

Drainage and Wastewater Management Plans (DWMPs)

Investment Needs Workshop for the New Forest River
Basin Catchment

Thursday 10 March 2022



from
**Southern
Water** 

The logo graphic for Southern Water, featuring three stylized blue waves of varying lengths, positioned to the right of the text.

Agenda

1. Welcome and Purpose
2. Presentation: Investment Planning Process
3. Review of Investment Needs
4. Programme Appraisal
5. Delivering the DWMP Investment Needs
6. Next steps

Welcome and Purpose



Our Journey So Far ...



Purpose of Today's Workshop

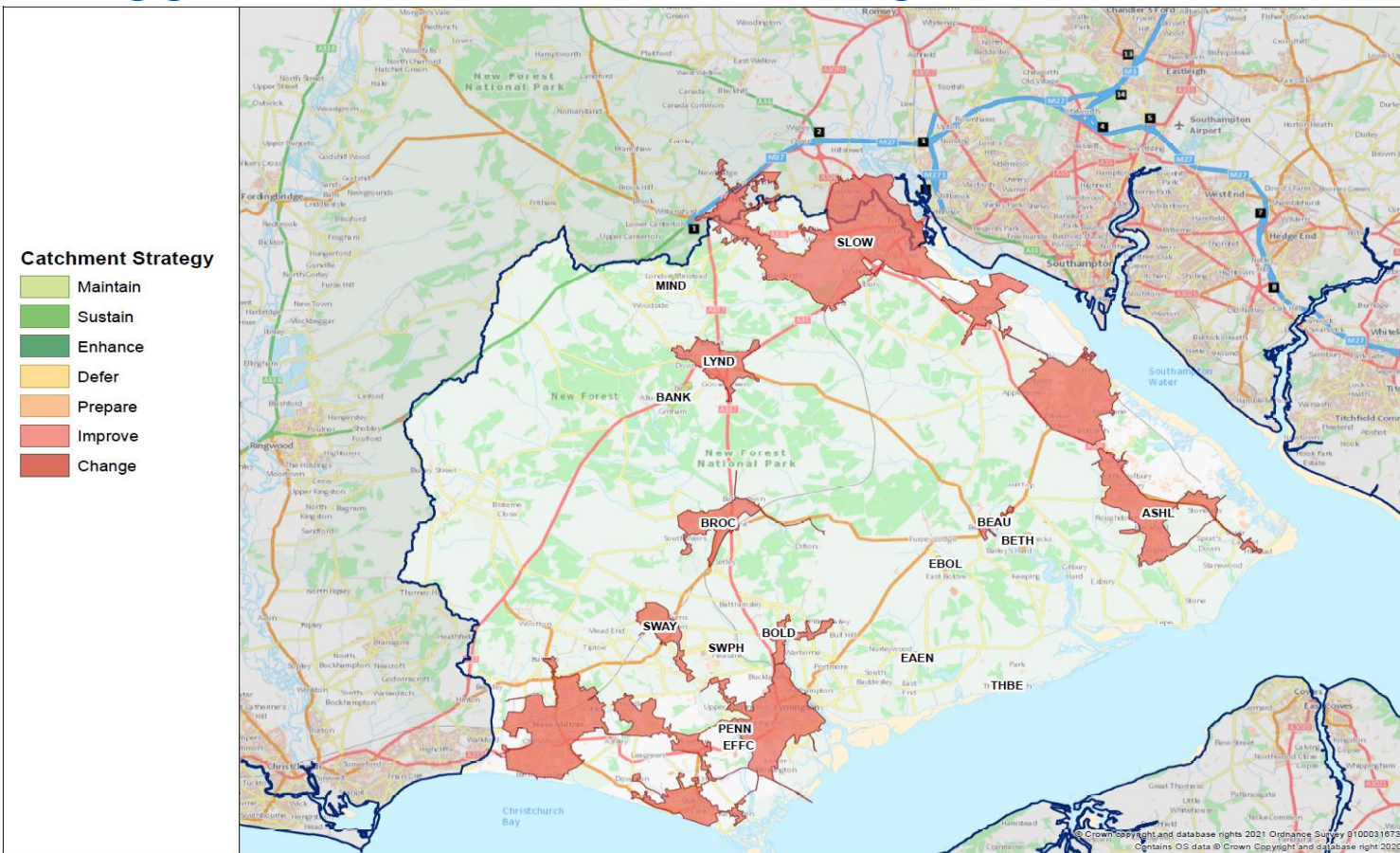
Our aim today is to:

- Discuss and refine the investment needs identified in the draft DWMP
- Flag any missing investment needs
- Discuss prioritisation and timing for investment needs
- Review opportunities to co-create and co-deliver solutions
- Look at total investment needs across the river basin

Presentation: Investment Planning



Suggested Catchment Strategies: New Forest



- 16 sewer catchments
- 16 WTWs
- 138 WPS
- 1142 km sewers
- 11% area
- 92% homes connected



BRAVA Results: New Forest River Basin Catchment

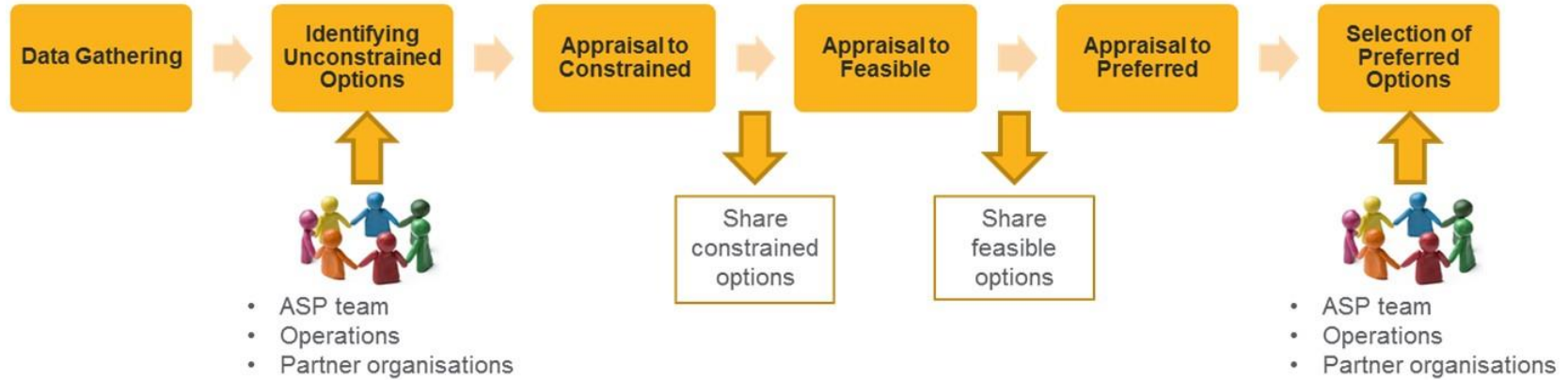
Catchment Reference	Wastewater Catchment Reference	Population Equivalent	Planning Objective														
			Internal Sewer Flooding Risk	Pollution Risk	Sewer Collapse Risk	Risk of Sewer Flooding in a 1 in 50 year storm	Storm Overflow performance	Risk of WTW Compliance Failure	Risk of flooding due to Hydraulic Overload	Dry Weather Flow Compliance	Good Ecological Status / Potential	Surface Water Management	Nutrient Neutrality	Groundwater Pollution	Bathing Waters	Shellfish Waters	
ASHL	ASHLETT CREEK FAWLEY	14,544	0	0	0	0	1	0	0	0	0	0	0	2	0	0	1
BANK	BANK	113	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF
BEAU	BEAULIEU VILLAGE	175	0	1	0	0	2	0	0	0	0	0	0	1	0	NA	2
BETH	BEAULIEU HUMMICKS	75	0	0	0	0	NA	NA	0	0	0	0	0	1	0	NA	NA
BOLD	BOLDRE	635	0	0	0	0	2	0	0	2	0	0	0	1	0	NA	NA
BROC	BROCKENHURST	3,783	0	0	0	1	2	0	0	0	0	0	0	2	0	NA	NA
EAEN	EAST END	138	0	0	0	0	NA	NA	0	0	0	0	0	1	0	NA	NA
EBOL	EAST BOLDRE	441	0	0	0	0	2	0	0	0	0	0	0	1	0	NA	NA
EFFC	EFFORD FARM COTTAGES LYMINGTON	40	0	0	0	0	NA	NA	0	0	0	0	0	1	0	NA	NA
LYND	LYNDHURST	3,558	0	0	0	1	2	0	1	0	0	0	0	2	0	NA	NA
MIND	MINSTEAD	85	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF
PENN	PENNINGTON	50,697	0	1	0	0	2	0	0	1	0	0	0	2	0	0	NA
SLOW	SLOWHILL COPSE MARCHWOOD	63,155	1	2	2	0	2	0	1	0	0	0	0	2	0	NA	2
SWAY	FLEXFORD LANE SWAY	2,618	0	0	0	1	2	0	0	0	0	0	0	2	0	NA	NA
SWPH	PASSFORD HOUSE SWAY	28	0	0	0	0	NA	NA	0	0	0	0	0	1	0	NA	NA
THBE	THORNS BEACH	22	0	0	0	0	NA	NA	0	0	0	0	0	1	0	NA	NA

