Drainage and Wastewater Management Plans (DWMPs)

Webinar on the BRAVA Risk Assessment Results

Date: 31 March 2021
Presented by: David Murphy

from Southern Water

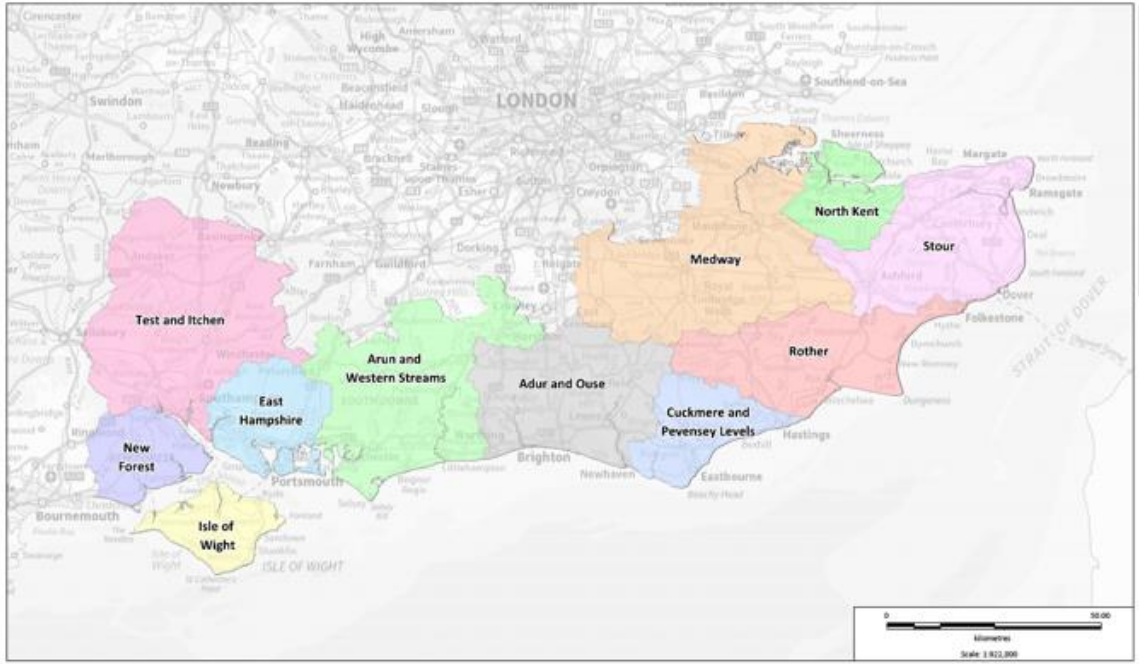
Purpose of this Webinar

- Provide an update on progress with our DWMP programme
- Share the results of the Baseline Risk and Vulnerability Assessment (BRAVA)
- Prepare for the Catchment Workshops in April and May 2021

Our DWMP Programme

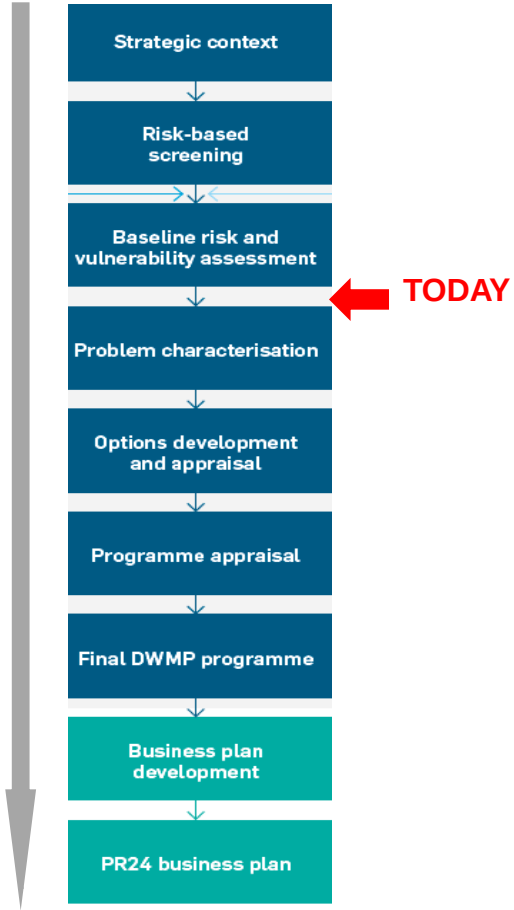
Where are we now?

Our DWMPs plans



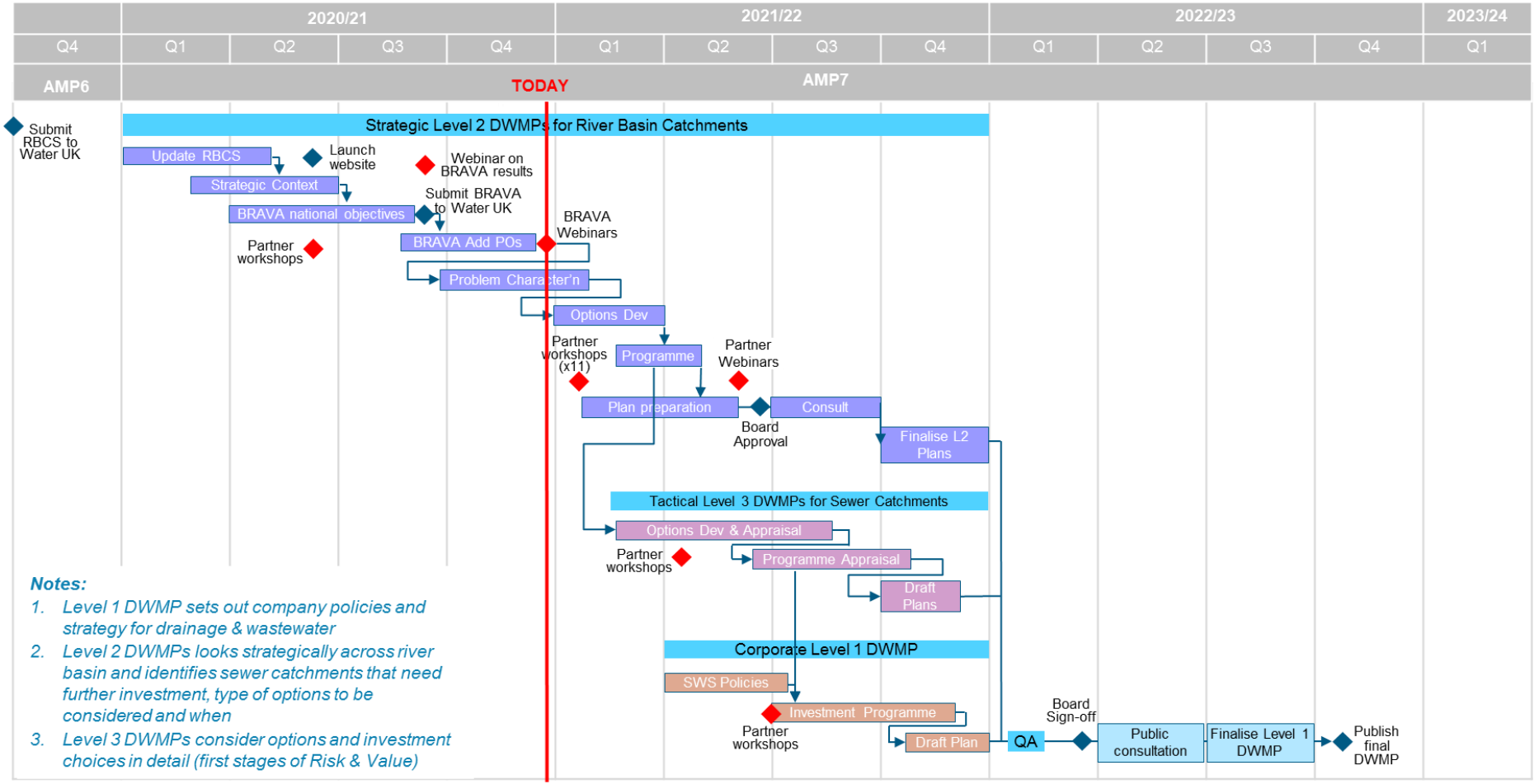
- Level 1 plan – for our operating area in the South-East
- Level 2 plans - for the 11 River Basin District catchments
- Level 3 plans – for 381 wastewater systems (catchments)

