

Pollution Incident Reduction Plan



July - September 2021
update

October 2021

Wessex Water
YTL GROUP 
FOR YOU. FOR LIFE.

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Document version control

Major version number	Details	Lead contact	Date
1.0	As published on website	Matt Wheeldon	25 Nov 2021

1. Introduction

This is the third quarterly update of 2021 following our latest [Pollution Incident Reduction Plan](#) update – which was published in May 2021. This update covers the third quarter of the year (Jul-Sep).

Our plan is divided into 4 themes: People and Process, Assets and Maintenance, Customers and Stakeholders, Telemetry Data and Analysis.

In this update, we report on progress with delivering the plan, present case studies and examples of what we have delivered and report on the effectiveness of the plan on our way to our aspiration to cause no pollution incidents.

2. Quarterly progress report

2.1 Numerical quarterly activity analysis against the plan

Theme	Activity (in-period unless otherwise stated)	Unit	Q1 2021	Q2 2021	Q3 2021
People and Process	Pollution incident training (cumulative since Sept 2019)	Nr	139	139	165
Assets and Maintenance	Length of sewer surveyed	Km	12.009	12.453	36.17
	Sewerage Investigation Assessments completed	Nr	33	27	23
	Treatment Investigation Assessments completed	Nr	4	2	1
	Rising Main Assessments completed	Nr	1	1	0
	Length of sewer rehabilitated	Km	2.198	0	3
Customers and Stakeholders	Summer shows: number of people engaged	Nr	0*	0*	0*
	Student fairs: number of people engaged	Nr	0*	0*	29,052
	Attendees at Open Doors events	Nr	0*	0*	0*
	Social media reach	Nr	42,967	24,239	76,178
	FSEs investigated	Nr	471	48*	0
	Personalised letters following blockage incidents	Nr	33	65	175
	Water rangers engaged	Nr	34	40	56
Telemetry Data and Analysis	Cumulative number of intermittent overflows monitored (and % of total)	Nr	1085 (82%)	1091 (83%)	1102 (83%)

*Output impacted by COVID-19

2.2 Qualitative quarterly progress report on initiatives – Q3 (Jul-Sep) 2021 Progress Report

Theme	Activity or Initiative	Q3 2021 Progress Report
People and Process	Additional equipment roll-out	No new equipment in this quarter.
Assets and Maintenance	Artificial Intelligence sewer scanning initiative	We intend to continue to trial three companies who's first stage trial outputs looked promising but using in more of a 'business as usual' environment. We will be reviewing whether the systems do increase the length of sewers we are able to scan, and whether we can adjust our business processes to use a slightly different form of output (overall structural grades rather than correct defect identification) to influence our workplan.
Customers and Stakeholders	Update on events	No events held in Q3 that were relevant to sewer misuse.
	Anti-FOG initiatives	ECAS now working with 1102 FSE's across the WW region. Compliance currently stands at 52%, up 5% from August 2021. This initiative has prevented over 300,000 litres of FOG from entering the drains and public sewer system. ECAS are currently unable to take on any additional FSE's until resources permit.
	Proactive customer engagement	The new sewer misuse prevention free pack was launched in August 2021. Customers were offered gunk pots, sink strainers, hair catchers, and a sewer misuse prevention leaflet from our online site to be delivered to their homes. The pack is designed to help customers better understand how to prevent blockages and provide products to help them adopt positive behaviours. The pack was promoted (paid for Facebook ad) for two days and reached 44,012 people, with ~2500 packs ordered. Promotion of this pack to blockage hotspots will now become a standard part of our engagement strategy going forwards.
	Reactive customer engagement	The review of reactive blockage letters and the development of a new data driven process is ongoing. We have worked with a specialist agency, Behaviour Change, to review wording in our communication materials to enhance their impact.
	Targeted hotspot engagement	We are currently running a programme of face-to-face engagement with households in blockage hotspot areas. The programme includes letters and doorstep engagement to notify of the blockage issue in their area and encourage habits that