Results shown for 2020 only

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



Decision making and option development



New Forest River Basin :

Unconstrained Option Development meetings held on:

- | | | | |
|------------------------|--------------|----------------------------|-------------------|
| • Ashlett Creek Fawley | 21 Sept 2021 | • Pennington | 21 September 2021 |
| • Brockenhurst | 21 Sept 2021 | • Slowhill Copse Marchwood | 08 September 2021 |
| • Lyndhurst | 21 Sept 2021 | | |



Options Development Process

Unconstrained Options

Source
Pathway
Receptor

Location of Risk	Description of Risk	Unconstrained Option	Option Description	Option Referral	GO Out	L4 Area	Source of the UO
Source Demand Measures							
Control/Reduce surface water entering the sewers							
CHICHESTER WTW Overflow	PO5 - Sewer Overflows Bathing Water 2020 Spilling CSD (also above in-land river spilling threshold) Spill Volume - Xm3	Surface Water Separation	Surface Water Removal (40%) will reduce the total predicted flood volume by 77%.	CHIC.SC01 1	Yes	Chichester WTW and Catchment Wide	EDM data via BRAVA POS Hydraulic Model Data
Pathway (Supply) Measures							
Network Improvements							
CHIC FC01 Summersdale Road	PO4 and PO5 - Growth Projected population for CHIC catchment by 2040: 35550 Development population for CHIC catchment by 2040: 2402 Number of houses to be completed by 2040 at CHIC catchment: 100	Upsizing	Growth solutions developed for the DAP have not been assessed for suitability. Potential erroneous data includes, but is not limited to, developments completed since DAP, change of connection location and development size. The DAP model has a confidence score of 2 and was last verified in 2014 The key risks between DAP and DvMMP models are: model network used, rainfall, ground infiltration and levels files applied Option solution: Upsize pipes	CHIC.Pw01 4	Yes		DAP Option Position statement: CHICGR001 Option 1 Plan 11
Receptor Measures							
Mitigate impacts on Water Quality							
CHICHESTER WTW	PO11 - Nutrient Neutrality Chichester and Langstone Harbours, Solent and Dorest Coast, Solent Maritime	River enhancement and mitigation	Reduce consented permit levels for nutrients and solids in the final effluent from treatment works. This would have to be undertaken in agreement with the Environment Agency.	CHIC.RC03 1	Yes	CHICHESTER WTW	
Other							
Study/ investigation to gather more data							
Chichester and Langstone Harbours, Solent and Dorest Coast, Solent Maritime	PO11 - Nutrient Neutrality Chichester and Langstone Harbours, Solent and Dorest Coast, Solent Maritime (Include reason for Banding)	Nutrient Budget for investigations.	Study/ investigation required to understand the impact of wastewater discharges and achieve or prevent deterioration from Natural England's revised Common Standards Monitoring Guidance (CSMG) targets Total Phosphorus (TP) and Total Nitrogen (TN) on the Chichester and Langstone Harbours, Solent and Dorest Coast and Solent Maritime.	CHIC.OT01 2	Yes	Catchment Wide	Natural England supplied 'Water Dependent Habitat Sites' Table via BRAVA PO11

