

Drainage and Wastewater Management Planning – Process Overview and Progress



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For more information click here to access our website



Our Drainage and Wastewater Management Planning

Providing essential water and wastewater services is a long term business, where decisions made today about investments in drainage and wastewater can impact the service provided to customers, communities and the environment for generations. It is important that these decisions are made using the best available information. Increasingly we also see partnership working and shared solutions as the key to success.

Drainage and Wastewater Management Planning (DWMP) will help to identify problems, clarify responsibilities of the respective agencies involved, and promote a better understanding of drainage and flooding issues. The key products of this process are DWMP plans. The advantage of producing collaborative plans, in catchments with a long history of flooding and pollution, is that we can unpick the flooding mechanisms and interactions and develop holistic solutions. This resolves the root cause of the issues where no single Risk Management Authority (RMA) has historically been able to resolve those issues in isolation. We consider that this provides the best solutions for our customers, the environment, local businesses and the company by delivering multiple long term benefits.

Better long term planning helps take account of future pressures such as climate change, urban creep and growth with more efficient, lower costs, better value solutions and better protection of the environment for our customers.

To deliver improvements to the services it provides, the water industry, working in partnership with its key stakeholders through the 21st Century Drainage Programme (21CDP), has developed the DWMP process, to provide a better framework for the long term planning of drainage and wastewater services. South West Water has played a key role in developing this framework through its chairing and membership of the project steering group.

Four of the top five priorities identified by our customers and stakeholders relate to the provision of our wastewater services – the quality of bathing and shellfish waters, prevention of pollution, sewer resilience in extreme conditions and reductions in sewer flooding – DWMP is instrumental in delivering against these priorities, while also keeping bills affordable.

What's new for 2018?

→ **The publication of 21st Century Drainage Tools and Frameworks:**

- the Storm Overflow Assessment Framework (SOAF),
- the Capacity Assessment Framework and
- the Wastewater Resilience Metrics.

→ **National Water UK Project** to develop a framework for the long term planning of drainage and wastewater services, that can be applied across England and Wales, and potentially have relevance for other parts of the UK.

This framework has broad support from the Government, regulators, water and sewerage companies and consumer bodies in England and Wales; it builds on and extends the Drainage Strategy Framework (DSF) published by Ofwat and Environment Agency (EA) in 2013, and incorporates the tools and frameworks being completed as part of the wider 21CDP.

Why is planning needed?

Roles and responsibilities for flood risk management delivery in England and Wales span different organisations.

The split roles and responsibilities mean:

- Responsibilities can be contested between parties
- Differing drivers, objectives, resources and funding cycles exist
- Separation of roles can make partnership working imperative but challenging.

The Flood and Water Management Act, 2010 (FWMA), identified new responsibilities for flood and coastal erosion risk management authorities, of which Water and Sewerage Companies (WaSCS) are one, together with a Duty on all relevant authorities involved to co-operate and share data.

South West Water needs clear long-term plans in order to engage with other Risk Management Authorities (RMAs) to produce joined-up approaches and deliver the best outcomes for our customers and the environment.

Developing a DWMP Framework will formalise the process for the long-term planning of drainage and wastewater services that could be applied across England and Wales:

- To build on the Drainage Strategy Framework principles and embed consistency of approach across drainage and wastewater planning throughout England and Wales
- To assimilate 21st CDP metrics and approaches into an overarching methodology
- To utilise a standardised approach in deriving management plans aligned across Risk Management Authorities, and provide transparency to customers and other stakeholders
- To facilitate achievement of individual and common goals and outcomes
- **UKWIR and EA Publication** – ‘How Best to Align the Funding Processes with the Various Bodies Involved in Resolving Flooding’, provided a flow process to consistently review issues and solutions to identify whether there was a collaborative advantage in working together.



“I am really pleased to see South West Water’s desire to work in partnership to reduce flood risk continue into PR19, building on the great work to date. Both of our customer bases have already benefited from having aligned investment programmes, joint working on integrated urban drainage modelling and scheme delivery. I am sure there will be many more successes to come.”

Ben Johnstone, EA Area Flood and Coastal Risk Manager Devon, Cornwall and The Isles of Scilly

“South West Water have a proven track record of innovation and collaboration as part of their successful Upstream and Downstream Thinking programmes and I am pleased to see them continue to expand on the delivery of these within their PR19 programme ... I see this as a key vehicle for demonstrating collaboration and partnership working both through the Strategic Planning Groups (SPGs) and by publically making the DWMP plans visible through the South West Water website ...”

Philip Rees, Chair, South West Regional Flood and Coastal Committee (SWRFCC)

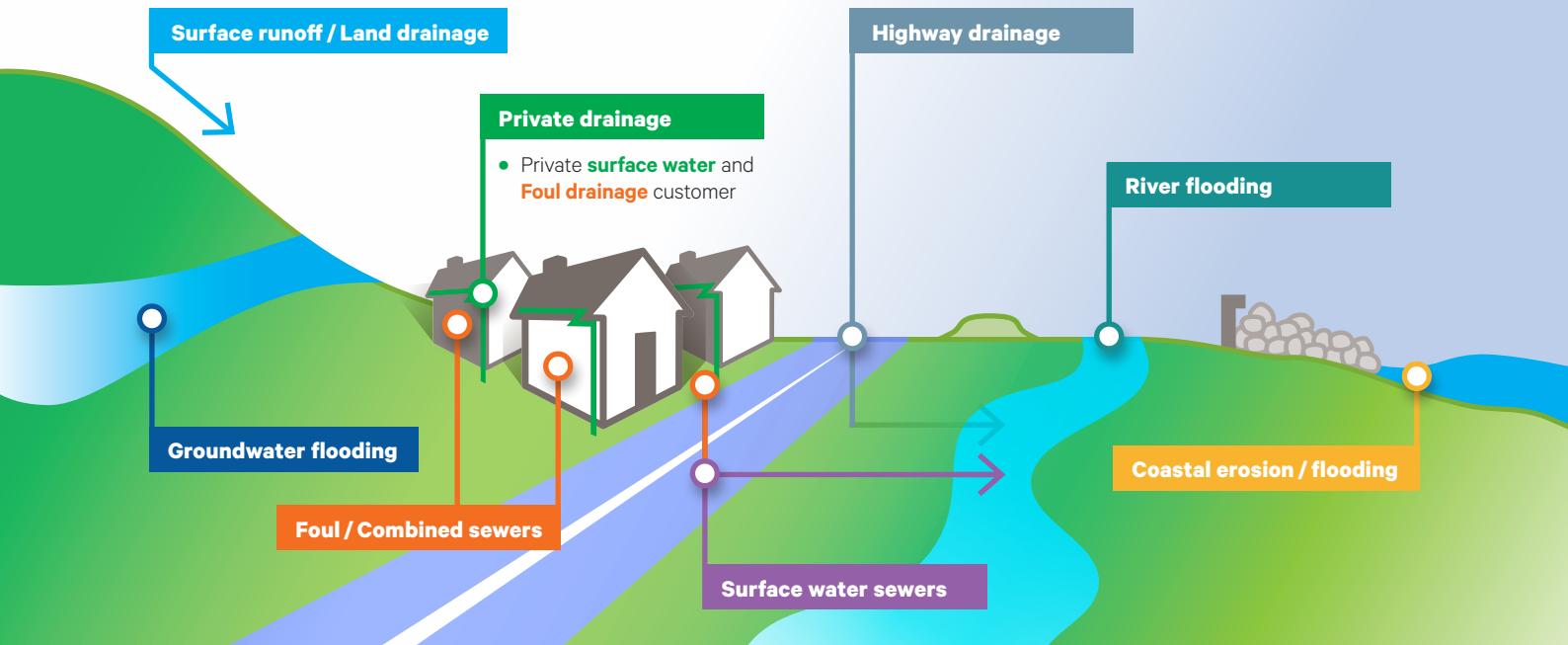
Did you know



There is predicted to be a 40% increase in surface water flow to 2080 through Climate Change, Urban Creep and Growth and new development.

Why is planning needed? cont'd

Sources of flood risk and responsibilities for drainage:
showing the complexity of ownership and responsibility for drainage issues and infrastructure



(Note: this is a simplified schematic)

Flooding responsibilities under the FWMA are set out below:

Location	Description	Responsibility
Surface runoff / Land drainage	Landowners are responsible for their land drainage and must not cause problems for neighbours	<ul style="list-style-type: none"> Lead Local Flood Authorities Land owners
Highways	Surface water on roads, highways and pavements, blocked road drains/gullies and overgrown verges	<ul style="list-style-type: none"> Highways Authorities Highways England/Welsh Government Transport for London
Groundwater	Waterlogged ground when water pools on the surface	<ul style="list-style-type: none"> Lead Local Flood Authorities Landowner
Rivers and watercourses	Water draining into rivers and streams from nearby land	<ul style="list-style-type: none"> Lead Local Flood Authorities Environment Agency/Natural Resources Wales Riparian Owners Landowner
Coastal / Tidal	Rough seas, high tides or storm inundation on lower land	<ul style="list-style-type: none"> Local Authorities Environment Agency Natural Resources Wales
Surface water sewers	Most properties drain rainfall to public sewer, including flows from gutters/roads that end up in public sewers. Highway drainage is provided for rainfall onto the highway but in reality also includes water from fields/other property that finds its way onto the highway	<ul style="list-style-type: none"> Water and wastewater companies Local Authorities Housing Associations Private land owners Highway Authorities
Public sewers	Sewer flooding from manholes and covers	<ul style="list-style-type: none"> Water and wastewater companies
Private sewers	Flooding from cesspits/septic tanks, toilets or internal drains	<ul style="list-style-type: none"> Homeowner

Why is planning needed? cont'd

Managing rainwater: showing the Downstream Thinking approach that will feed into our DWMP plans

 Downstream Thinking

What's the problem?

Today, our towns produce more surface water than ever. Climate change, house-building and individual developments such as driveways, patios and extensions all contribute to this.

Flooded sewers

Too much water in our sewers causes flooding and pollution.

Carbon costs

Pumping and storing the water is expensive and uses a lot of land and energy.

Regulatory complexity

Several different organisations are responsible for different aspects of flooding.

What's the solution?