		<p>don't cause blockages. Householders are also encouraged to complete an online survey (incentivised with a monthly prize draw) that acts as a mechanism to deliver additional education and also will collect insight on customer behaviours.</p> <p>In October 2021 we are running a targeted engagement campaign in four blockage hotspot areas: Bridgwater, Yate, Melksham, and Gillingham. This campaign will combine targeted social media messaging, direct mail outs, radio adverts, paper adverts, and doorstep engagement. The campaign is being supported by an enhanced waste pack offering where customers will be able to order gunk pots, sink strainers, hair catchers, and FreshX (a toilet paper gel).</p>
	Partnership working	<p>The Resource West Group (Bristol Waste, Wessex Water, Bristol Water, Western Power plus UWE) submitted a bid for funding in the Ofwat Water Breakthrough Challenge. The bid which focussed on engaging customers in a community on lowering resource use (i.e. multi-utility) successfully made it through stage 1 but unfortunately was not successful at stage 2. Ofwat gave positive feedback on the integrated multi-utility, multi-agency, community-based approach to understanding consumer behaviour and developing initiatives to reduce resource consumption. We are currently exploring partnership opportunities where joint messaging may offer greater impact of customer behaviour.</p>
	Water Guardians	<p>We now have 46 WG volunteers recruited with SWT (yearly review report due soon), and 10 WG volunteers with Wiltshire Wildlife Trust which started on the 1st June 2021. We will have a 6-month review with them in Nov/Dec 2021. The project is also expanding into Dorset with Dorset Wildlife Trust (DWT), which will start on 1st November 2021 and run until 31st March 2023 initially- delayed due to meeting with farmer associations/partners TBC, with a 6 month review in March 2022.</p>
Telemetry Data and Analysis	Sewer depth monitor machine learning	<p>Deployment of the StormHarvester system has now commenced. Investigations are now starting to understand the value of installation of further in-sewer monitors and applying the AI/ML solution.</p>
	Rising main burst detection & Rising main burst prevention	<p>Testing of detection alarms in ScopeX is underway, system seems to be stable. This will improve our burst>detection>action loop. Systems will be reviewed prior to alarms going live for stability and accuracy</p>

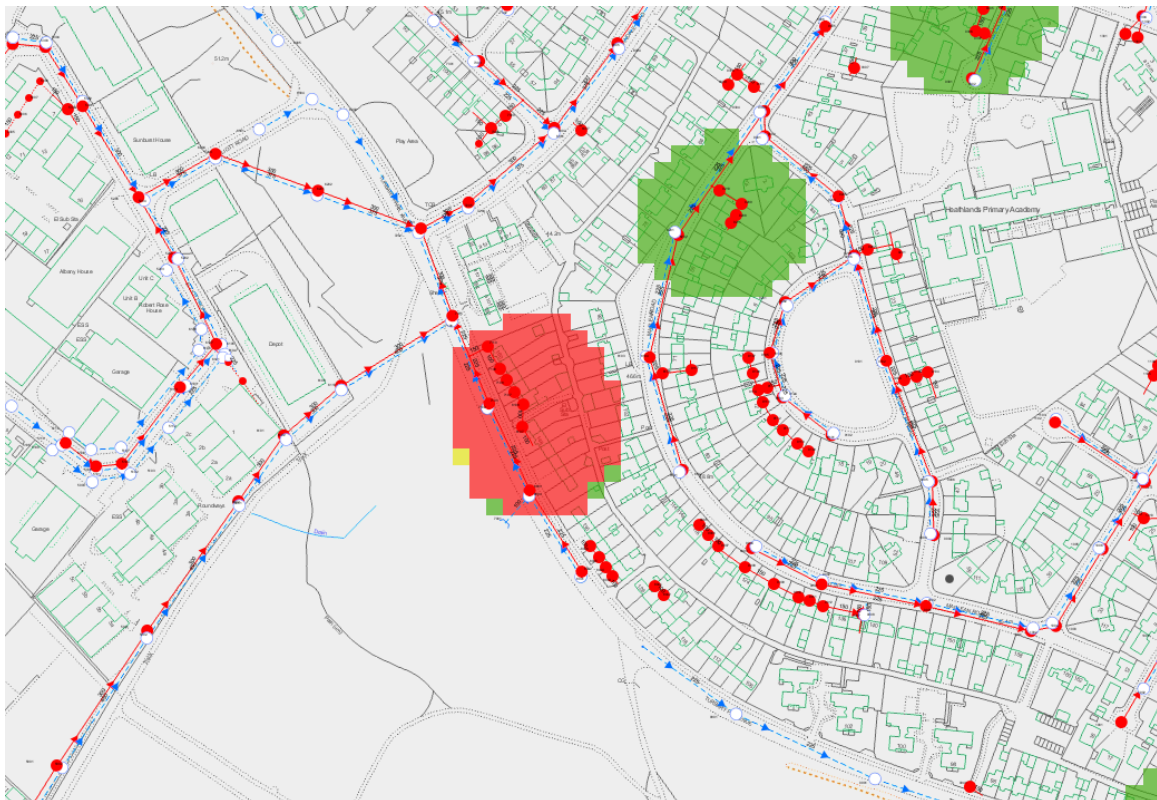
	Pumping station enhanced diagnostics	<p>SPS Scorecard: some minor changes to the Scorecard. This is now being used alongside Pump Health (Amulet) to review the condition of pumps, ahead of maintenance, to determine if the pumps are performing as they should. This is the first step towards a condition-based approach to pump maintenance.</p> <p>Virtual drop tests: no further progress this quarter</p> <p>Rainfall: no further progress this quarter</p>
	Inlet works low flow detection	Not much progress this quarter due to change-over of placement students.