Options identified by:

Technical Team

Previous plans and modelling (e.g. Drainage Area Plans)

Our staff and partners

All options identify the BRAVA
Planning Objective risk they address

(this is an extract of the table)

Options Development Process

Benefits Screening

Multi-criteria sustainability appraisal of potential benefits – enables screening and selection of ‘best benefit’ options

Location of Risk	Description of Risk	Constrained Option	Option Description	Option Reference #	Option Category	Date Start	Date End	Duration (Years)	Feasibility and Risk					Engineering and Cost		Performance and Sustainability			Operational	Sectoral/Strategic Environmental Assessment										Carry Over to Feasible Screening Assessment	Test in Stakeholder	Justification for Rejection	Optimise Specific Comments OR Reason for Rejection			
									Dependencies	Planned and Required	Engineering Complexity	Materials and Resources	Investment	Certainty of Outcome	Flexibility to Adapt	Resilience	Public and Skills to Operate and Maintain	Air	Biodiversity, Flora & Fauna	Historic Environment	Landscapes	Salt	Water	Climate Factors	Population & Human Health	Material Assets										
Source Demand Reduction																																				
	Control floodwater surface water entering the sewer			OH0.S001	Yes																															
	Control floodwater groundwater infiltration			OH0.S002	No																													Reducing groundwater levels would reduce the risk from infiltration		
	Improve quality of wastewater entering sewer (micro-bio, TOC, BOD, pre-treatment, trade waste)			OH0.S003	Yes																															
	Chickster City Centre, Fyreside Quay, St James Road, Strathfield Road and Victoria Avenue	P01-Internal Flooding TPO of internal flooding incidents caused by blockage (OH from 2016/17)	Customer Education Programme	Targets education programme in house incident events to reduce the risk. Liaison with the 'TOP' Team.	OH0.S003.1	SEP 2016	Start Time		Minor Positive	Neutral	Minor Positive	Moderate Positive	Minor Positive	Neutral	Moderate Positive	Neutral	Minor Positive	Neutral	Minor Positive	Neutral	Minor Positive	Neutral	Minor Positive	Neutral	Minor Positive	Neutral	Minor Positive	Neutral	Minor Positive	Neutral	Minor Positive	Neutral	Minor Positive	Neutral	Minor Positive	Major potential benefit from completion to improve quality of wastewater and reduce internal flooding - positive design (no Ops)
	Control floodwater the quantity of floodwater entering sewer system			OH0.S004	Yes																															
	Clontarf Wtd	P01-DRIP DRY WEATHER FLOW S004-1 Key removal to reduce the volume below 100mm	Water Efficient Appliances / Metering	Southern Water aims to reduce water consumption to 100 MLD by 2040. This is an exciting campaign. If this is achieved by 2019 there will be a stream of 100Mld Key below 100 at the Victoria DWP works.	OH0.S004.1	DWP 2016/17	Start Time		Minor Positive	Minor Positive	Minor Positive	Minor Positive	Minor Positive	Minor Positive	Minor Positive	Minor Positive	Minor Positive	Minor Positive	Minor Positive	Minor Positive	Minor Positive	Minor Positive	Minor Positive	Minor Positive	Minor Positive	Minor Positive	Minor Positive	Minor Positive	Minor Positive	Minor Positive	Minor Positive	Minor Positive	Minor Positive	Minor Positive	Minor Positive	Major potential water efficiency climate for DWP compliance risk and create additional capacity in network