Planning for the long-term at a catchment scale, using Sustainable Drainage Systems (SuDS) to alleviate sewer flooding and reduce pollution of streams and rivers, and working in partnership.

Control at source

Stop rainwater entering the sewers, and put it to good use instead.

Work with nature

Ponds, ditches and rain gardens filter and store rainwater.

Partnerships

Sharing plans and pooling budgets and expertise.

EXAMPLES OF HOW WE ARE MAKING THINGS BETTER



Building understanding

Working with other flood-risk management authorities to develop integrated models and really understand the causes.



WaterShed projects

Piloting source control and natural solutions in our region.



Working together

By working with others we can resolve the whole issue, not just one part of it.

RESULTING BENEFITS



Quantity & quality

Less sewer flooding and pollution and reduced CSO spills.



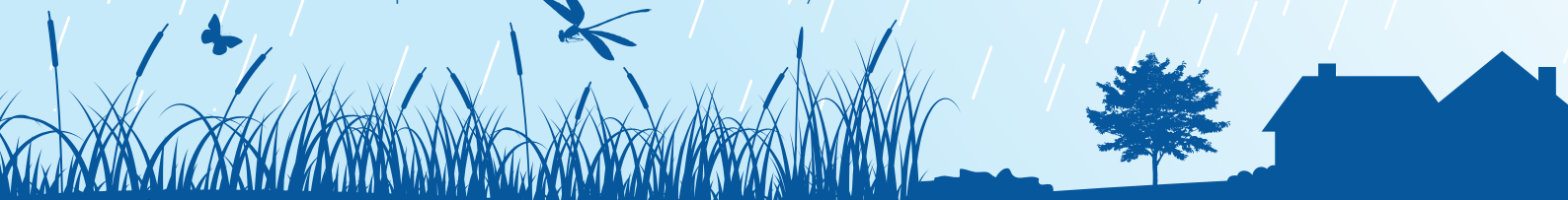
Customer & environment

Greener urban environments which provide amenity and biodiversity benefits.



Sustainability & service

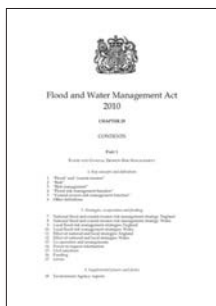
Lower costs, less energy usage, reduced carbon and increased system resilience.



Government and Regulatory Policy

The Ministerial statement on surface water management (December 2017) endorsed the DWMP work as providing exactly the kind of engagement and consultation with a range of organisations that will help foster greater partnership working and common goals and aims.

The UK Government's Strategic Policy Statement to Ofwat, the Welsh Government's Water Strategy for Wales, and Ofwat's PR19 methodology, expect a clear and explicit framework for long term drainage and wastewater planning. These build on expectations of a more strategic approach to drainage planning previously set in a number of documents, for example Water for Life and the 2012 Statement of Obligations for PR14.



Flood and Water Management Act

- Aims to reduce the flood risk associated with extreme weather, delivered through better, more comprehensive management of flood risk for people, homes and businesses
- Provides an overarching framework to allow organisations to work together to develop a

shared understanding of the most suitable solutions to community problems

- Risk management for analysing risk, assessing risk and reducing risk
- Duty to co-operate between risk management authorities and share data.

Ofwat/Environment Agency Drainage Strategy Framework (DSF)

The DSF illustrates good practice in how to prepare a drainage strategy and is based around established planning principles.

Ofwat worked jointly with the EA to commission a framework for water companies to use in planning long term strategies for their drainage systems in AMP6.

Each Drainage Strategy describes how WaSCs intend to deliver their statutory functions and customer service outcomes within a particular catchment in a sustainable and economic manner. An external Drainage Strategy document will be publicly available for each catchment.

Drainage Strategies will focus on sewerage assets, whilst being aligned with stakeholders plans for other elements of the drainage system and partners who are carrying out similar planning, e.g. through Local Flood Risk Strategies and River Basin Management Plans. By considering the links within the drainage system as a whole, collaborative solutions to deficiencies and opportunities will be explored outside the sewerage system itself. WaSCs will communicate how challenges such as; climate change, growth, urban creep and Water Framework Directive (WFD) are to be tackled in a particular catchment through their Drainage Strategies.

Ministerial statement on surface water management

In December 2017 Minister Coffey tabled a written Ministerial Statement highlighting the five key areas of work being developed by the Cross-Whitehall Group project on Surface Water Management (flooding and drainage):

1. **National position** – this year government added the risk of surface water flooding to the National Risk Register within the “High Risk” banding.
2. **Effective collaborative working** – our local case studies identified some very effective partnership working by risk management authorities.
3. **Skills** – research has shown that it is important to maintain the right balance of surface water flood and drainage skills at the local level.
4. **Maps and data** – the EA is reviewing the current and future data needs for the mapping and modelling of surface water flooding.
5. **Forecasting** – the Met Office and EA are carrying out a review on how improvements in surface water forecasting and communication can be made to make the best use of the information produced across the Met Office, Flood Forecasting Centre and EA.

Expectations for Price Review 2019 business plans

To meet the expectations of the UK government’s Strategic Policy Statement to Ofwat, Ofwat’s PR19 methodology and deliver improvements to the services it provides, the water industry, working in partnership with its key stakeholders through the 21CDP, is looking to develop a framework for the long term planning of drainage and wastewater services, that could be applied across England and Wales. The benefits of this approach align strongly with our customer priorities for wastewater services.

The DWMP expectations for inclusion in PR19 are set out below:

DWMP development	For inclusion in PR19
<p>Establish DWMP framework and management structure</p> <p>↓</p>	<p>→</p> <ul style="list-style-type: none"> Defining boundaries and WwTW catchment alignment Establishing Level 2 management forums Costs associated with meetings of the Level 2 forums and resultant actions Annual reviews of progress Development of the DWMP PR24
<p>Capacity risk assessments</p> <p>↓</p>	<p>→</p> <ul style="list-style-type: none"> Subjecting all catchments to a high-level risk based review to determine if more detailed supply / demand assessments are required Undertaking supply/demand assessments for all non-excluded WwTW catchments to include for: <ul style="list-style-type: none"> Data gathering Data processing including scenario development where required Engagement with the Level 2 forums Production of an agreed prioritised list for options investigations
<p>Options appraisal and development of preferred management strategies</p> <p>↓</p>	<p>→</p> <ul style="list-style-type: none"> Undertaking options appraisal process for all prioritised and agreed WwTW catchments Developing benefits valuation expertise and processes Developing scenario planning expertise and processes Develop/refine costing approached and cost curves for standard items e.g. SuDS £/m³ surface water removed, based on experience and/or literature Developing approaches to derive ‘best value’ interventions as opposed to ‘least cost’ Engagement with the Level 2 forums Undertaking an SEA across the whole preferred plan
<p>Production of DWMP and Level 2 documentation</p>	<p>→</p> <ul style="list-style-type: none"> Producing documentation Assurance and sign off

Did you know



Over the next 25 years, population is expected to grow from 1.7m to nearly 2m in the South West Water region.

What are we doing already?

South West Water's Downstream Thinking (DST) Programme

We have delivered a programme of investment over the last five years focused around understanding the cause of flooding and pollution problems and resolving longer term chronic issues, often in collaboration with other RMAs. We consider that this gives the best solution to our customers and the business by delivering multiple long term benefits.

Eliminating internal sewer flooding and reducing external sewer flooding are key priorities for our customers, and solutions frequently rely on addressing drainage issues across various responsibilities.

DST was developed by South West Water as a pilot programme producing nine risk-based 'Drainage Strategies' across the DST Catchments to account for future pressures at a catchment scale, in-line with the nationally produced Drainage Strategy Framework (EA and Ofwat, May 2013). Trialling different techniques such as Sustainable Drainage Systems (SuDS), to alleviate sewer flooding from our wastewater networks and reducing pollution risks to watercourses and building partnership collaborations.

There are three streams of work within the current DST Programme:

Flood Defence (Resilience)

As part of our resilience approach, we have made contributions towards RMA schemes where there is a collaborative advantage in contributing to secure system resilience at strategic locations. For PR19 we are also developing, our Wastewater Resilience Strategy aligned with Ofwat's resilience duty.

The most significant example to date is the Exeter Flood Defence Scheme where South West Water contributed a total of £1.47m to help enable an overall £32m plus scheme which will provide 1 in 100 year protection to our assets and reduce pollution risk from associated asset failure as well as benefits to others. South West Water's contribution is made up of Works in Kind, that we will undertake on behalf of the EA, and a grant, which will be our contribution to the scheme recognising the resilience protection to our assets. This project, together with the numerous other smaller works we have funded, is a good example of the benefits of partnership working, both to our customers, South West Water and the wider community.



Photographs from left to right:

Flooding in Longbrook Street, Blanford Road and Lipson Vale, Plymouth

South West Water's Upstream and Downstream Thinking Programmes offer a unique opportunity to act as a catalyst for collaboration and together, they form South West Water's Catchment Based Approach.

What are we doing already? cont'd

South West Water's Downstream Thinking (DST) Programme (cont'd)

Integrated Urban Drainage Management (IUDM) Planning and Drainage Strategy Framework

South West Water, in partnership with Lead Local Flood Authorities and the EA, have developed a number of IUDM pilot studies in catchments with complex and long standing flooding problems. These IUDM pilot studies helped to identify problems, clarify responsibilities of the agencies involved, and promote a better understanding of urban drainage flooding, in these areas.

Under the IUDM Planning and Drainage Strategy Framework theme, we committed to nine Drainage Strategies for the pilot catchments of Braunton, Torrington, Torbay, Exmouth, Plymouth, Falmouth, Exeter, Truro and North Cornwall (Delabole, St Mabyn and St Teath). We are on track to deliver these strategies, with five due for delivery by September 2018 and others to follow. IUDMs are also either completed or underway for Falmouth, Exmouth, Kingsbridge, Old Feniton, Plymouth and Torrington.

The advantage of undertaking IUDMs in collaboration in catchments with a long history of flooding and pollution is that we can unpick the flooding mechanisms and develop holistic solutions to resolve the root cause of the issues where no RMA has historically been able to resolve the issues in isolation.

Downstream Thinking Pilots

The pilots provided a clearer economic understanding of the effectiveness of implementing DST approaches in the long term management of wastewater, improving our delivery knowledge and providing insights into the effectiveness of different techniques. This aligns strongly with many of the PR19 guidance documents issued recently by Ofwat, DEFRA and the EA.



£1.9m project at Cattedown, Plymouth

Left: Surface water separation underway including new outfalls when undertaking sewer cleansing

Below: iron found fly-tipped into the sewer.



What are we doing already? cont'd

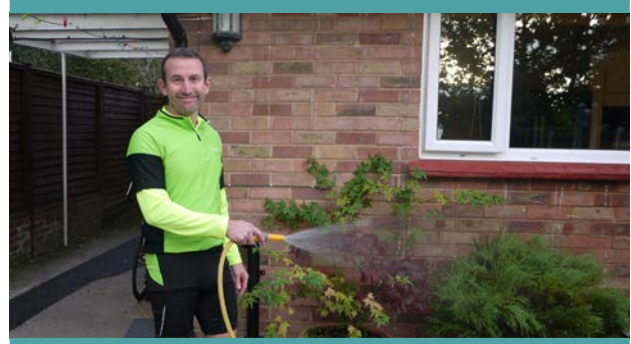
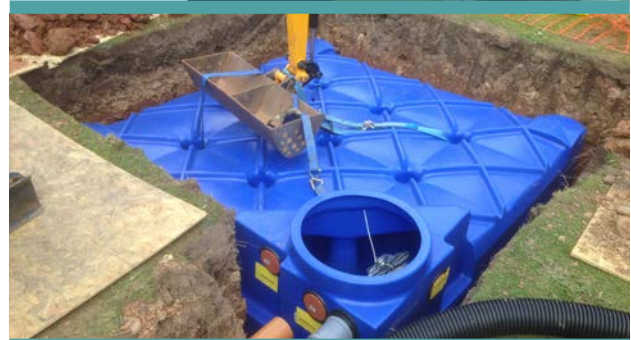
South West Water's Downstream Thinking (DST) Programme (cont'd)

Exmouth DST Example

Using the IUDM we developed in AMP5, we have worked collaboratively with Devon County Council to resolve surface water flooding, sewer flooding and pollution in the catchment. There has also been close liaison with East Devon District Council and the EA around the tidal defence improvements work to ensure that any synergies and overlaps are identified.

Around 30 houses in Phillipps Avenue, Orchard Close, Green Close and Bassetts Gardens have had special water butts or underground tanks installed at their homes.

The project is now working with St Joseph's Catholic Primary School in Regents Gate, to install rainwater harvesting and other sustainable drainage solutions. This will allow the scheme to be delivered by 2019/20, subject to Planning Permission.



Photographs from top to bottom:
Local resident washing clothes in rainwater;
An underground rainwater harvesting tank
being installed in Exmouth; Local resident,
watering his plants with rainwater.

WaterShed Aveton Gifford – Tackling sewer flooding

Working collaboratively with parish council, the school and householders to reduce amount of surface water entering combined sewer, piloting a range of SuDS.



The project has three strands:

- **A new surface water sewer and swale** to take rainwater from the school, car park and Memorial Hall to stream
- **Water Sensitive Urban Design features** at the school working with children and providing an educational resource
- **Installing free SuDS features** at individual properties by running a 'Reverse Auction' with residents.

Photograph: Flow mitigation installation, Aveton Gifford

Our DWMP process

Stakeholders, including Ofwat, EA, Natural Resources Wales, Defra, Welsh Government, CCWater, National Infrastructure Commission (NIC), Blueprint for Water and Adept have all consistently expressed an expectation that companies will incorporate emerging thinking from work to develop the DWMP framework, as well as other 21CDP outputs, into their PR19 Business Plans.

In particular, the NIC are looking for companies to do substantive work in the period 2020 to 2022 so that when they produce their second National Infrastructure Assessment (NIA), likely to be published in 2023, there is a better national evidence base, on the state of the industry's drainage infrastructure and what investment may be needed to meet society's future demands. For the first NIA this year, NIC have found there is insufficient evidence to say what drainage infrastructure the nation needs; they hope and expect to be able to say more next time. Ofwat, Defra and the EA are also expecting that companies will complete DWMP Plans by 2022.

South West Water's approach is focusing on efficiently delivering the outcomes that our customers want, while reflecting the value that society places on the environment. Therefore, our delivery of DWMP will:

- Be in line with the principles of the Drainage Strategy Framework (DSF)
- Make appropriate use of the tools developed by the 21st Century Drainage Programme –
 - The Storm Overflow Assessment Framework (SOAF),
 - The Capacity Assessment Framework and
 - The Wastewater Resilience Metrics.
- Activities:
 - For all relevant Wastewater Treatment Works (WwTW) catchments, and in conjunction with other responsible bodies, capacity/quality risk assessments that will identify where constraints (knowledge, non-infrastructure and infrastructure capacity and resilience) arise and the timing of those constraints
 - Agree prioritisation of WwTW catchments for inclusion in an options appraisal process
 - Development of Level 1 DWMP plan and Level 2 DWMP action plans. In addition to scheme specific benefits assessments, a Strategic Environmental Assessment (SEA) will be completed that covers the overall DWMP

- For prioritised WwTW catchments, development and appraisal of options to mitigate identified risks; as per SOAF with a minimum of two options to be developed. The appraisal process will incorporate a range of assessment criteria including cost benefit analysis incorporating Natural Capital Accounting/Ecosystem Services Assessments. Where there are significant uncertainties, scenario planning techniques such as adaptive pathways will be considered to enable least regret options to be delivered.

We will also effectively and efficiently deliver:

- Engagement with stakeholders and customers within the context of Level 2 Strategic Planning Groups and on a stand-alone basis
- Investigations required to improve knowledge to inform developments for Price Review 2024
- DWMP documentation
- DWMP Strategic Environmental Assessment
- Appropriate assurance to test technical and regulatory aspects of the planning process as well as collaboration with other stakeholders and engagement with customers throughout the plan cycle.

The DWMP should provide a strategic framework for long term planning and investment; as such a 25-year planning horizon will be assessed as a minimum requirement.

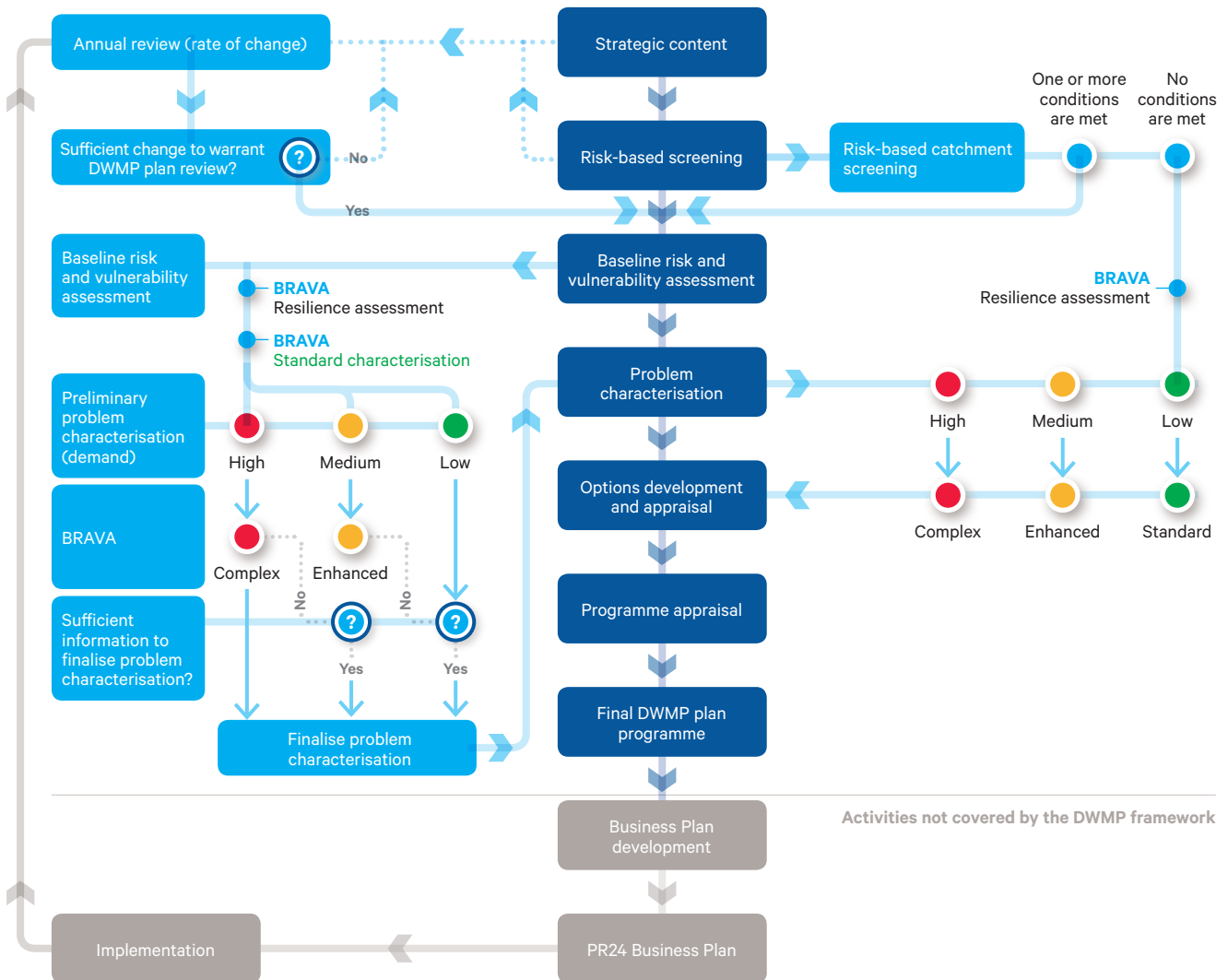
Price Review 2019 (PR19) will provide the first opportunity for companies to incorporate the emerging thinking on the DWMP framework into their business planning. Once the framework is more established in periodic review planning, DWMP plans will be published on a cycle that is aligned with periodic reviews. Annual reviews of the DWMP plans will be established to report on progress and key changes likely to impact on the plan; annual review through AMP7 will focus on reporting of progress of DWMP implementation.