2.3 Case studies

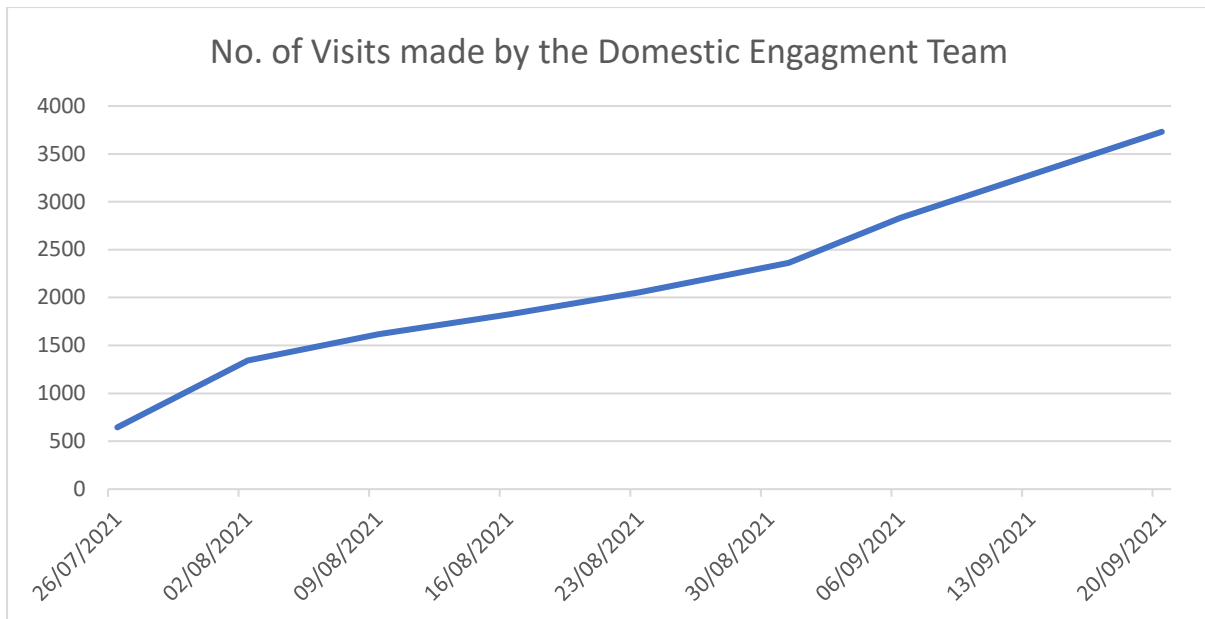
2.3.1 Domestic FOG Engagement – Bournemouth