DWMP Process: Where are we now?



- Strategic Context – completed 30/9/2020
- Risk Based Catchment Screening – completed 31/08/2020
- BRAVA – complete 31/3/2021

DWMP High-Level Delivery Programme



Notes:

1. *Level 1 DWMP sets out company policies and strategy for drainage & wastewater*
2. *Level 2 DWMPs looks strategically across river basin and identifies sewer catchments that need further investment, type of options to be considered and when*
3. *Level 3 DWMPs consider options and investment choices in detail (first stages of Risk & Value)*

Baseline Risk and Vulnerability Assessment (BRAVA) Results

DWMP Planning Objectives

National objectives:

- Internal Sewer Flooding Risk
- Sewer Flooding 1 in 50 year storm
- Pollution Risk
- Storm Overflow Performance
- Risk of WTW Compliance (Quality)
- Sewer Collapse Risk

Our bespoke objectives:

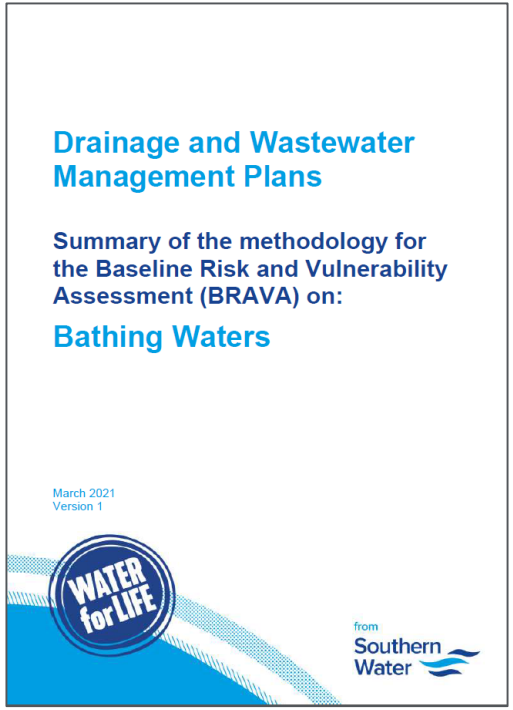
- Annualised flood risk (hydraulic overload)
- Risk of WTW Compliance (Dry Weather Flow)

Additional objectives:

- Secure nutrient neutrality
- Achieve Good Ecological Status / Potential
- Reduce groundwater pollution
- Improve Bathing Waters
- Improve Shellfish Water quality
- Improve surface water management

BRAVA – Our Approach

- Working with internal experts and external partners to develop a risk assessment method for the additional planning objectives
- Produced a summary of the methodology for each planning objective
- Publish the methodology and results on our website
- Webinar with partners to discuss the results



BRAVA: Risk Categories

Water UK Guidance on DWMPs requires the risk assessment results to be categorised into risk bands:

'Very Significant' (Score = 2)	The performance of the wastewater system is potentially below the minimum threshold set by a company, and indicates there is a risk that warrants more investigation in the Options Development & Appraisal stage of DWMP.
Moderately Significant (Score = 1)	The performance of the wastewater system appears to be borderline and therefore needs further investigation in the Options Development & Appraisal stage of DWMP.
Not significant (Score = 0)	The performance is not an issue or concern. Within a catchment there may be some localised issues which need to be addressed as part of 'business as usual' investment decisions. Priority does not need to be placed on this planning objective in the catchment.
'Not Flagged' (NF)	Denotes that the catchment was not identified (flagged) for progression to the BRAVA stage
'Not Applicable' (NA)	Denotes that a planning objective is not relevant to the catchment (for example, where a catchment has no storm overflows).