Carry forward constrained options

Appraises constrained options for the five areas identified by the national DWMP framework:

- 1) Feasibility and Risk (2 Questions)
- 2) Engineering and Cost (2 Questions)
- 3) Performance and Sustainability (3 Questions)
- 4) Operational (1 Question)
- 5) Environmental (9 questions, aligned to WRMP & SEA)

Options with more than two Minor Negatives (--) or one Major Negative (---) are screened out.

All other options pass to Feasible Option stage for costing

DWMP Appraisal Criteria	Datasets/ Key Themes	Effect	Description
Feasibility and Risk Dependencies	-Permission for access to land -Need to work in partnership -Dependent upon others taking action (e.g. customers) -Dependent upon other actions / projects being completed	+++	Major Positive
		++	Moderate Positive
		+	Minor Positive
		0	Neutral
		-	Minor Negative
		---	Moderate Negative
---	Major Negative		
?	Uncertain		

Extract from Criteria

Scoring of options uses a +++/ --- approach and includes guidance on interpretation for each appraisal criteria



Options Development Process

Feasible Options to Preferred Options

DWMP Data Tables

FEASIBLE OPTION 1	
Drainage Area/Catchment	CHIC - Chichester
Strategic Need	PO5 - Storm Overflow Performance, PO13 - Improve Bathing Water Quality, PO14 - Improve Shellfish Water Quality
DWMP Option Reference	Option Title
CHIC PW01.3	CHIC FC09 - CHICHESTER WTW - Storage
DAP Option Reference	
Scheme Builder Reference	
OPTION DESCRIPTION (include location and main operational features)	
The option is located upstream of CHICHESTER WTW	
The main operational features are: Offline storage of 6539m3 required to achieve a 3 spill 2020 solution Offline storage of 2290m3 required to achieve a 3 spill 2050 solution Offline storage of 13836m3 required to achieve a 10 spill 2020 solution Offline storage of 10736m3 required to achieve a 10 spill 2050 solution Offline storage of 7873m3 required to achieve a 20 spill 2020 solution Offline storage of 4284m3 required to achieve a 20 spill 2050 solution	
SCHEMATIC	
OS map, sewer records (asset miner), general location of storage (Sophie)	
LINKS/ DEPENDENCIES TO OTHER OPTIONS	
No	
SOLUTION RISKS	
The model has a Low risk DAP confidence score of 2 and was last verified in 2014. For the DAP vs DWMP assessment there have been 4 modelling elements deemed to be of a higher risk. The key risks between the DAP and DWMP models are Models Used, FEH Rainfall Used, GI File Used, Levels Applied mAD.	
There is an acceptable confidence between spill frequency measured by EDM sensor and model data. Therefore, further investigation into data quality is recommended.	
SOLUTION BENEFITS	
The solution addresses all the planning objectives mentioned in the strategic need.	

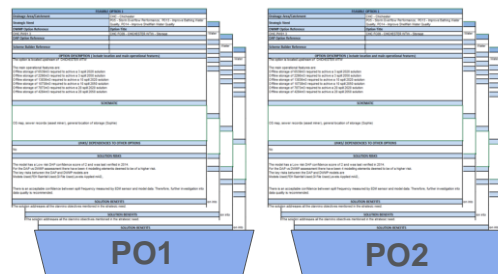
Each Wastewater System may have multiple feasible options.