Following a significant pollution incident and a history of 18 blockages in the area, a road in Bournemouth was identified as being a blockage hotspot and a suitable candidate for a domestic customer engagement trial. As part of the trial our Environmental Educational Team completed domestic educational visits at all 267 properties. Where possible the Environmental Educational Officers engaged with customers in the area to advise on the recent and historical blockage incidents and looked to educate as to how they (the Wessex Waters customer) could assist moving forward in ensuring the risk of blockages is reduced.

As part of this engagement “Stop the Block” letters were also provided to each property and customers were asked to complete a short survey. The data from this trial showed that 96% of customers were aware of sewer misuse and the impact on the sewerage system. It also highlighted that 12% of customers used “flushable” wipes and of those that used them 22% flushed the wipes down the toilet.



Following the completion of the two-week trial in March, the Environmental Educational Team rolled out an engagement programme in hotspot areas such as Melksham, Yate and Poole at the beginning of July. Since the programme began the 3 officers have visited nearly 4000 properties, with a success rate of 59%.

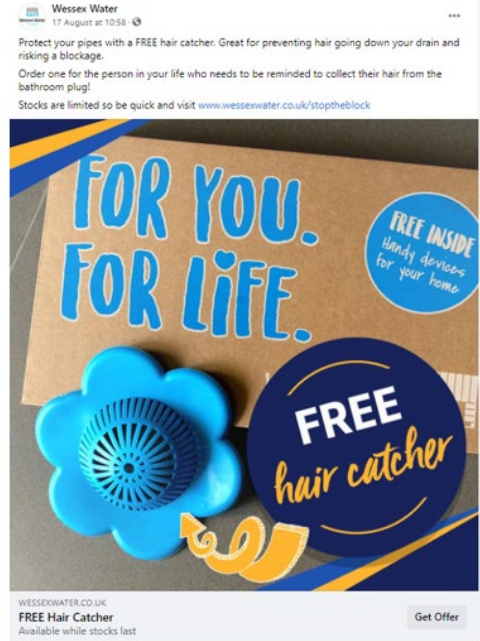


At this stage it is too early to measure an impact from the customer engagement in these areas but in the coming months we hope to see a reduction in the number of blockages caused by sewage misuse.

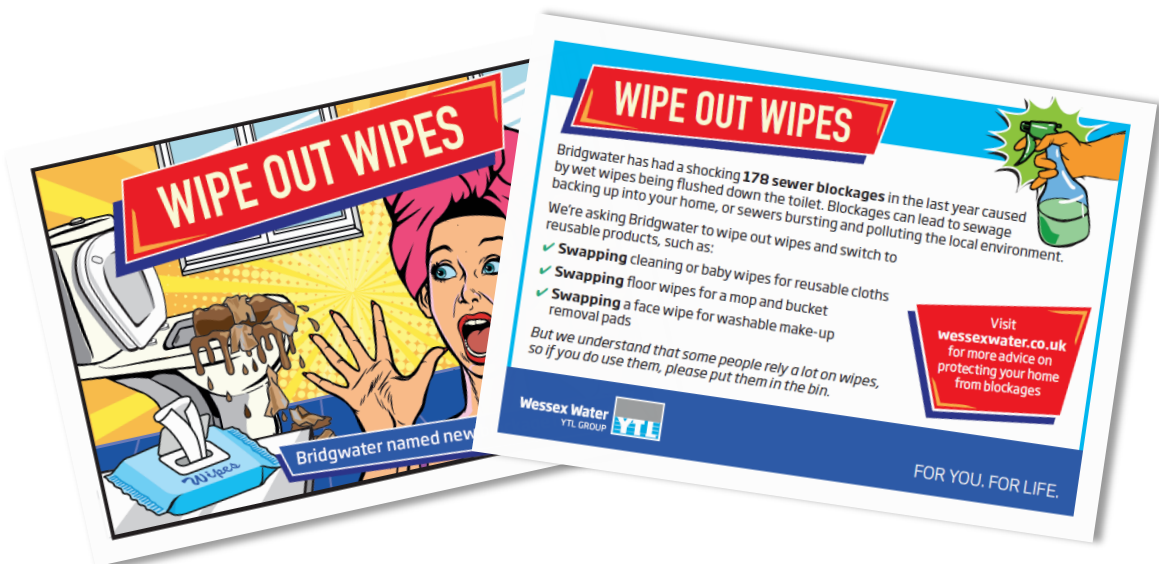
2.3.2 Sewer Misuse Strategy – Waste Packs Targeted Engagement

