience, we have published our draft Water Resources Management Plan, which covers this in detail - Our Draft Water Resources Management Plan (southernwater.co.uk)

Strategy is based on the following four pillars:

1. Efficient use of water and minimal wastage across society.
2. New water sources that provide resilient and sustainable supplies.
3. A network that can move water around the region.
4. Catchment and nature-based solutions that improve the environment we rely upon

More detail can also be found on our Water for Life Hampshire webpages - Water for Life – Hampshire (southernwater.co.uk)
Our strategic solutions (southernwater.co.uk) - potential options

- Water recycling
- Water transfers from neighbouring water companies
- Havant Thickett Reservoir

- Hampshire Grid – moving water around our network.