Some Options may:

- address multiple BRAVA risks
- need to be combined to fully mitigate a BRAVA risk

“Preferred Options” are best value options

“Baskets of Measures” are created for the preferred option where more than one feasible option is required to reduce the risk for a planning objective to band 0



Outputs from Options Development Stage

- Table of Investment Needs for the Wastewater Catchment
- Each Investment Need assessed in terms of risk band reduction

Location	Issues	Option	Indicative Cost	Indicative Timescale	Potential Partners

Definitions:

- Location: Specific known location of the risk e.g. hotspot, high spilling CSO
- Issues: Description of the issue the option is tackling e.g. flooding
- Indicative Cost: Our initial estimate of the investment needed to deliver the option
- Indicative Timescale: Based upon when the risk occurs (now or in the future)
- Potential Partners: Opportunities to work with others



Investment Needs – Pennington (PENN)

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No	Ref	Location	Issues	Option	Indicative Cost	Indicative Timescale	Potential Partners
1	PENN.PW0 1.12	Peters Lane New Milton WPS	Pollution Risk	Enhanced maintenance: Review operation and maintenance of Peters Lane New Milton pumping station to improve resilience	£250k	Short	
2	PENN.PW0 1.13	Holly Lane Ashely WPS	Pollution Risk	Enhanced maintenance: Review operation and maintenance of Holly Lane Ashely pumping station to improve resilience	£250k	Short	
3	PENN.OT01 .9	Catchment wide	Storm Overflows, Flooding	Study / Investigation: Update and re-verify the Pennington Hydraulic Model to improve model confidence	£225k	Short to Medium	NFDC NFNPA
4	PENN.PW0 1.2	Lymington	Pollution Risk	Study / Investigation: Identify suitable location/s in Lymington for sewer relining to prevent saline intrusion (update hydraulic model)	£TBC	Short to Medium	
5	PENN.PW0 1.1	Catchment wide	Storm Overflows, Flooding	Study / Investigation: Identify suitable location/s for surface water separation in the Pennington catchment (update hydraulic model)	£TBC	Medium	NFDC NFNCP
6	PENN.PW0 1.8	School Ln & Lymore Valley	Flooding	Upsize 67m of existing sewer to 675mm diameter sewer	£80k	Short	
7	PENN.PW0 1.9	Ashely Common Road	Flooding	Upsize 455m of existing sewer to 375mm diameter	£400k	Short	
8	PENN.PW0 1.10	Beechwood Avenue and Marley Avenue	Flooding	Upsize 728m of existing sewer to 525mm diameter	£600k	Short	
9	PENN.PW0 1.11	Milford Rd Pennington WTW	Flooding	Install 256m3 of storage	£650k	Short	
10	PENN.PW0 1.15	High Street Lymington CSO	Storm Overflow	Surface water separation to reduce spills from High Street Lymington storm overflow (average costs provided for storage tank but sustainable drainage solutions preferred)	~£1000k	Short to Medium	
11	PENN.PW0 1.16	Lymore CSO	Storm Overflow	Surface water separation to reduce spills from Lymore storm overflow (average costs provided for storage tank but sustainable drainage solutions preferred)	~£1000k	Short to Medium	
12	PENN.OT01 .5	Becton Lane Barton on Sea CSO	Storm Overflow	Surface water separation to reduce spills from Becton Lane Barton on Sea storm overflow (average costs provided for storage tank but sustainable drainage solutions preferred)	~£1000k	Short to Medium	
13	PENN.OT01 .6	Lymington Slipway Pennington CSO	Storm Overflow	Surface water separation to reduce spills from Lymington Slipway Pennington storm overflow (average costs provided for storage tank but sustainable drainage solutions preferred)	~£1000k	Short to Medium	
14	PENN.PW0 1.17	Milford Road Pennington WTW CSO	Storm Overflow	Surface water separation to reduce spills from Milford Road Pennington WTW storm overflow (average costs provided for storage tank but sustainable drainage solutions preferred)	~£1000k	Short to Medium	
15	PENN.PW0 2.6	Pennington WTW	Growth	Increase capacity of the Wastewater Treatment Works (WTW). Optimisation or extension of site to allow for the extra 3200m3 DWF required due to growth in catchment	£2500k	Medium	EA
16	PENN.OT01 .10	Solent and Dorset Coast, & Solent and Southampton Water	Nutrients	Study / