Supplementary Papers for Overview and Scrutiny Board

Date: Monday, 31 January 2022 – 2.00pm

6.	**BCP Surface Water Runoff and Sewage Overflows** Presentations from Wessex Water and the Environment Agency which will be given at the meeting are attached to this supplement for information in advance of the meeting.	3 - 26

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BCP Overview & Scrutiny Board Meeting

Monday 31st January 2022

Agenda Item 6

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Specific Questions Raised

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The purpose of this agenda item is to help Councillors and the public, to gain a better understanding of the issues around water pollution in the BCP Area – including Poole Harbour, Christchurch Harbour, the Rivers Stour, Avon and Piddle and Poole Bay coastal outflows.

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Questions to Wessex Water:

1. What is the current situation regarding water pollution, where does it come from, how serious is it and what are the effects arising from it?
2. What is being done to reduce pollution and how long will this take?

Question 1

What is the current situation regarding water pollution, where does it come from, how serious is it and what are the effects arising from it?

- The Environment Agency is responsible for classifying water quality and regulating against pollution, rather than Wessex Water.

- More information on water quality can be found on the EA's website: Dorset Management Catchment | Catchment Data Explorer

- More detail in subsequent slides on Wessex Water's responsibilities and activities – to view at your leisure

Sources of pollution

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What is meant by pollution?

- Point source or diffuse
- Urban or rural
- Acute or chronic
- Not all discharges are ‘pollution’, many are permitted and compliant and have no adverse environmental impact

Wessex Water's Roles & Responsibilities

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Responsibilities for:

- Provision and maintenance of the public sewerage system
- Treating sewage effluent to permitted levels before returning to the environment
- Protecting and enhancing the environment

We are a regulated business, both economically and environmentally, which informs our investment decisions.

We try to work in partnership to enable efficient delivery where we have common aims and outcomes, e.g. with Local Councils, regulators and local interest groups

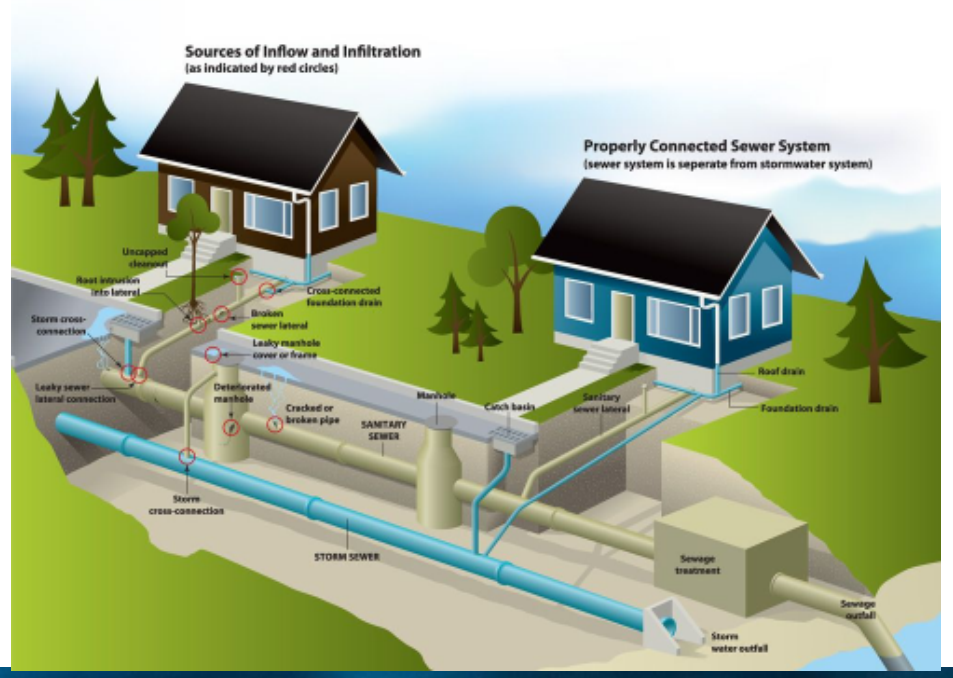
Company purpose:

Customers
To provide our customers and communities excellent service and value for money.

Environment
To protect and improve the environment.

Employees
To provide our people with the opportunity for personal development and a satisfying career.

Investors
To provide our investors with a fair return for their investment.



What assets do we operate?

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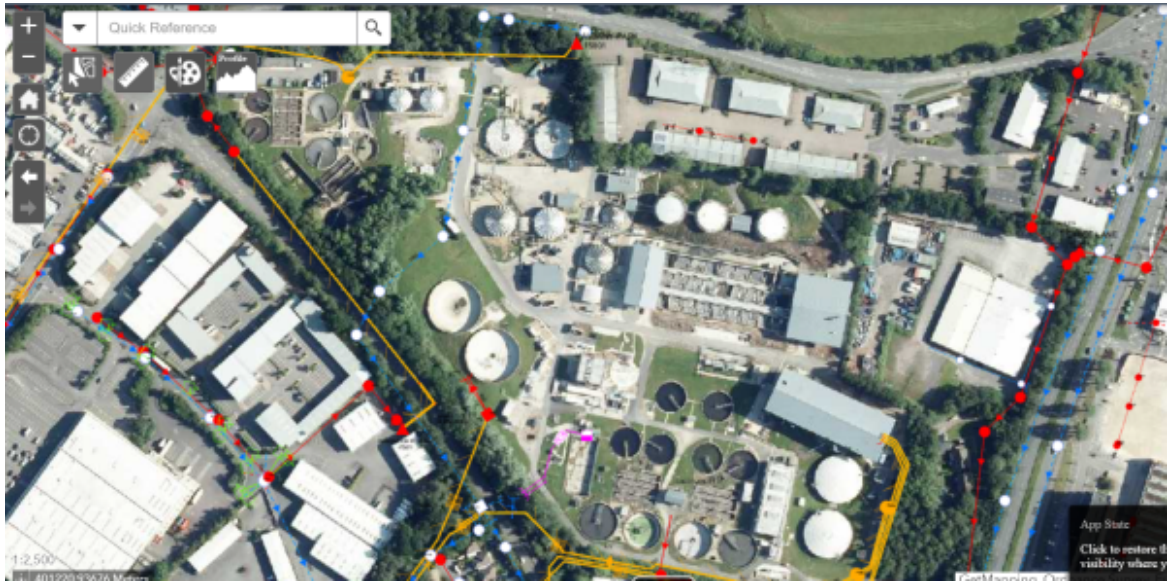
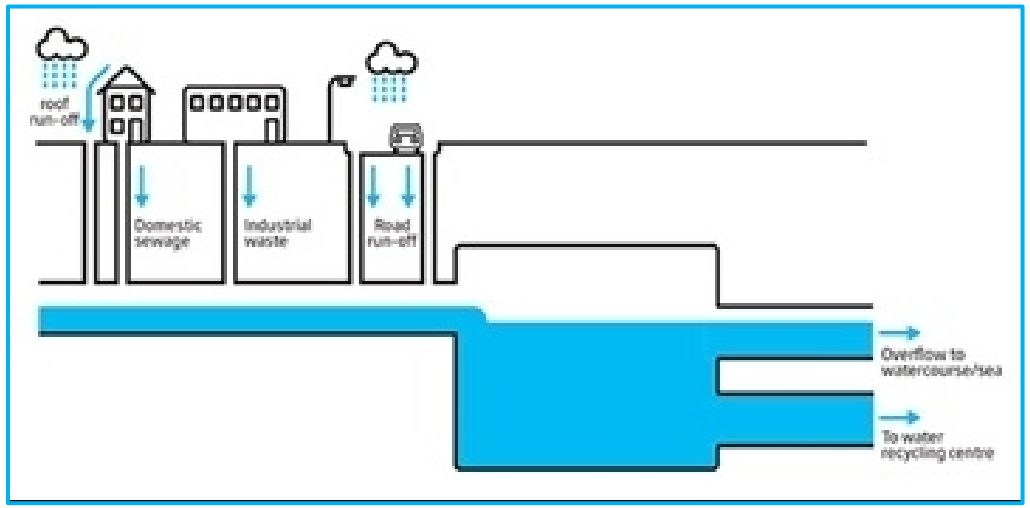
Water Recycling Centres

- Designed to treat sewage to the required (permitted) standard before returning to the environment.
- Includes sewage, rainwater & trade wastes



Storm Overflows

- Act as a pressure relief valves to prevent property flooding during heavy rainfall events
- Carry predominantly rainwater plus sewage and trade discharges



Storm overflows (wessexwater.co.uk)