In August 2021, as part of our Sewer Misuse Strategy, we launched free waste packs to customers in hotspot areas. These packs contained free products to help prevent sewer misuse. These products have been carefully chosen to help customers identify where they might be disposing of items incorrectly and provide them with an alternative. For example, rather than pouring left over fats, oils, and grease down the sink we offer the GunkPot as a handy alternative.

The hotspot areas where we launched the 10-day targeted engagement were Burnham On Sea, Chippenham, Corfe Mullen and Weston-Super-Mare. A review of the social media post following the launch showed a reach of approximately 44,000 customers and approximately 2,500 packs were ordered within the 36 hours. The promotion resulted in 2,478 customers engaging with our websites waste pages that have never previously engaged with the Wessex website.



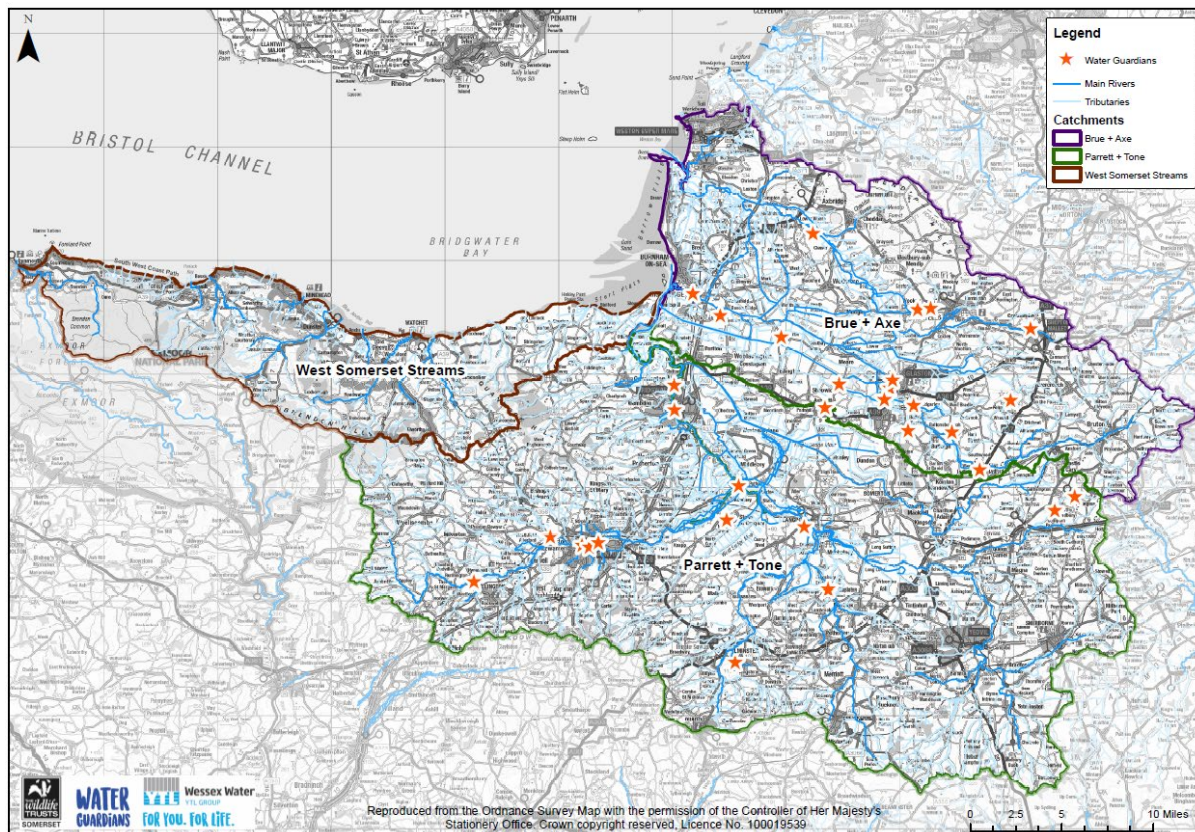
We hope that these simple products will lead to positive and sustained changes in customer behaviour and going forward we will be targeting our engagement in new hotspot blockage areas every quarter and will measure the impact of the engagement on blockage numbers. In October, we will be focusing our campaign on Bridgwater, Yate, Melksham and Gillingham and will include hair catchers, sink strainers, GunkPots, FreshX and face pads. This will also be accompanied by a Wet Wipe campaign. The campaign will involve properties being visited by Environmental Educational Officers and a number of social media posts on Instagram and Facebook.



2.3.3 Water Guardian Programme

Since the Water Guardian programme was kicked off in September 2020, Somerset Wildlife Trust (SWT) have now recruited 46 volunteers who have logged over 480 hours of volunteering in the last 4 months.

Since January several reports have been made to Wessex, which include sightings of litter, discoloured liquid entering the river and river foam which we have passed on to the Environment Agency. We have also had two issues raised with Wessex concerning Phosphorous levels in South Petherton, where we currently have a phosphorous removal scheme and a silted culvert which we have since cleaned and installed a camera at.



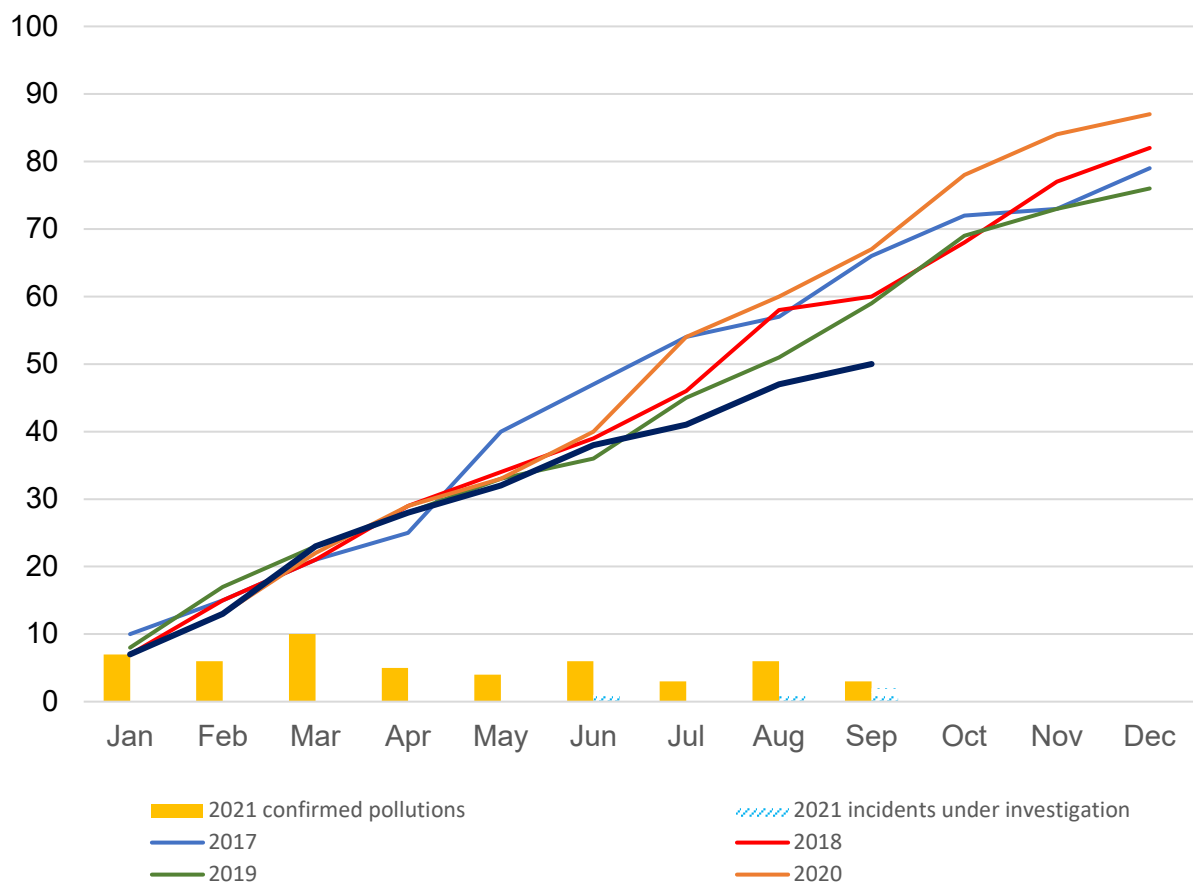
Following the success of the project with SWT, the project has been expanded to include Wiltshire Wildlife Trust (WWT). Since WWT have launched their campaign they have had over 40 enquiries and have 10 volunteers ready for training. The aim of the project is to recruit across the whole of the region, with particular focus on areas identified as high risk by Wessex Water due to pollution hotspots or near protected areas. This includes areas such as Chippenham, Trowbridge, Malmesbury and Warminster.

There is also an ambition to expand the project further to include Dorset Wildlife Trust (DWT). The aim is to recruit approximately 25 volunteers across the region in pollution hotspots and catchments which the trust are already active with. These include:

- **Corfe Castle** – Corfe River Catchment
- **Gillingham** - Lodden, Shreen and Stour Headwaters Catchment
- **Bridport** – Simene, Brit, Asker and Mangerton Catchment
- **Maiden Newton** – Hooke River Catchment
- **Askerswell** – River Asker Catchment