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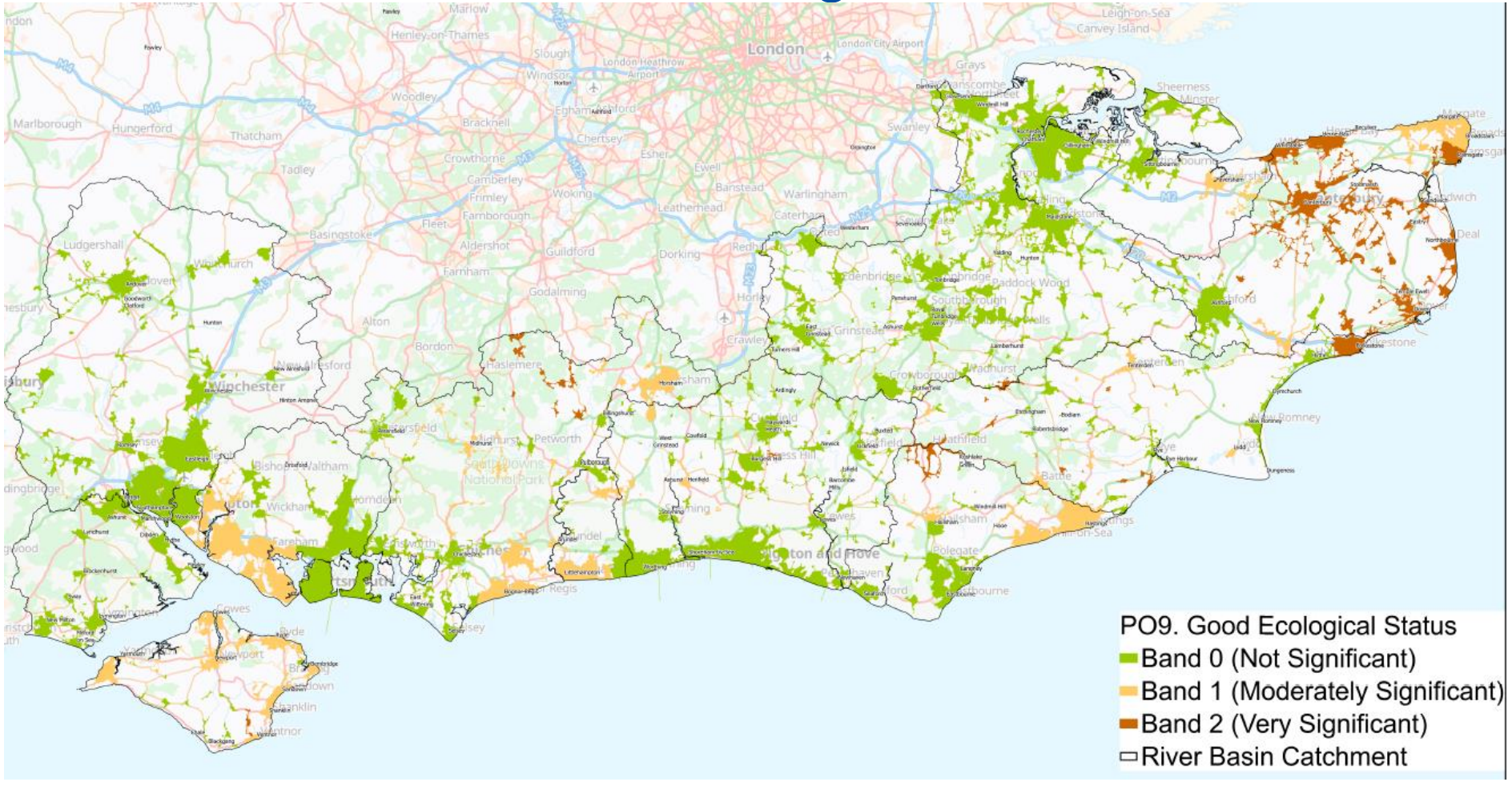
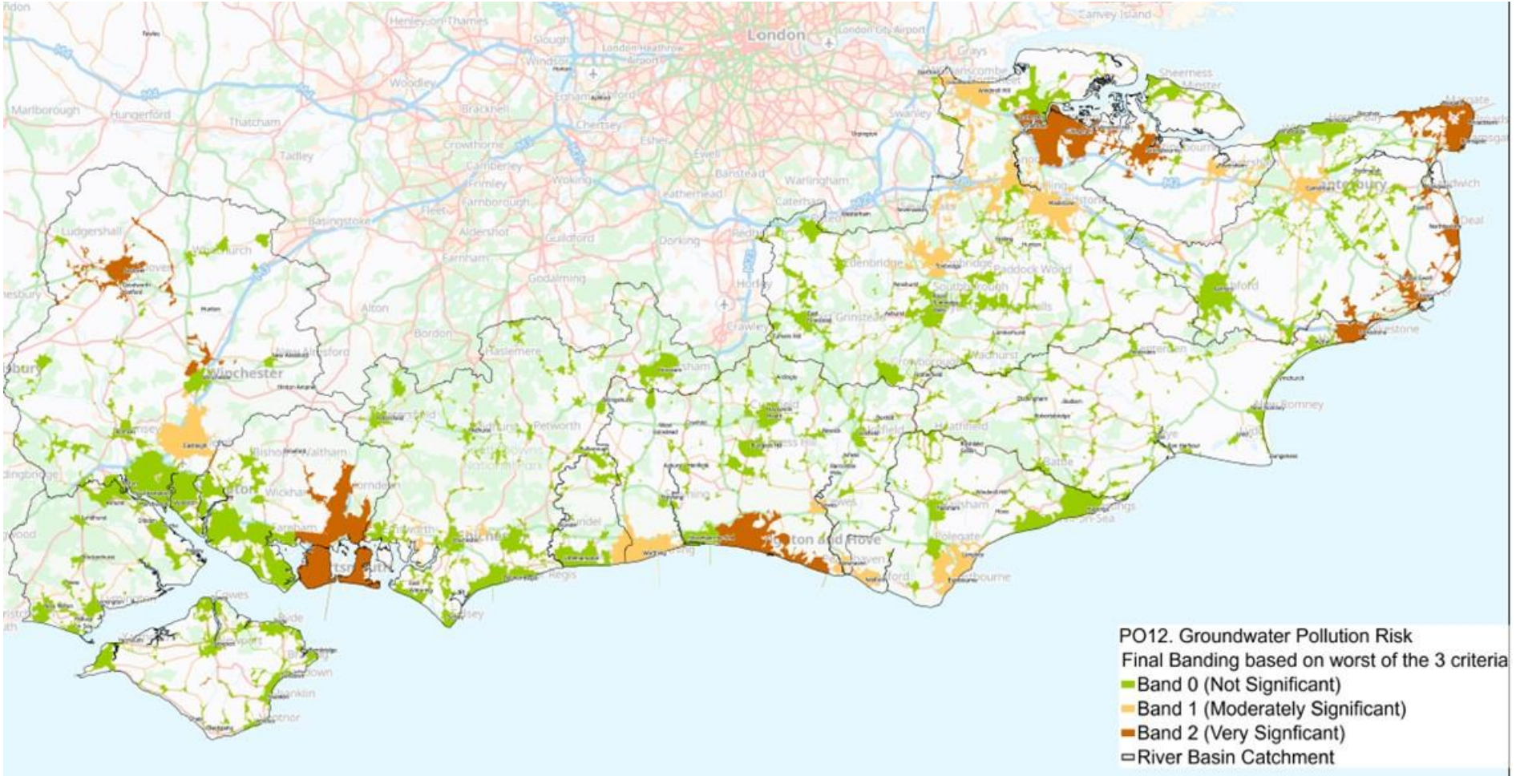
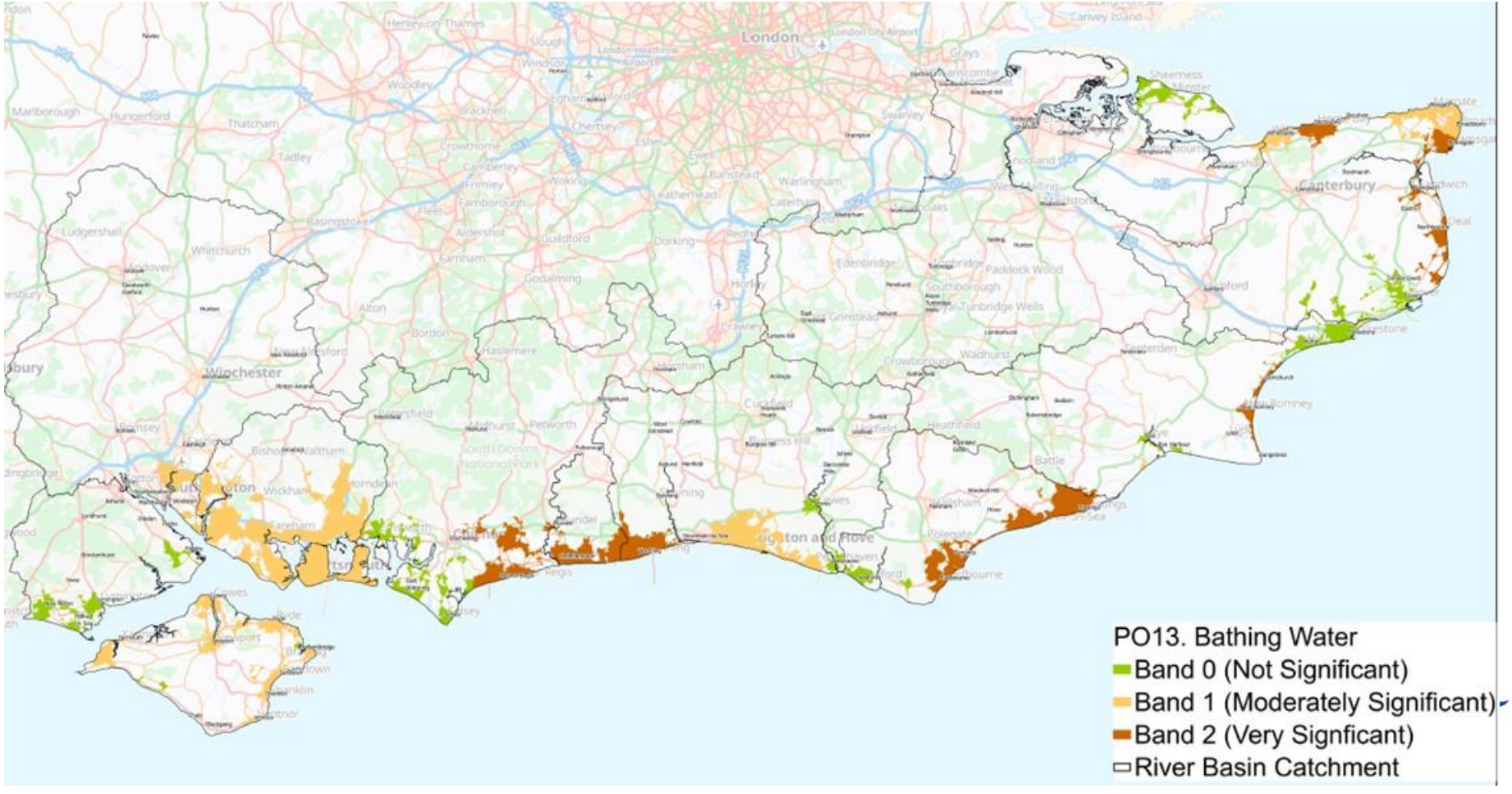
BRAVA Results – Good Ecological Status / Potential