More information on Storm Overflows

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Background info	
Storm overflow page	Contains briefing note on why they exist, what impact they have and what can be done about them
Wild Swimming page	Video explains the consideration and risks associated with wild swimming
Warleigh Weir page	Explains the ongoing investigation at Warleigh Weir with latest water quality data
Combined sewers explained	Environment Agency explain why storm overflows exist. YouTube video here
Discharge data	
Historical data on Drainage and Wastewater Management Plan portal (Storm Overflows/Performance)	Contains Event and Duration data for all monitored overflows from 2016-2020.
Live data from Coast and RiversWatch	Near real-time alerts where water quality may be affected by storm overflows
Site specific discharge data	Available on request from Wessex Water
National Event and Duration Monitoring Data	Data for England for 2020
Surfers Against Sewage Safer Seas and Rivers App	Repeats information provided by Coastwatch for an Android and iOS app
Rainfall data	
Site and time specific	Available on request from Wessex Water
Impact data	
Warleigh Weir water quality info page	E.Coli and I. Enteroccocci data from bathing water investigation
Drainage and Wastewater Management Plan portal	Performance spreadsheet contains impact data: where we have carried out invertebrate surveys and where the SO is associated with a WFD Reason for Not Achieving Good status
Bathing Water Profiles	Historical and most recent bathing water samples for Faecal Indicator Organisms
Environmental impact data from Catchment Data Explorer	Historical water quality data for Water Framework Directive compliance
Investment planning approach	
Storm Overflow Assessment Framework	Process for assessing the costs and benefits associated with dealing with frequently spilling overflows
Investment Plans	
Drainage and Wastewater Management Plan	Performance spreadsheet (under Storm Overflows/Performance/*) has investment plans associated with storm

Question 2

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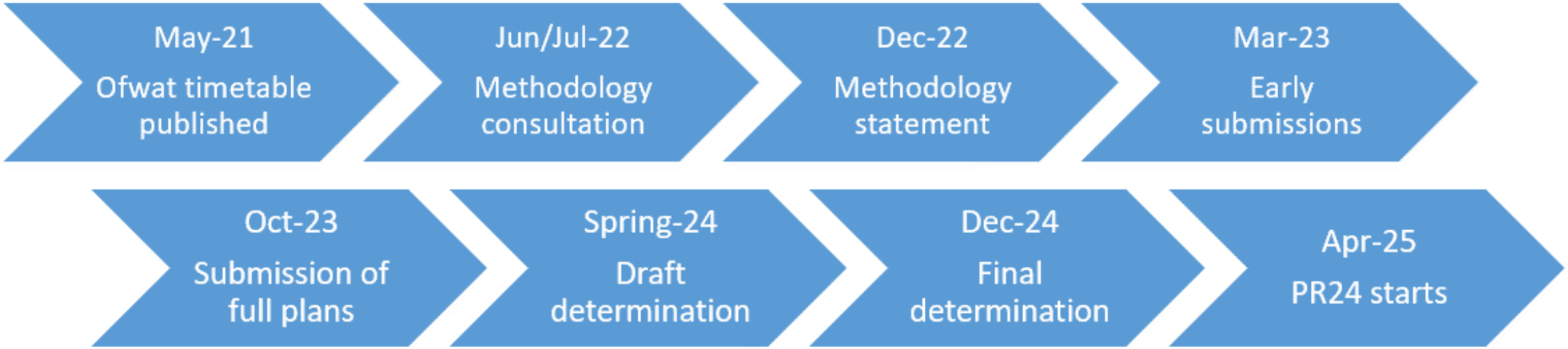
What is being done to reduce pollution and how long will this take?

- Can only answer about WW improvements to our assets and permitted discharges – EA can advise on actions to reduce pollution
- Water company investment cycles are five-yearly.
- The next Business Plan (investment plan) will be submitted to Ofwat in 2024 (PR24) to start from 1st April 2025 until 31st March 2030.



Water Quality Requirements

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Requirements set in legislation, e.g:

- Water Framework Directive – nutrients, chemicals, flows
- Water Framework Directive (Protected Areas) – e.g. Shellfish areas (bacterial load)
- Bathing Water Regulations – bacterial load
- Habitats Regulations - nutrients
- Urban Wastewater Treatment Directive – infrastructure provision, nutrients

Improvements driven by an evidential need, risk or regulatory change

- WFD - Phosphorus removal
- Shellfish – UV disinfection, spill frequency
- Bathing Waters – UV disinfection, spill frequency
- Habitats Regs – Phosphorus removal
- Urban Wastewater Treatment Directive – Nitrogen removal, overflow operation