Our DWMP process cont'd

A risk based approach to DWMP is proposed. All catchments will be subject to an initial high-level risk based screening review in order to determine if more detailed supply/demand assessments are required. Our preferred approach will be based on catchment characteristics (which inform potential vulnerabilities), historical performance against PR19 common performance commitments, outputs from the Storm Overflow Assessment Framework, the Capacity Assessment Framework, and assessment of future risk (potentially based on expert judgment in the absence of specific data).

Based on an initial Risk Based Catchment Screening (RBCS) Assessment using 12 out of the 16 indicators, 542 wastewater catchments have been identified as proceeding to Baseline Risk And Vulnerability Assessment (BRAVA), constituting 82% of all our catchments.

The RBCS is designed to focus effort where there is evidence of system vulnerability, identifying those catchments where further assessment is unwarranted, because there are clearly no indications that future demands will result in risks to our customers and the environment. These exceptional catchments will not be subject to further assessment, but will be kept under annual review.



What does the future look like?

From our work on the Drainage Strategy Framework so far, based on the initial results of the risk based methodology, we estimate we can focus down from over 650 catchments to less than 90 priority catchments. This risk-based approach allows us to link IUDM drivers, complicated issues and areas for detailed investigation with other RMAs, and identify quick wins which can be delivered early.

We plan to protect about 50% of the population South West Water serves by creating a Drainage Strategy for the top 11-12 catchments (sorted by population), 75% by creating a Drainage Strategy for the top 34 catchments and 90% by covering the top 90 catchments.

For the remainder of the 2018-20 period we will be completing the DSF studies already underway and transitioning these from DSFs into DWMP plans.

There will be a focus to develop a holistic catchment based approach to service delivery, identify fit-for-purpose mitigation/adaptation measures/strategies and their cost effectiveness in relation to the desired level of resilience.

Existing approaches for securing a level of service and required investments are mainly deterministic in nature. This project will aim to incorporate a probabilistic approach to accommodate uncertainties with future extreme events.

The establishment of planning structures are still being progressed as part of the Water UK Project. It is thought that the framework should provide flexibility for companies to establish appropriate Level 2 boundaries. However, given that the ultimate objective is to manage within the context of a multi-stakeholder plan for flooding (fluvial, pluvial, coastal, sewer) and environmental risk, the alignment of Level 2 plans to those areas where action plans for water quality and flood risk assessment are undertaken is an important principle.

This proposed approach aims to provide a proportionate and pragmatic approach to planning drainage and wastewater services, balancing the need for understanding and action at a local level with a requirement to provide a more strategic company-wide view, and in aligning with the River Basin Management Plans (RBMP) and Flood Risk Management Plans (FRMPs) will ensure that wider flood and environmental (quality) risks are also part of the assessment.

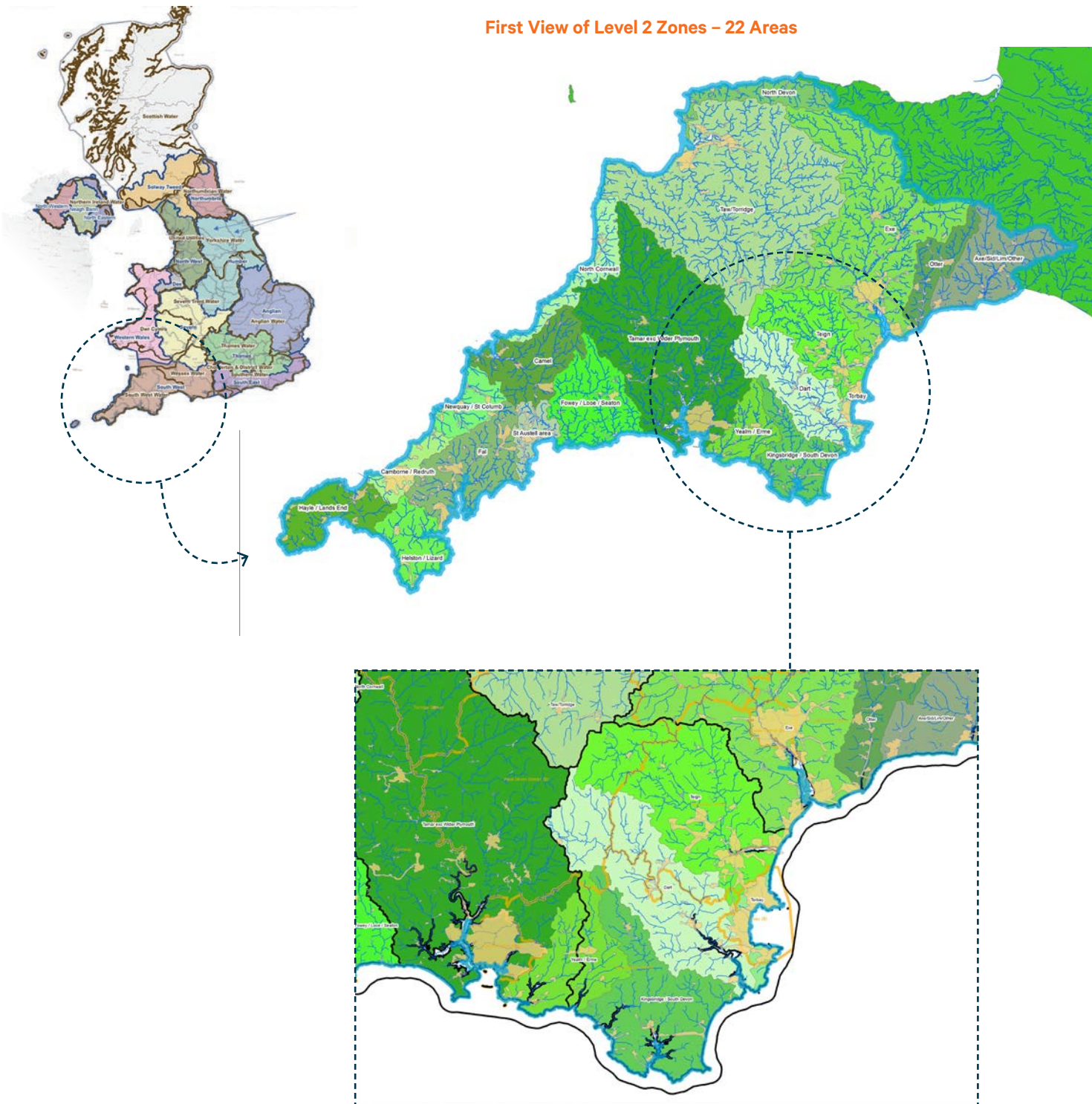


Outcomes:

- A better understanding of how well combined sewer overflows perform
- Future pressures on sewers and drains to be proactively identified and evidence collated
- Information to support how we adapt to a changing climate
- Increased partnership working.

What does the future look like? cont'd

Potential Level 2 Strategic Planning Area boundaries; equivalent to River Basin District (RBD) catchment management boundaries



Source: Esri

What does the future look like? cont'd

It is acknowledged that in developing our own long-term planning approaches as companies we will have developed planning structures that best reflect our needs. As such, it is considered appropriate that, in practice, there is flexibility around how the Level 2 and 3 structures are established.

The schematic diagram that follows outlines examples of where such flexibility might be appropriate:

RBD areas versus river catchments

The RBD outlines are shown on page 16 overleaf, together with “significant” catchment boundaries. These “significant” catchment boundaries have been identified by grouping WFD sub-catchments.

There are six RBD areas in the South West Water wastewater operational area (seven if the Isles of Scilly are included as a separate area).

Within each of the main RBD catchments are several significant separate river catchments.

Grouping all catchments within an RBD catchment can, in some cases, lead to the grouping of catchments which have no relationship with each other from a wider river basin flood risk or receiving water quality perspective.

While some grouping of catchments will be necessary in order to achieve a wider strategic overview, it is considered that within the RBD basins there should be a degree of further subdivision by major catchment boundary.

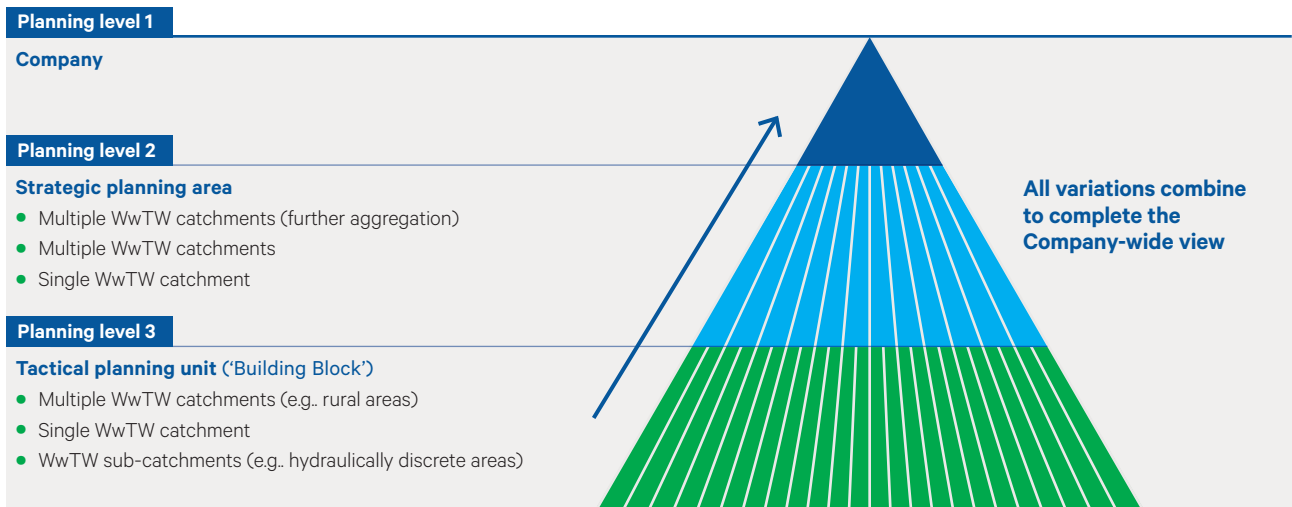
Wider consultation is needed to help agree and define appropriate divisions.