2.4 Pollution incident tracker

The graph below shows our historical pollution incidents and incidents 2021 up to the end of September:



Graph 1: Category 1-3 incidents from wastewater assets

2.5 Q3 review of PIRP effectiveness

We are nearly 2 years into our PIRP and have delivered a number of activities identified in our plan. We are seeing improvements at our Water Recycling Centres and Sewage Pumping Stations – both of which are showing a clear decline in pollution numbers

associated with these sites. We can attribute this to a number of activities; including continued improvement of our data and analytics work at sewage pumping stations, enabling us to respond to fault or changes before these become a bigger problem. We have also completed enhanced cleaning at some of our Water Recycling Centre and are seeing a considerable reduction in the number of pollutions that are a result of blockages at these sites.

In other areas we are seeing modest improvements to pollutions related to foul sewers and rising mains and certainly not seeing a deterioration in these areas. When compared to our performance in 2018 there is however an improvement over the intervening years. We have previously reported on our trial work involving intelligent sewer monitoring – we are in the process of widening this capability across all of our network and we expect to see further improvements to foul sewer performance as a result of this work.

The root causes of the 2021 incidents to date are shown below:

Root cause	Number (Jan - Sep 2021)
Blockage	20
Burst rising main	6
Poor effluent quality (within permit)	2
Pump failure	1
Hydraulic overload	2
Other	5
Structural failure	5
Power supply failure	1
Asset Failure	4
Operator error	4