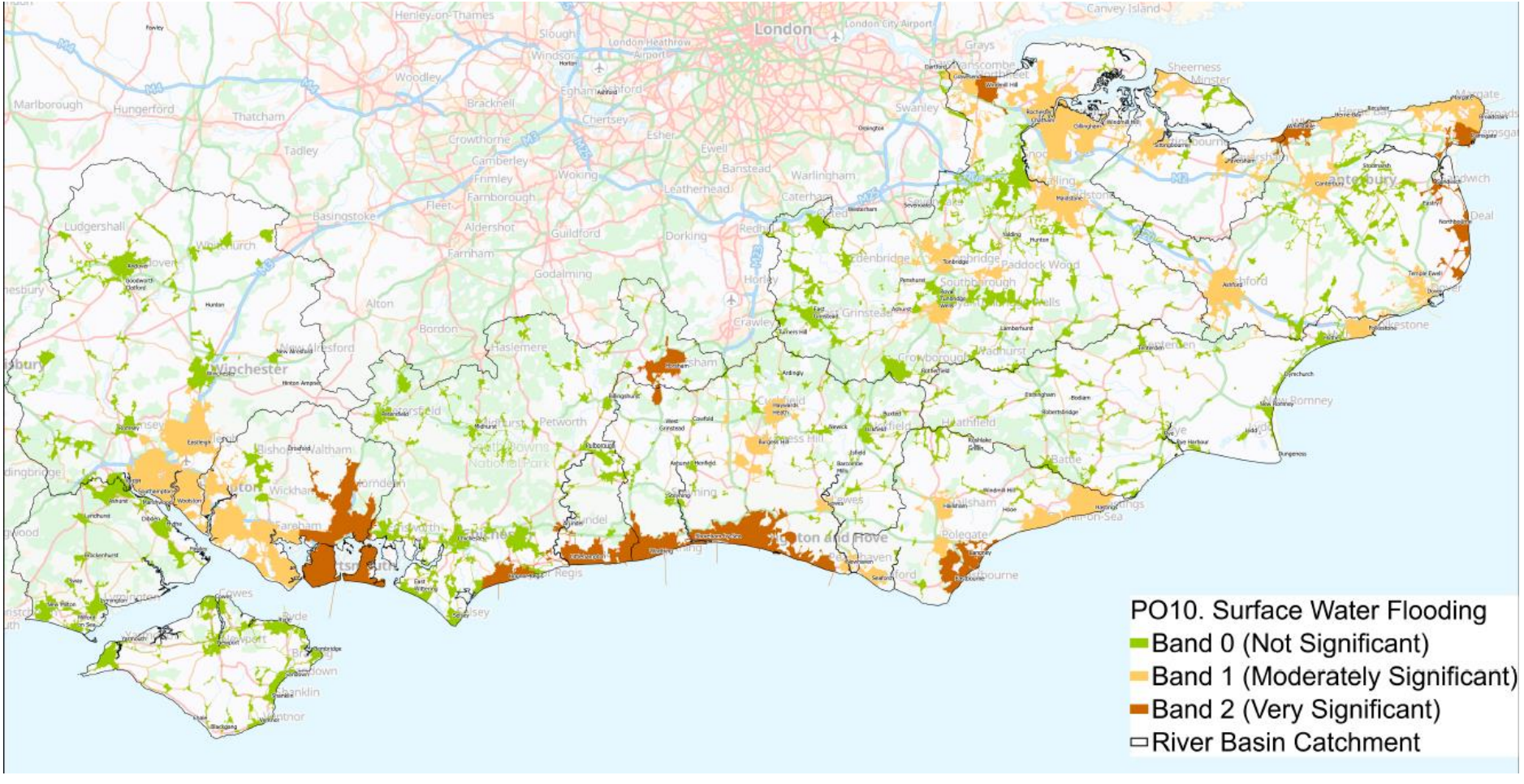
BRAVA Results – Groundwater Pollution



BRAVA Results – Bathing Waters



BRAVA Results – Surface Water



BRAVA Results: Test & Itchen River Basin Catchment

Wastewater Catchment Reference	Wastewater Catchment Reference	Population Equivalent	Sewer Length (KM)	Planning Objective																		
				Internal Sewer Flooding Risk	Pollution Risk	Sewer Collapse Risk	Risk of Sewer Flooding in a 1 in 50 year storm		Storm Overflow performance		Risk of WTW Compliance Failure		Risk of flooding due to Hydraulic Overload		Dry Weather Flow Compliance		Good Ecological Status / Potential	Surface Water Management	Nutrient Neutrality		Groundwater Pollution	Bathing Waters	Shellfish Waters
				2020	2020	2020	2020	2050	2020	2050	2020	2050	2020	2050	2020	2050	2020	2020	2020	2050	2020	2020	2020
ALRE	NEW ALRESFORD	5,878	48.990	0	0	0	1	1	0	0	0	0	2	2	0	0	0	0	1	1	0	NA	NA
ASBC	BARN CLOSE ASHMANSWORTH	20	0.160	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF
BAST	BARTON STACEY	3,437	56.935	2	2	0	2	2	NA	NA	0	1	2	2	0	1	0	0	0	1	2	NA	NA
BROK	CANTERTON LANE BROOK	51	0.345	0	0	0	0	0	NA	NA	2	2	0	0	0	0	0	0	2	2	0	NA	NA
CHEA	CHICKENHALL EASTLEIGH	97,014	922.026	1	1	0	1	1	1	1	0	0	1	1	0	1	0	1	0	0	1	NA	0
CHIL	CHILBOLTON	1,231	12.703	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	NA	NA
DUNB	DUNBRIDGE	107	1.041	0	0	0	0	0	NA	NA	0	0	0	0	0	0	0	0	0	0	0	NA	NA
EAGR	EAST GRATTON	1,009	1.274	0	0	0	0	0	NA	NA	0	0	0	0	0	0	0	0	0	0	0	NA	NA
EGRI	EAST GRIMSTEAD	3,147	61.737	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	NA	NA
EVAN	EVANS CLOSE OVER WALLOP	516	-	0	0	0	0	0	NA	NA	0	2	0	0	0	0	0	0	0	0	0	NA	NA
FULL	FULLERTON	55,810	360.434	0	2	0	0	0	0	0	0	1	0	0	1	2	0	0	0	0	2	NA	NA
GRAE	GRAEMAR COTTAGES	99	-	0	0	0	0	0	NA	NA	0	0	0	0	0	0	0	0	0	0	0	NA	NA
HANN	HANNINGTON	56	-	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF
HARE	HARESTOCK	18,094	140.185	0	2	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	2	NA	NA
KISO	KINGS SOMBORNE	2,342	38.597	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	NA	NA
LUDG	LUDGERSHALL	4,396	30.663	0	0	0	2	2	NA	NA	0	0	0	1	0	1	0	0	NA	NA	0	NA	NA
MILL	MILLBROOK	140,442	1,089.551	1	0	0	1	1	2	2	0	0	1	1	0	1	0	1	2	2	0	NA	2
MORE	MORESTEAD ROAD WINCHESTER	39,351	228.536	1	1	0	1	1	0	0	0	0	1	2	0	1	0	0	1	1	0	NA	NA
NWAL	NORTH WALTHAM	886	5.687	0	0	0	0	0	NA	NA	0	0	0	0	0	0	0	0	0	0	0	NA	NA
OAID	IVY DOWN LANE OAKLEY	5,163	37.145	0	0	0	2	2	NA	NA	0	0	0	0	0	1	0	0	0	0	0	NA	NA
OVER	OVERTON	4,704	39.433	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	NA	NA
POOD	PORTSWOOD	79,637	585.150	1	2	0	1	1	2	2	1	1	1	2	0	0	0	1	2	2	0	NA	0
REDL	REDLYNCH	855	15.398	0	0	0	0	0	2	2	0	1	1	1	1	1	0	0	0	1	0	NA	NA
ROMS	ROMSEY	19,056	209.598	1	0	0	0	0	0	0	0	2	1	1	0	0	0	0	0	0	0	NA	0
SACL	SADDLERS CLOSE SUTTON SCOTNEY	50	0.751	0	0	0	0	0	NA	NA	2	2	0	0	0	0	0	0	0	0	0	NA	NA
STOC	STOCKBRIDGE	824	13.166	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	NA	0
WELL	WEST WELLOW	4,715	80.712	0	1	0	1	1	2	2	0	0	2	2	0	0	0	0	2	2	0	NA	0
WHIT	WHITCHURCH	4,934	32.167	0	0	0	2	2	0	0	0	2	2	2	0	0	0	0	0	0	0	NA	NA
WHTP	WHITEPARISH	1,102	16.144	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	NA	NA
WOOL	WOOLSTON	68,457	534.664	1	1	1	2	2	2	2	0	0	2	2	0	0	0	1	2	2	0	NA	2
SHBE	SHIPTON BELLINGER	1,475	7.502	0	0	0	0	0	NA	NA	0	0	0	0	0	0	0	0	0	0	0	NA	NA

Key	
NF	Not Flagged *
NA	Not Applicable **
0	Not Significant
1	Moderately Significant
2	Very Significant

* Wastewater systems that did not proceed to BRAVA

** No issues relevant to planning objectve within Wastewater System

DWMP Scorecard – BRAVA Risk Assessment

PO1: Internal Sewer Flooding

N/A	0
0	281
1	36
2	18

PO2: Pollution

N/A	0
0	249
1	32
2	54

PO3: Sewer Collapse

N/A	0
0	297
1	11
2	27

PO4: Sewer Flooding 1 in 50yr Storm

N/A	0
0	205
1	89
2	41

PO5: Storm Overflows

N/A	95
0	114
1	44
2	82

PO6: WTW Quality Compliance

N/A	0
0	255
1	46
2	34

PO7: Hydraulic Overload

N/A	0
0	206
1	86
2	43

PO8: WTW DWF Compliance

N/A	4
0	287
1	36
2	8

PO9: GES / GEP

N/A	0
0	254
1	47
2	34

PO10: Surface Water Management

N/A	0
0	299
1	26
2	10

PO11: Nutrient Neutrality

N/A	126
0	153
1	26
2	30

PO12: Groundwater Pollution

N/A	0
0	310
1	14
2	11

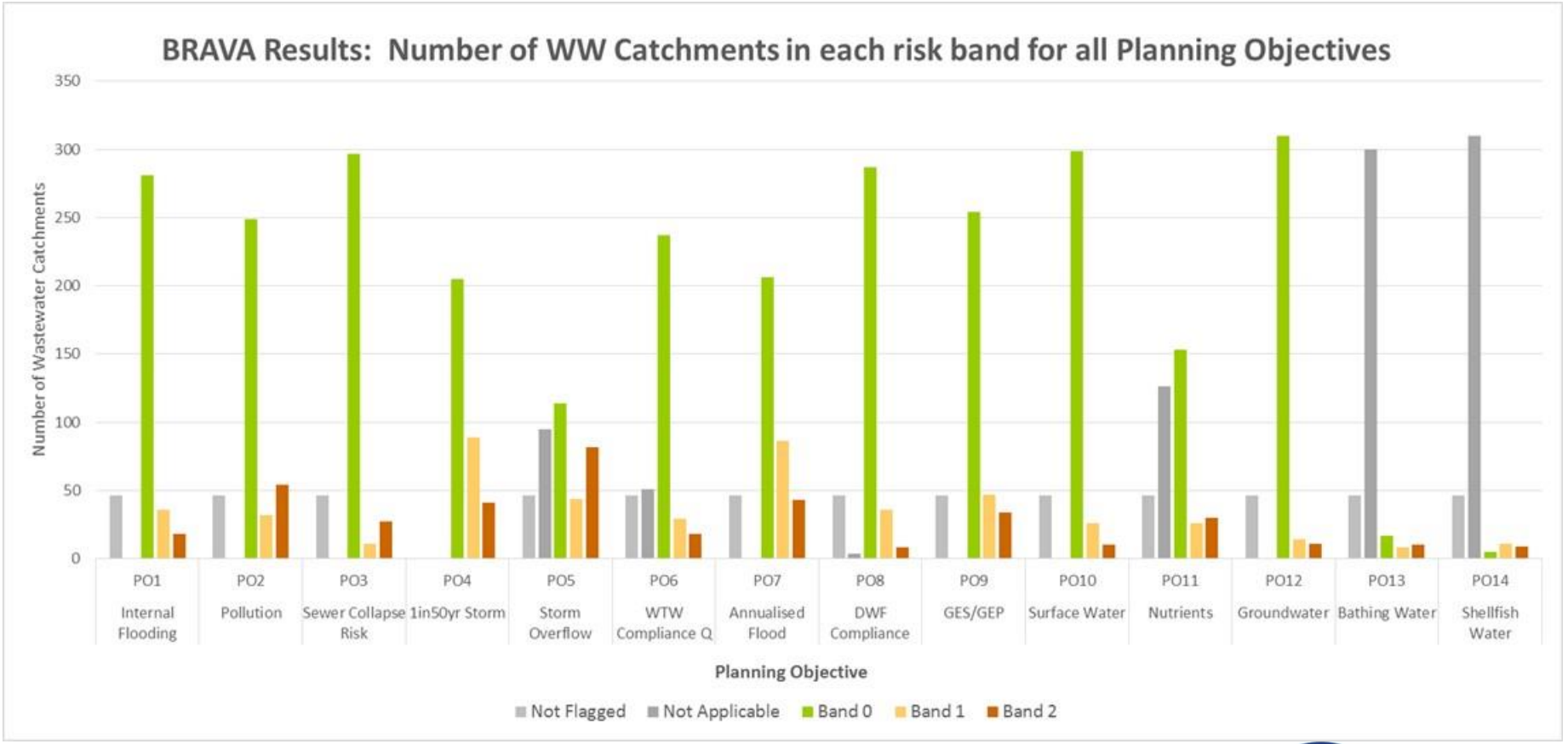
PO13: Bathing Waters

N/A	300
0	17
1	8
2	10

PO14: Shellfish Waters

N/A	310
0	5
1	11
2	9

Note: 46 wastewater systems/catchments were “not flagged” in the RBCS and so did not progress forwards to the BRAVA stage of the DWMPs so are not included in these figures


BRAVA Results: Number of WW Catchments in each risk band for all Planning Objectives
Number of Wastewater Catchments
350
300
250
200
150
100
50
0
PO1 Internal Flooding
PO2 Pollution
PO3 Sewer Collapse Risk
PO4 1in50yr Storm
PO5 Storm Overflow
PO6 WTW Compliance Q
PO7 Annualised Flood
PO8 DWF Compliance
PO9 GES/GEP
PO10 Surface Water
PO11 Nutrients
PO12 Groundwater
PO13 Bathing Water
PO14 Shellfish Water
Planning Objective
Not Flagged
Not Applicable
Band 0
Band 1
Band 2

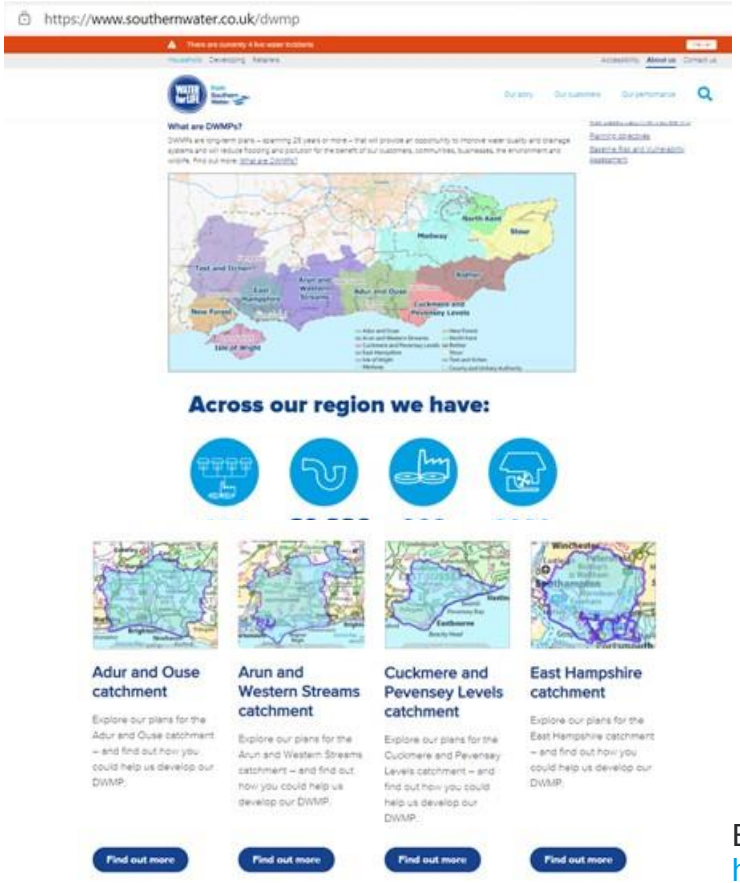
What are the BRAVA Results telling us?

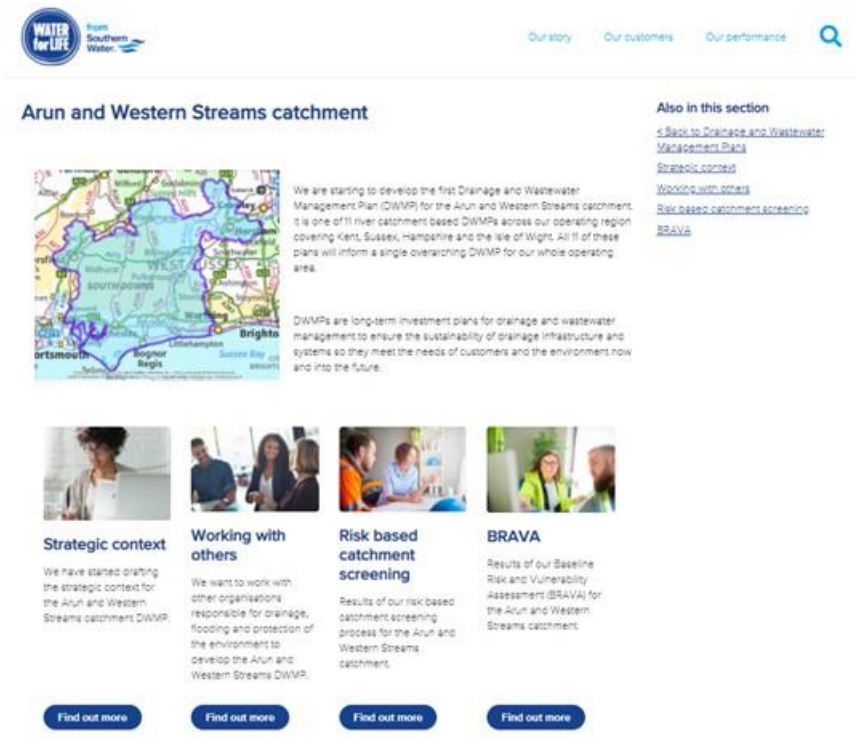
- The highest number of planning objectives in band 2 for any wastewater catchment is 7. These are: Sandown, Swalecliffe and Weatherlees Hill
- Budds Farm is the only catchment with six of the planning objectives in band 2
- 196 wastewater catchments have at least 1 planning objective in band 2
- 82 wastewater catchments are in band 2 for Storm Overflows
- 113 catchments only have planning objectives in band 0

Number of Planning Objectives in Band 2 (out of 14)	Number of catchments
1	94
2	48
3	28
4	16
5	6
6	1
7	3

Our Website

www.southernwater.co.uk/dwmp





BRAVA background and methodologies: https://www.southernwater.co.uk/dwmp/baseline-risk-and-vulnerability-assessment

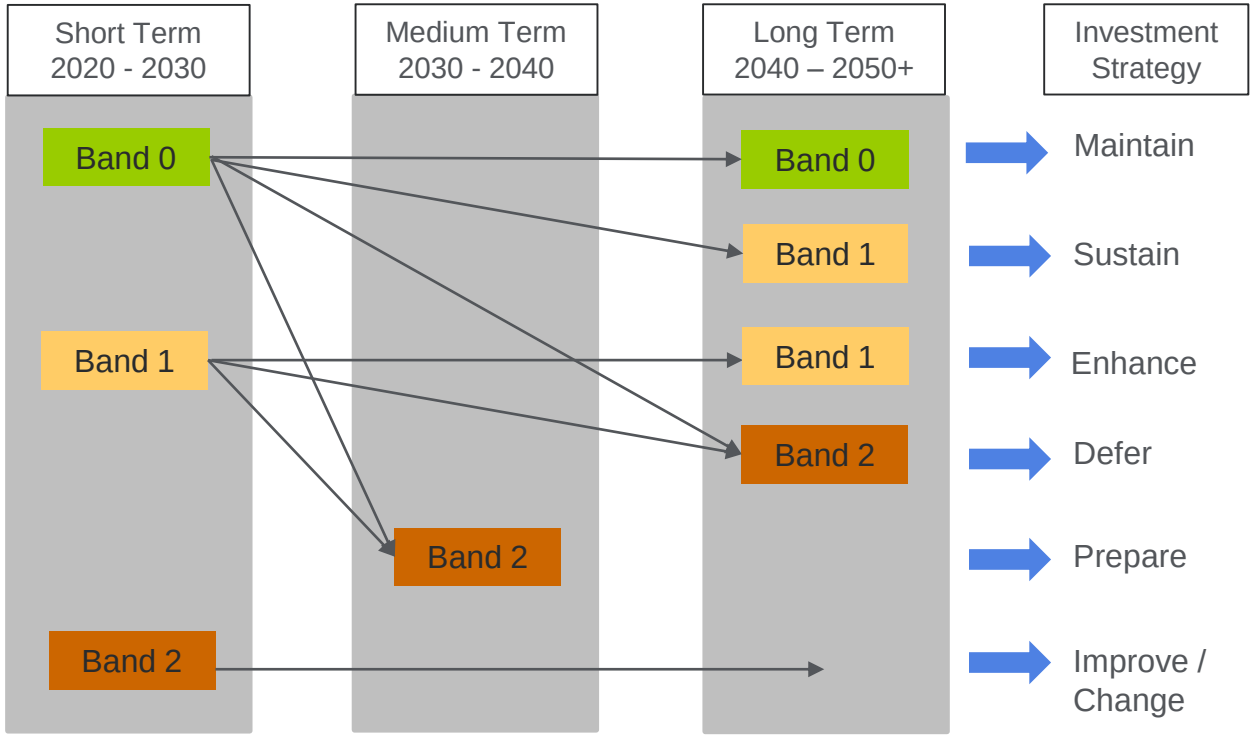
Next Steps

DWMP Spring 2021 Workshops

We are hosting a second series of river basin catchment workshops

Workshop Date	Time	Where
Monday 26 April	13:30 – 16:30	Stour
Tuesday 27 April	13:30 – 16:30	Isle of Wight
Wednesday 28 April	13:30 – 16:30	East Hampshire
Thursday 29 April	09:30 – 12:30	Medway
Monday 10 May	13:30 – 16:30	North Kent
Tuesday 11 May	13:30 – 16:30	Arun and Western Streams
Wednesday 12 May	13:30 – 16:30	New Forest
Thursday 13 May	09:30 – 12:30	Cuckmere and Pevensey Levels
Tuesday 18 May	13:30 – 16:30	Adur and Ouse
Wednesday 19 May	13:30 – 16:30	Rother
Thursday 20 May	09:30 – 12:30	Test and Itchen

Determining our Investment Strategies



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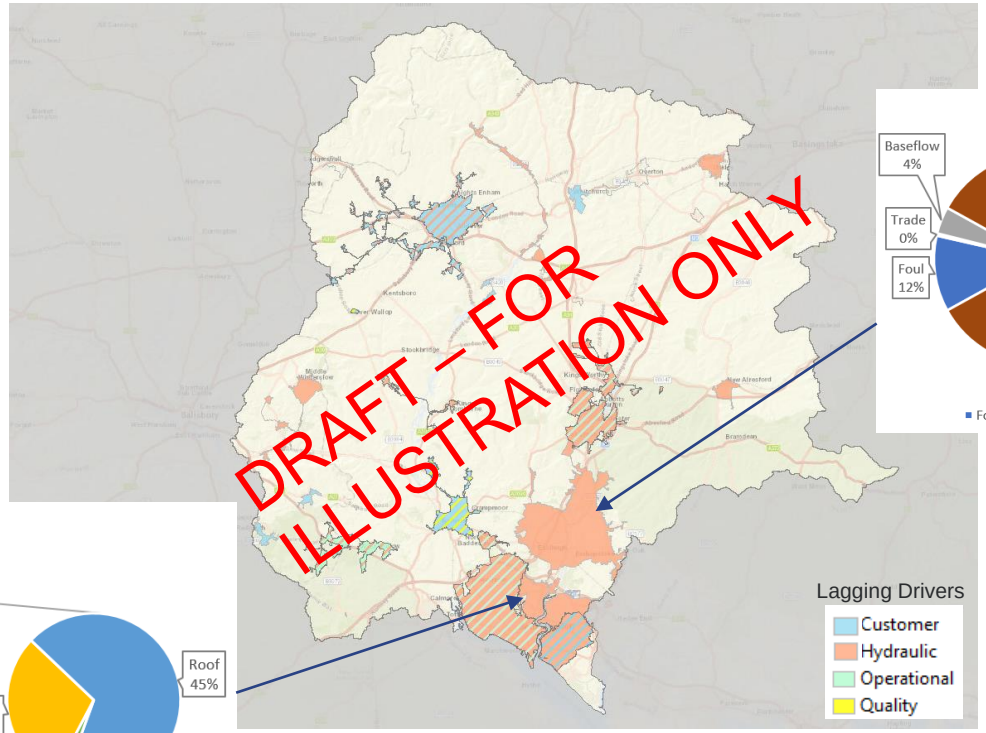
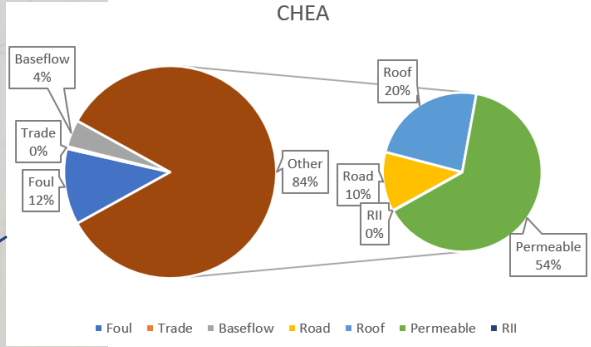
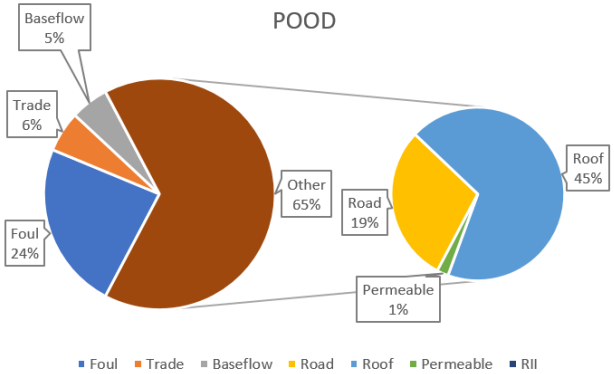
Problem Characterisation: Causes & Drivers of Risk

Test & Itchen River Basin Catchment







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Identifying Generic Options

Type of Measures	Level 2 planning: Generic Option Categories
Source (Demand) Measures (to reduce likelihood)	Control / **Reduce surface water** entering sewers
	Control / **Reduce groundwater infiltration**
	Improve quality of wastewater entering sewers (inc reducing FOG, RAG, pre-treatment, trade waste)
	Manage the **quantity / flow of wastewater** entering sewer system
Pathway (Supply) Measures (to reduce likelihood)	**Network Improvements** (e.g. increase capacity, storage, conveyance, operation)
	Improve treatment (capacity and quality at existing works or develop new WTWs)
	Wastewater **Transfer**
Receptor Measures (to reduce consequences)	Mitigate impacts on Air Quality (e.g. Carbon neutrality, noise, odour)
	Improve Land and Soils
	Mitigate impacts on Water Quality
	Reduce impact on properties (e.g. Property Flood Resilience)

Example of DWMP for River Basin Catchments (Level 2)

Generic Options	
Surface water separation	
Reduce **groundwater infiltration**	
Improve quality of wastewater	
Manage the **quantity / flow of wastewater**	
Network Improvements	
Improve treatment	
Wastewater **Transfer**	
Mitigate impacts on Air Quality	
Improve Land and Soils	
Mitigate impacts on Water Quality	
Reduce impact on properties	

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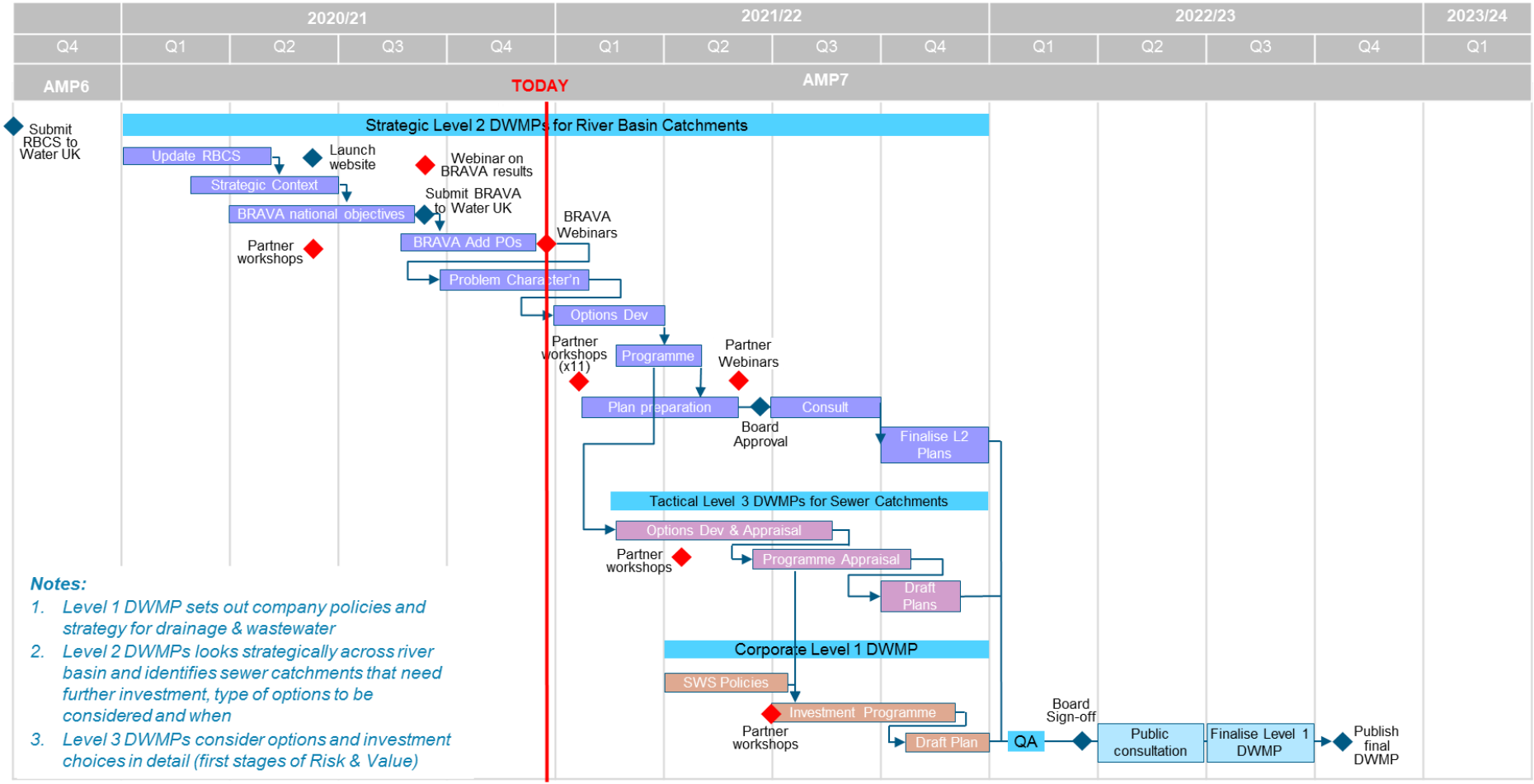
DWMP High-Level Delivery Programme



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Summary

Summary

- RBCS, Strategic Context and BRAVA stages now complete
- 14 Planning Objectives and associated BRAVA (risk assessments)
- All results are on website: www.southernwater.co.uk/dwmp
- Next stage is the Problem Characterisation and Options Development (level 2 planning)
- Workshops in April / May will enable us to co-create our investment strategies and generic options
- 196 wastewater catchments need improvements in performance – these will be our focus for Level 3 planning

Questions?

Drainage and Wastewater Management Plans (DWMPs)

Webinar on the BRAVA Risk Assessment Results

Website: www.southernwater.co.uk/dwmp

Contact us: DWMP@southernwater.co.uk

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