Proposed changes

A proposed division of areas for discussion and consultation is being developed. The basic approach followed is:

- South West Water WwTW catchments should not be divided across multiple areas (some allowance made when a small part of a catchment overlaps an adjoining river basin)
- River catchments should only be grouped together if they are:
 - ‘joined’ by our WwTW catchment
 - are small or do not have significant wastewater catchments within them.

DWMP Framework management structure



Note: Level 2 strategic planning area: Endeavour to align with RBD management catchments to capture synergies with other drivers, but provide flexibility to reflect existing arrangements.

What will our DWMP plans look like?

DWMP documentation outline

While the exact nature of the output is yet to be determined it is anticipated that, in line with the Water Resources Management Plan (WRMP) and the RBMP reporting, the plan will be composed of:

- A non-technical summary that would outline:
 - The approach taken including taking on board uncertainty
 - Levels of Service against which risk has been assessed and intervention options developed
 - Outline of the stakeholder and customer engagement processes
 - Links to other plans e.g. Water Industry National Environment Programme (WINEP) etc.
 - For each Level 2 Strategic Planning Area a summary of the issues identified and a high-level outline of the preferred intervention strategies and timings, and the benefits in terms of risk reduction (while exact metrics have yet to be defined this could include, for example:
 - removal of risk for 80% of population indicated to be vulnerable to flooding from a 1 in 50-year storm event
 - removal/attenuation of run-off from 10 hectares of impermeable area, currently discharging surface water flows to the foul/combined sewer network
 - development of 17 WwTW catchment response recovery plans') across the range of Level 2 plans
 - The proposed investment required to deliver the outcomes.
- A technical appendix (or multiples thereof) that would cover each Level 2 in more detail.

Whilst the WRMP also requires that companies provide further details in a set of tables that include both company level and individual Water Resource Zones (WRZs) datasets. At this stage, no such tables are being proposed for DWMPs; however, future development of the documentation may result in greater standardisation (to include tabulated data) to facilitate company comparisons and stakeholder understanding.

Our DWMPs will set out how we will deliver our statutory drainage and treatment functions over the long term with a focus on our network of foul, combined and surface water sewers and WwTWs.

In doing so we will work with other organisations so that their role in controlling the demand on sewers is confirmed and we play our part in wider drainage needs and capacity planning. The plan will take a long term view (at least 25 years).

This framework is not a legal requirement upon all water companies in England and Wales. However, there is a strong steer and expectation from Ofwat, Defra and the EA that Water companies will complete DWMP plans by 2021/22 to inform the National Infrastructure Commission (NIC), the National Infrastructure Assessment (NIA) and the Price Review in 2024.

Did you know



South West Water provides wastewater services to a population of 1.7 million residents and 8 million visitors across Devon, Torbay, Plymouth, Cornwall and parts of Dorset and Somerset.

What will the DWMP plans look like? cont'd

Better long term planning to account for future pressures of climate change, urban creep and growth, more efficient, lower costs, better value and protection of the environment.

As well as meeting the expectations of regulators and Government, crucially, the framework provides the opportunity to improve services to customers and better protect the environment, by working with others with common cause.

Indeed, Ofwat's PR19 methodology states "We expect companies to set stretching levels for their performance commitments for the five years from 2020/21 to 2024/25, and to support these with long-term projections for at least another ten years" – so projections to 15 years at a minimum.

In doing this we will:

- Provide a catchment description and drainage map
- Describe the outcomes being sought and the historical performance
- Summarise wider drainage issues and how future pressures would impact with no intervention
- Describe the alternatives
- Explain the selection of the preferred strategy
- Undertake a Strategic Environmental Assessment of the Plan
- Explain how progress will be monitored and reported.

The outcome of the DWMP is, for each Level 3 WwTW catchment identified as requiring risk mitigation from the prioritisation process, to have a risk management strategy that includes preferred options and a timeline for completion.

At a Level 2 planning level, while the exact nature of the output is yet to be determined it is anticipated the plan will provide an outline methodology, details of engagement processes, prioritisation of WwTW catchments and description of the preferred management strategies and scheme timing.

At a Level 1 (Regional) business DWMP plan level, while the exact nature of the output is yet to be determined it is anticipated the plan will provide a non-technical summary of the methodology, details of the engagement process, a summary of the preferred strategies and timings, and the benefits in terms of risk reduction across the range of Level 2 plans.

The Water industry has done more to take forward the DSF than is publicly visible or visible to regulators and Government. To address this, the DWMP plans will be published online thus providing greater governance and transparency to external stakeholders and our customers. This will lead to greater stakeholder engagement and collaboration.

Did you know

We are responsible for over 17,500km of sewers including transferred private sewers in the South West region, 653 wastewater treatment works and 1,110 Sewer Pumping Stations (including those that were transferred).

How are we developing our approach?

To produce our DWMP plans we are following a set of national best practice guidelines, which is currently still being developed as a three-level system:

- Level 1 – water company scale plan
- Level 2 – An aggregation of Level 3 units into larger Level 2 Strategic Planning Areas
- Level 3 – The basic tactical planning unit will be the WwTW and its catchment (or aggregations thereof for small catchments, or discrete sub-catchments for larger WwTW catchments).

For our PR19 business plan this means:

- Establishing the DWMP framework and management structure
- Undertaking capacity risk assessments
- Completing options appraisals and development of preferred management strategies
- Production of DWMP plans and Level 2 documentation.

This considerable step-change for DWMP implementation from 2020 and PR24 means we will:

- Take ownership and management of the 'Model Library' – data storage requirements
- Set up a framework for the company Strategic Modelling Programme and surveys
- Undertake GIS and modelling analysis to understand our catchments better and use them as tools to inform actions – with associated software and hardware
- Focus staff resources – External consultants and partner organisations can supply some of the skills needed, but it is also important that South West Water has self-reliance in order to provide leadership, continuity and maintain an overview role. The introduction of DWMP plans will drive a need for additional activities within our planning teams and we need to remain an intelligent client.

Our approach will ensure that South West Water is well positioned to deliver the new requirements under the DWMP framework and make appropriate use of the tools developed by the 21CDP – the Storm Overflow Assessment Framework, the Capacity Assessment Framework and the Wastewater Resilience Metrics and meet our duty to cooperate, share data and collaborate with other RMAs under the FWMA.

The DWMP framework provides a management structure that operates at Levels 1 and 2, drawing upon (and influencing) activities undertaken at Level 3.

Details of our Wastewater Investment Drivers can be seen in Appendix 1, and Appendix 2 shows our Stage 3 input for the Wastewater Resilience Metric.



Role of others and stakeholder engagement

We have already established effective partnerships and developed ways of working with others through the DST Programme. This allows us to share plans and pool budgets and expertise, to develop integrated models to understand the causes, and resolve the whole issue, not just part of it. Including:

- Streamlining and optimising our activities
- Reducing the bureaucratic burden and time
- Delivering more value for money through integrated solutions.

The work of Water UK’s 21CDP on developing the framework for DWMPs is a great step towards consistent and effective collaborative working. The content of these long-term plans will require exactly the kind of engagement and consultation with a range of organisations that will help foster greater partnership working and develop common goals and aims to meet future challenges.

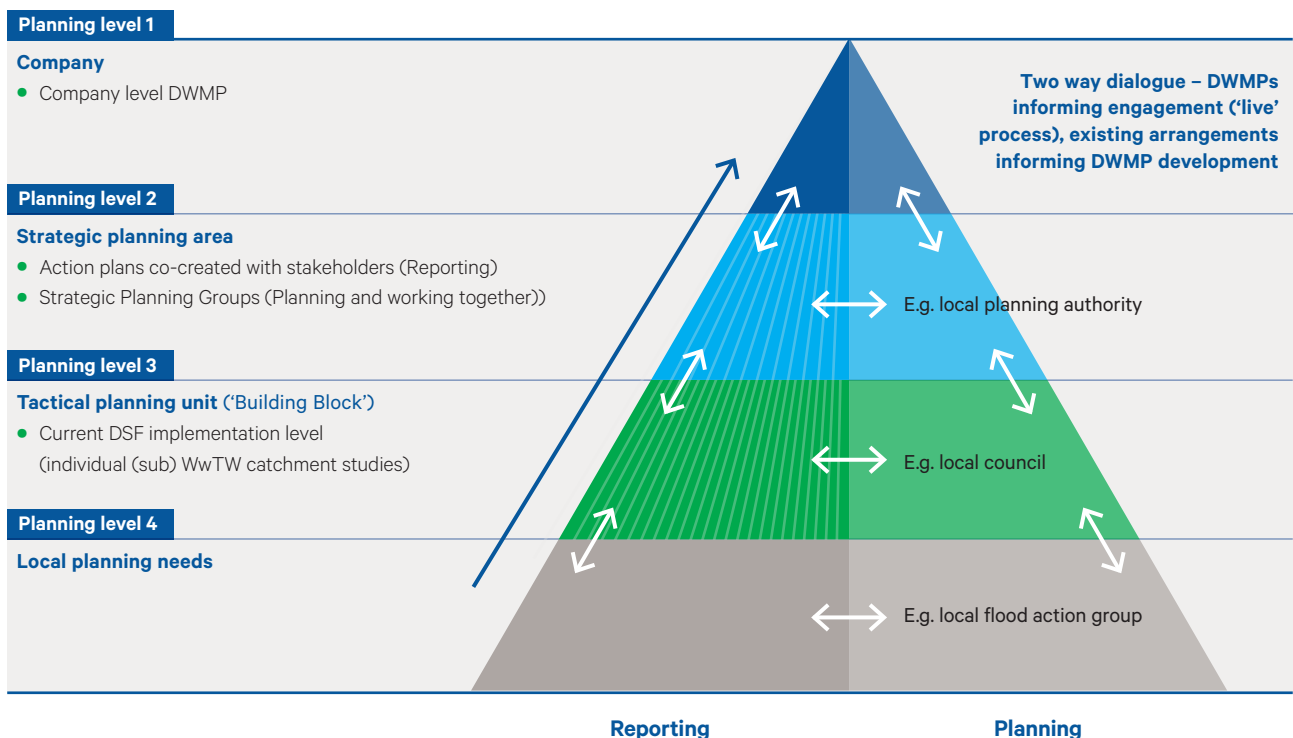
While the establishment of DWMP Level 2 management groups are aimed at driving early stakeholder and customer engagement it is acknowledged that further customer engagement will also be required across the whole DWMP process. South West Water will consider how this can be delivered efficiently and effectively.

South West Water will provide assurance to our customers and stakeholders that we are progressing with implementation of the DWMP process. All companies will need to consider the extent of assurance that would be appropriate and proportionate.

In the longer term, the DWMP framework has the potential to facilitate more integrated and holistic planning across organisational boundaries. In the short to medium term, it is clear that a more collaborative, shared planning approach coupled to an understanding of other RMA funding cycles is essential. Therefore, an early collaborative planning framework will be needed. We will consider how collaborative planning arrangements with other stakeholders could be delivered most effectively and efficiently. Where catchment plans are already at an advanced stage of option identification, this will be reflected in our PR19 Business Plans.

During the remainder of AMP6, we will be completing the DSF studies already underway and translating these into DWMP plans. We will be prioritising the 22 DWMP studies based upon risk and population. We are aiming to complete up to four DWMP studies ahead of 2020, then we would complete the remaining studies by 2023.

DWMP framework management structure: Working together



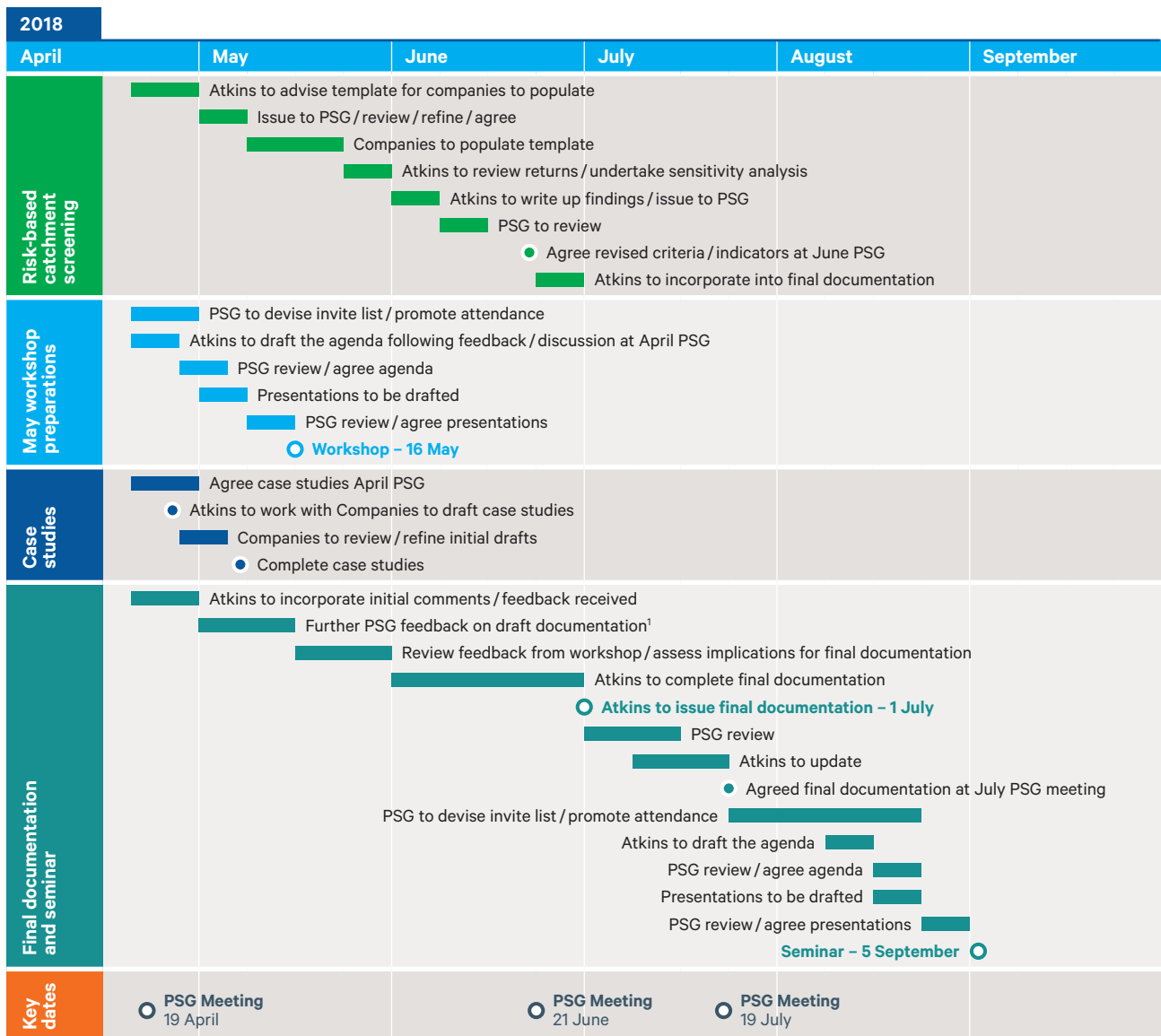
Appendices

What's next?

Water UK project underway to help define processes

The following deliverables will be / have been produced during the Water UK project:

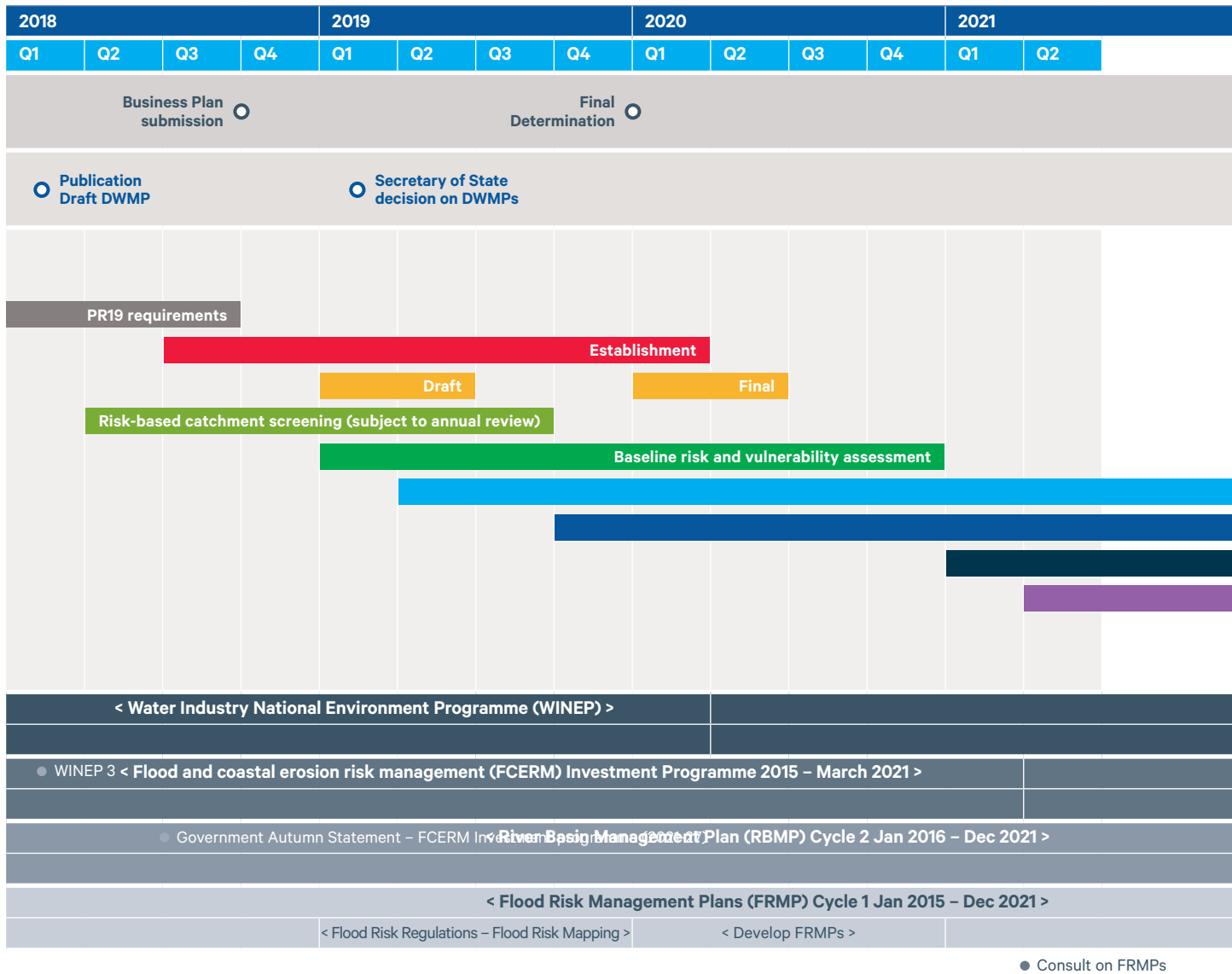
- A review of different approaches to drainage and wastewater long-term planning used by companies in England and Wales (including adherence to the DSF)
- An initial report on emerging themes for the methodology of future DWMPs, for companies to use as they finalise their PR19 Business Plans
- A long-term planning methodology for the production of DWMP plans that has broad support from the governments, regulators, WaSCs and consumer bodies in England and Wales
- A compendium of best practice methods and common assumptions for use in developing the plan.



¹ Expectation that substantive comments will have been previously received.