Recent & current investment

- AMP5 (2010-15)
  - Transfer from Holton Heath to Wareham + UV disinfection

More info:
Poole Harbour Factsheet
Stour Factsheet

- AMP6 (2015-20)
  - Poole Harbour south investigations at Studland & Corfe Castle
  - Over 22 tonnes phosphorus removal in Poole Harbour catchment

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- AMP 7 (2020-25)
  - UV disinfection at Corfe Castle (2021)
  - 7 no investigations in Poole Harbour, 2 in Dorset Stour
  - Removing 186 tonnes phosphorus in Stour and 19.45 tonnes in Poole Harbour
  - 65 tonnes nitrogen reduced via offsetting in 2021, in additional to Poole (2009 – removing >900 tonnes) and Wareham (2021 – c.10 tonnes) WRCs
  - £150m across WW on storm overflows, inc Bulbury Lane wetland
  - Flow and storage improvements at Holdenhurst, Bourton & Shillingstone
  - Ongoing operational maintenance investment e.g. Moorland Way & Shore Road SPS

Storm overflow improvements

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		2020	2025	2030	2035	2050
WRC	Storm Overflow	Current		Short term	Medium term	Long term
Lytchett Minster	Lytchett Bay (ID 13190)	Consider options for future WINEP		Investigate / design options / possible separation?		Surface water separation Infiltration sealing Nature based solutions Storage
	Sandy Lane (ID 14219)	Design pumping station and rising main enhancements (2022)				
		Construction of pumping station & rising main enhancements (2023-2025)		Monitor improvements / possible separation?		
	Moorlands Way (ID 14265)	Pumping station improvements (2020)		Monitor and consider further improvements / possible separation?		
Poole	Sandbanks Road (ID 16615)	Pumping station improvements (2023)		Monitor improvements / possible separation?		
	Egmont Road (ID 15252)	No works currently planned		Monitor operation / possible separation?		
	Cabot Lane (ID 13242)	No works currently planned		Monitor operation / possible separation?		
DWMP	Customer education – surface water separation -					

Addressing storm overflows

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Eliminating storm overflows in England by attenuation currently estimated at >**£300 billion**

storage and capacity

separation

treatment

Real time notification for shellfisheries

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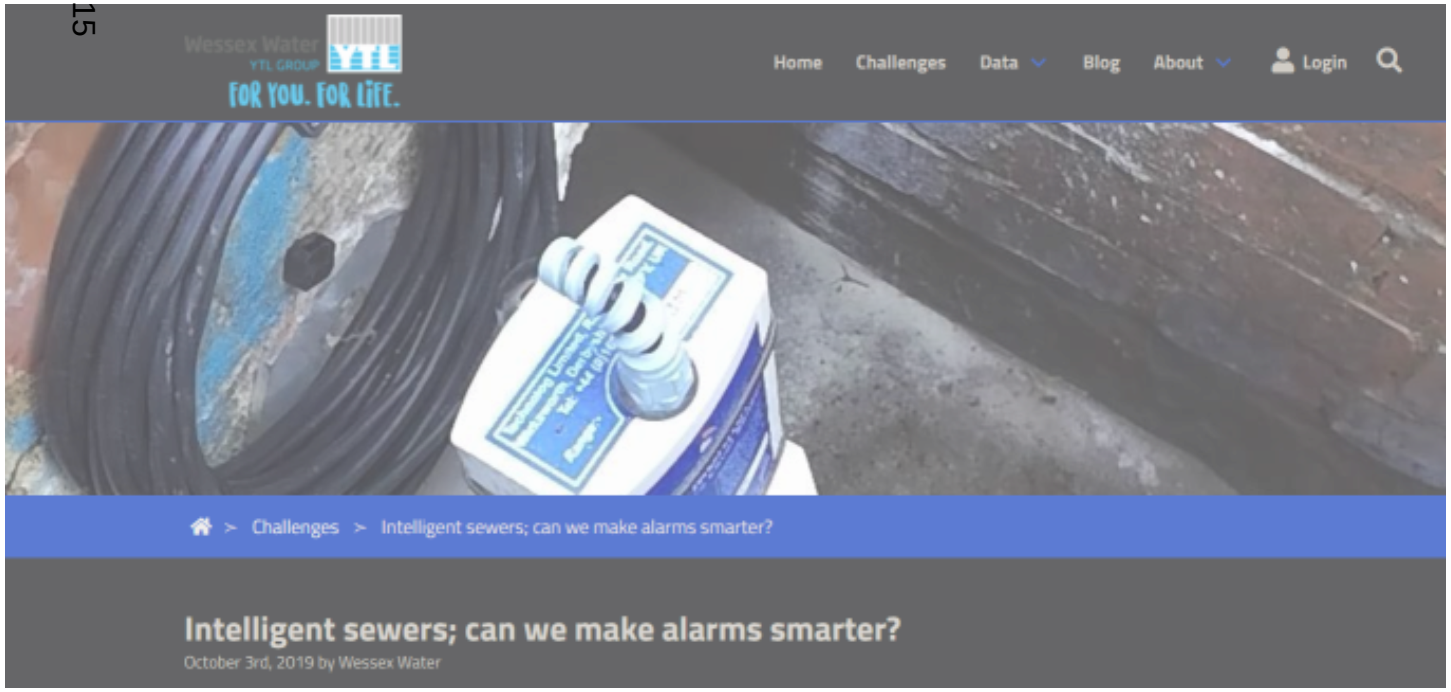
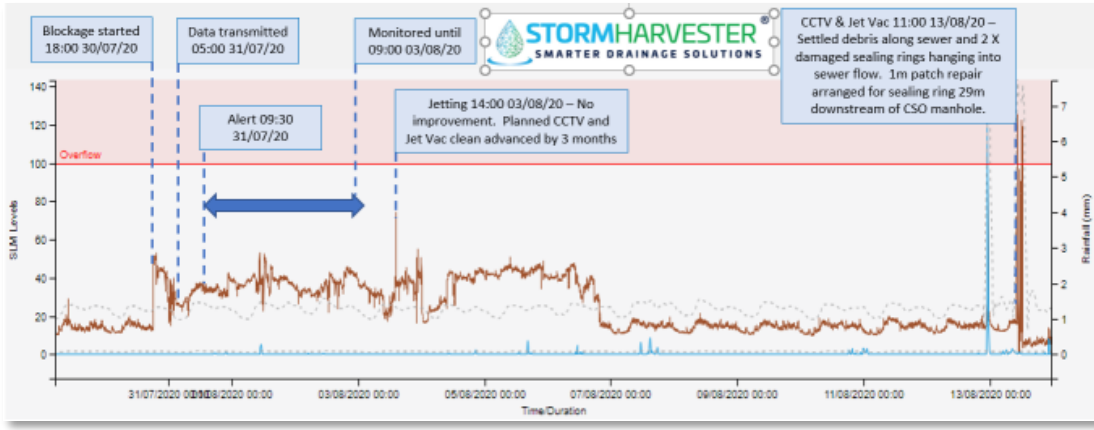
- Link to UnifAI/BCP real time water quality data
- Better understanding of community health data – Norovirus
- Use ‘StormHarvester’ to predict asset operation – providing 12-hour warning to shellfisheries, enabling active harvesting during 2021





DWMP context – aims

- To provide visibility of Drainage and Wastewater long term planning needs
  - Climate change
  - Growth and urban creep
- To work in partnership with others, to make plans for the future that will ensure the sustainability of our drainage infrastructure, and the services it provides to customers and the environment
- Inform our PR24 business plan and beyond.

DWMP Consultation in **June 2022** – good engagement with BCP Officers to date.

Enabling the right solutions…

…by having **legislation** that supports the following 2 principles

1. Surface water should be kept separate from foul water
2. Surface water should be returned to the environment as close as possible to where it lands

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In other words legislation needs to….

A. Reduce volume of surface water continually being added
B. Make it easier to remove and dispose of surface water
C. Make it easier to tackle groundwater – keep it out
D. Improve probability of sewer capacity not being compromised

Currently it doesn't:

What we would like to see…..

Reduce the amount of rainfall being added:

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- Address the 'right to connect'
- Improve regulation of impermeable urban creep

Make it easier to disconnect and discharge surface water:

There is no statutory right to discharge surface water (or treated sewage effluent) to a watercourse

Better building control for:

- Paving over front gardens
- Extensions
- Ensuring that there are no surface water connections to foul sewers

Key messages

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No silver bullet – many contributing sectors influencing water quality

Need data to demonstrate environmental impact

Imperfect regulatory system which needs legislative change

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WW asset investment will take time

Partnership working and communication most effective way to resolve issues

Potentially some quick wins around notification and warnings

Environment Audit Committee (Jan 21):

Responsibility for improving water quality in rivers cannot be laid solely at the door of the water industry. The project to restore all rivers in England to good health will require the engagement and collaboration of a wide range of stakeholders

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The Environment Agency's land and water regulatory role in Dorset

Wessex Area covers catchments across Somerset, Dorset and Wiltshire, plus some of Hants
Pollution incident response
Compliance activity across agricultural sector
Regulating water resources via abstraction licence compliance and enforcement
Regulation of water industry:
Water supply companies, like Bristol Water
Water and sewerage companies, like Wessex Water

- -Permit compliance, pollution incidents,
- -Environmental services
- -Planning and investment

Wessex Water environmental performance annually reported via EPA. Currently a 4-star company, meaning 'industry-leading', which is typical of last 5 years or so.

Recent media headlines about combined sewer overflows and flow to full treatment highlight the level of interest government, the media and the public have in water company operations.

EA water quality monitoring

- Bathing Waters
  - 19 designated bathing waters in BCP area
  - Sampled from May to September
  - Samples analysed for *E. coli* and intestinal enterococci (faecal indicators)
  - Results published online

- Water Framework Directive surveillance
  - Monthly monitoring at 5 sites in Poole Harbour
  - Monitoring for nutrients (N and P) and phytoplankton

  - No monitoring specific to shellfish water protected areas
  - Assessments of bacteriological quality in shellfish water protected areas are made using data collected by BCP and provided by Cefas.

Water Company Planning – 'who's involved?'

- The **Price Review** (PR) is Ofwat's process of determining what Water Companies can charge their customers over the next five years based on the business plans Water Companies submit. This has been carried out in five-year cycles for more than 25 years.

- Part of a Water Company's business plan includes environmental enhancements as well as capital maintenance, supply/demand balance etc. The environmental enhancements are detailed in a **Water Industry National Environment Programme (WINEP).** This is a list of improvement schemes and investigations devised to rectify non-compliance with environmental legislation or national targets. Defra provide guidance on what should be included in this programme and schemes/investigations identified are costed by the Water Companies.

- The delivery phase of the WINEP is called the **Asset Management Plan (AMP)**, which is the 5 year period in which the WINEP is delivered by the Water Company.

- We are currently in the AMP7 delivery phase (2020-2025) and have just started the PR planning process (PR24) for the next AMP which will be delivered 2025-2030 and will be known as AMP8.

- Ofwat and the EA scrutinise these solutions and associated costs to ensure customers do not pay too much for the required improvements. Defra make the final decision on what should be included in the WINEP.

- The Final Determination is Ofwat's final report on what will be included in a Company's business plan and how much money each water company needs to fund its business over the next five years.

The Environment Agency's role in Water Company Planning

Environment Agency Area teams take ownership of the Price Review process and AMP sign off with advice from Natural England as required and Water Companies manage delivery on the ground. This includes discussion regarding what to include in the WINEP provided there is both evidence and certainty that a Water Company is causing a problem.

Where there is an uncertainty that a Water Company discharge is the cause of a problem in the environment, an investigation can be included to understand the problem better. Investigation outcomes in one AMP period are often used to drive improvements in the subsequent AMP period.

The WINEP is in effect, a lengthy shopping list of environmental outcomes that will either lead to an improvement in the environment, prevent deterioration in the environment or investigate an environmental issue.

Where Water Companies have customer support which can be evidenced, they can include schemes or investigations that don't fit all of the criteria set by Defra.

Each scheme within the WINEP requires a new, modified or varied permit which is issued by the EA. The permits reflect the changes that have been made as a direct result of an AMP scheme.

Finally, the EA provide an annual update to Ofwat detailing which schemes/investigations have been signed off as complete for audit purposes.

BCP-specific investment and improvements to assets/discharges

There has been considerable Water Company investment over several AMP cycles driven by Shellfish Water Directive (and other Directive) standards to improve discharges to the harbour, as well as monitor and investigate Water Company impacts. These include:

- the application of UV disinfection at a number of STW's in the PH catchment which discharge directly to the harbour
- A reduction in storm spill frequency of intermittent discharges
- increased storm storage capacity in the upper catchment
- installation of event duration monitoring (EDM) at all intermittent discharges to the harbour

In the current AMP, Wessex Water is undertaking a comprehensive investigation of the performance of all Wessex Water assets (both continuous and intermittent) in the Poole Harbour catchment in order to identify those that may be impacting on the SFW's. This will include apportioning through modelling, Wessex Water assets' microbial load in the context of other (diffuse) sources in the catchment to understand the Water Company contribution to the failure to achieve the microbial standard. This investigation will also look at how the impacts of climate change are interacting with the impact of water company assets and identify any future improvements required.

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