What's next? cont'd

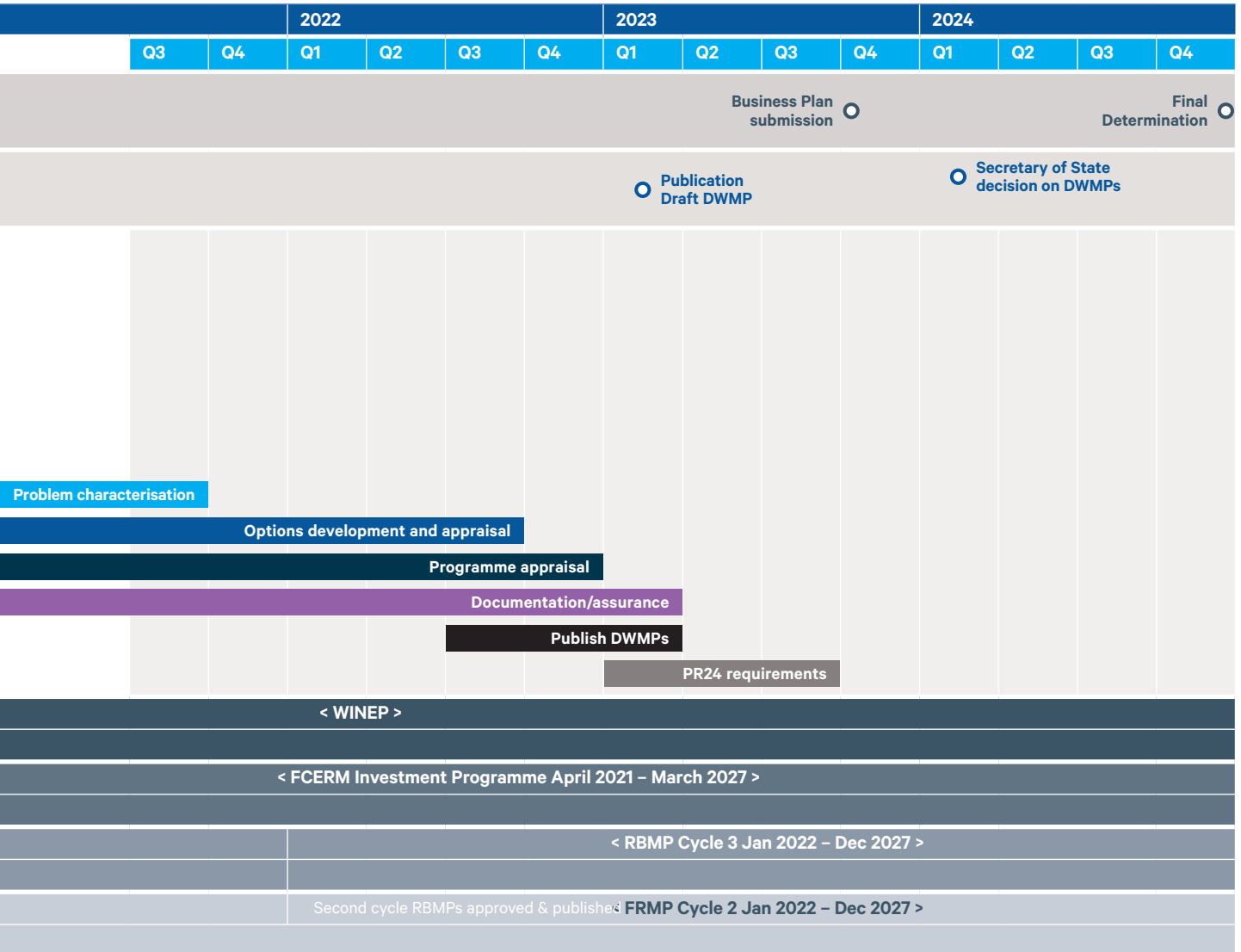
Indicative timeline for Price Review 2024 DWMP implementation



The above diagram provides an indicative timeline for the first cycle of DWMP implementation by WaSCs in England and Wales, within the context of the known, or anticipated, dates for other regulatory planning submissions. It is anticipated that the detailed timeline will vary between companies; all companies have committed to complete BRAVA assessments for all catchments by no later than the end of 2020, and to publish complete DWMP plans by no later than the end of 2022-23. For subsequent cycles of DWMP plans, the timeline may change.

It is expected that companies will publish their own specific timeline for the first cycle of implementation, by no later than the first quarter of the next planning period (2020-25). As a minimum, companies are expected to present timelines in a similar format to the indicative timeline (and using the same colour scheme, to aid comparison between companies). Where companies provide a more detailed timeline, information corresponding to the indicative timeline should be readily identifiable.

What's next? cont'd



● FRMPs published

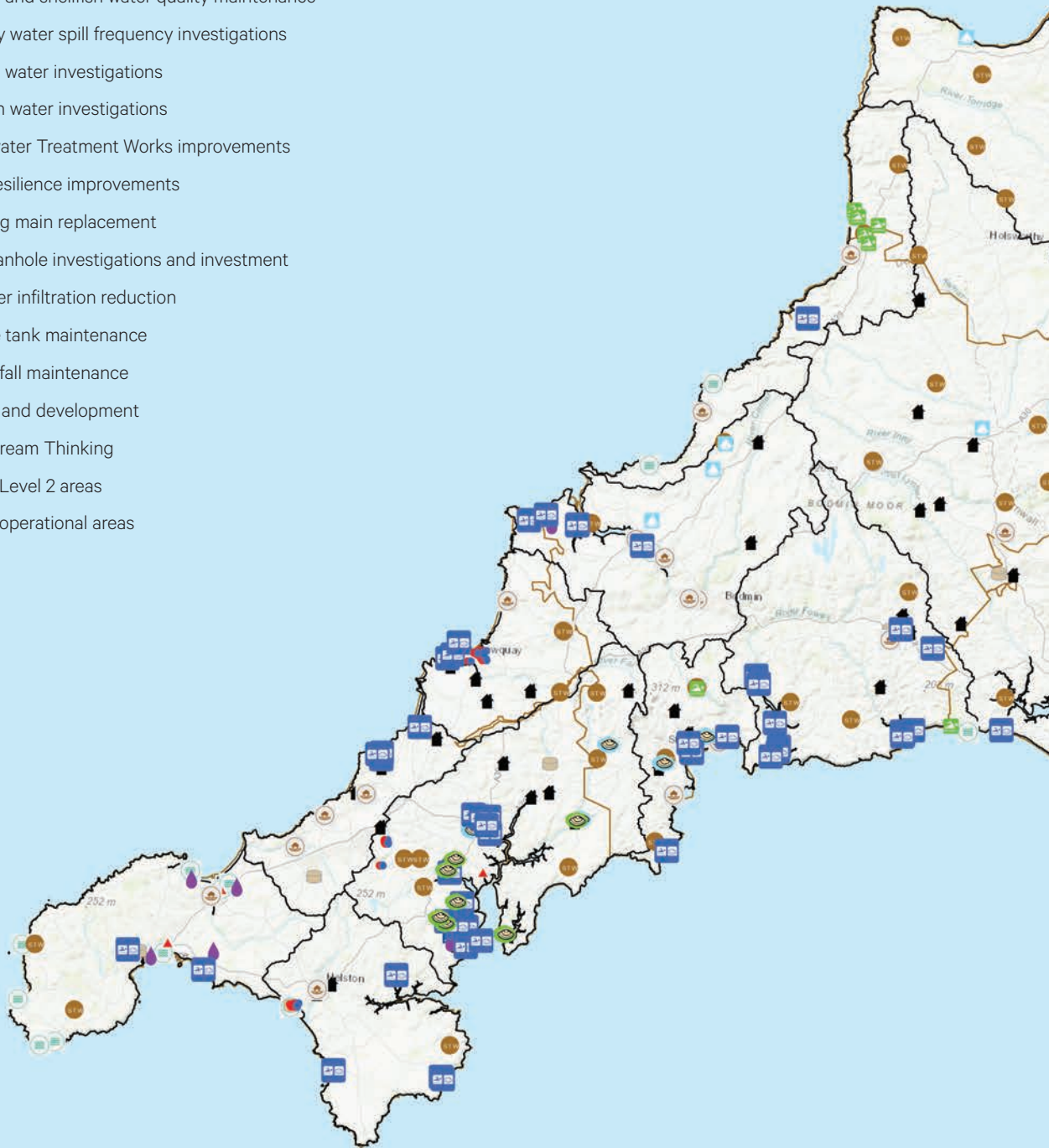
Note

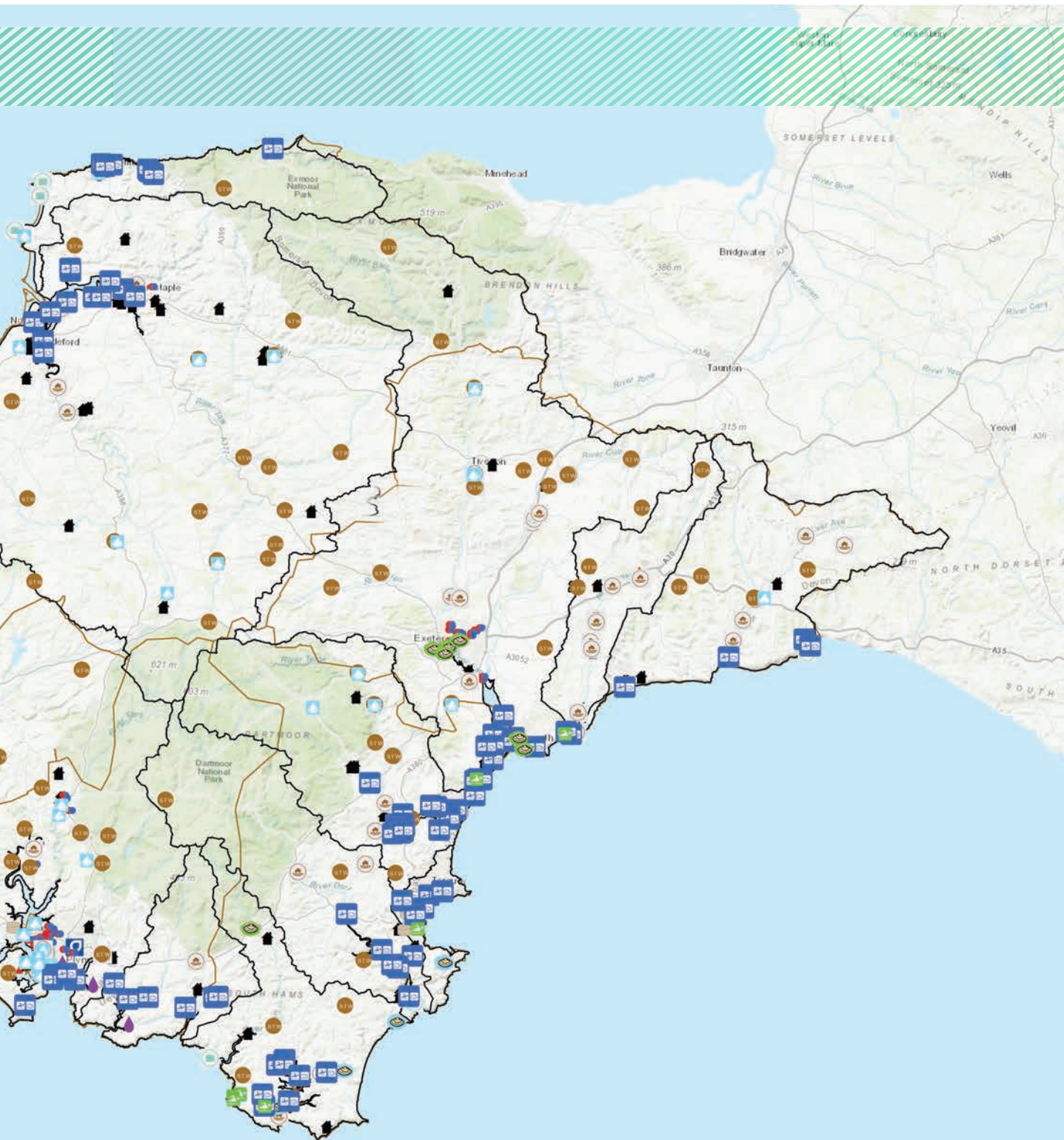
For implementation, programme complexity will increase due to prioritisation of Level 3/Level 2 activities, and differing timescales for process step completion across Level 3/Level 2 areas, which will result in a staggering of deliverables. End dates indicated represent those at which it is anticipated that all deliverables will be available for the stated activity, for this planning cycle.

Our wastewater investments

Legend

-  Bathing water quality improvements
-  Shellfish water quality improvements
-  Bathing and shellfish water quality maintenance
-  Amenity water spill frequency investigations
-  Bathing water investigations
-  Shellfish water investigations
-  Wastewater Treatment Works improvements
-  Flood resilience improvements
-  Pumping main replacement
-  Dual manhole investigations and investment
-  Seawater infiltration reduction
-  Storage tank maintenance
-  Sea outfall maintenance
-  Growth and development
-  Downstream Thinking
-  DWMP Level 2 areas
-  DWMP operational areas





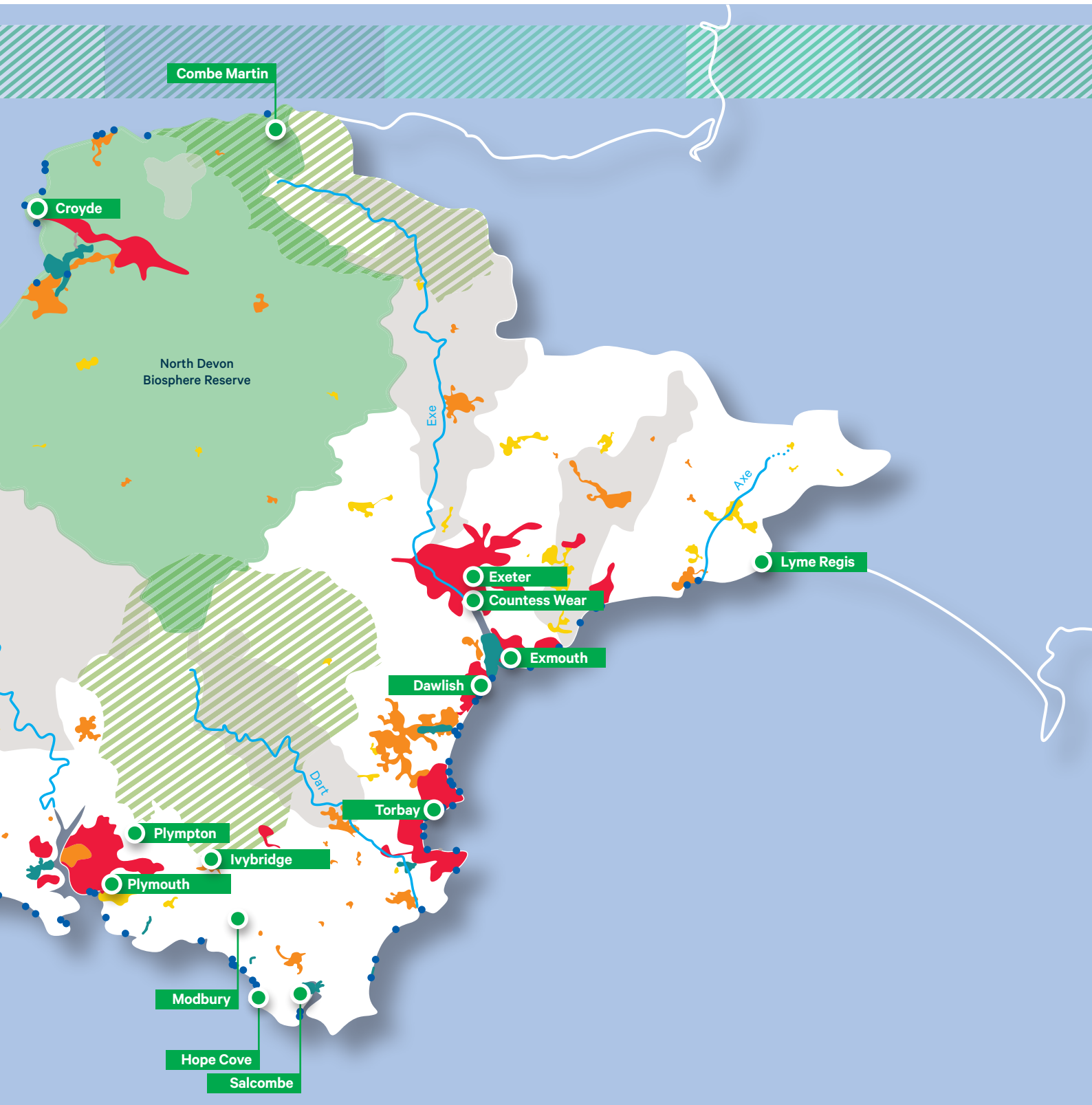
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors, and the GIS User Community.

Our wastewater resilience metrics

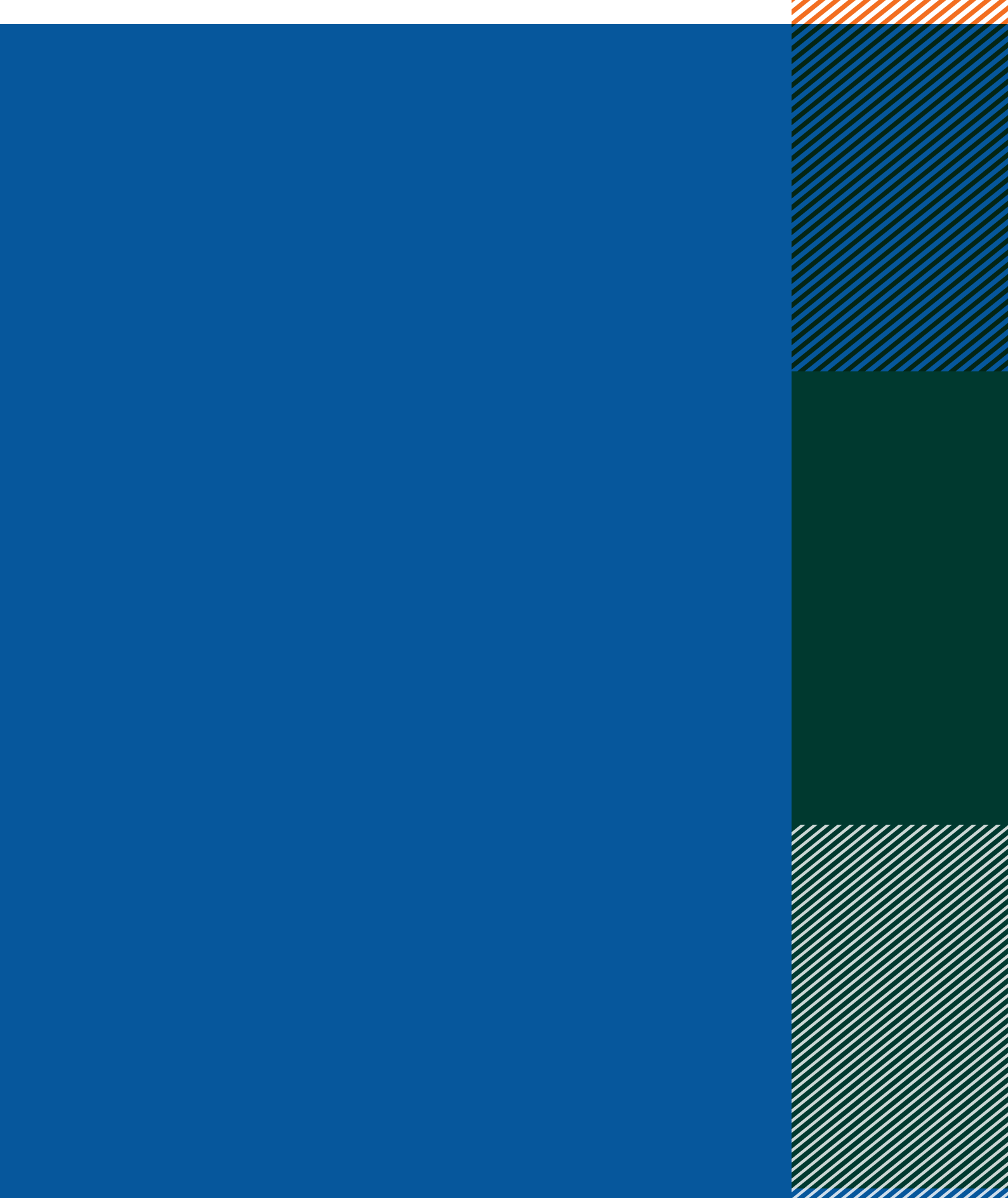
Water UK Wastewater Resilience Assessment Catchment Map and Operations Areas

- Bathing waters
- Shellfish waters
- Catchment management
- National parks
- Rivers
- Wastewater Treatment Works
- Vulnerability / Flood risk Grade 5
- Vulnerability / Flood risk Grade 4
- Vulnerability / Flood risk Grade 3





Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors, and the GIS User Community.



South West
Water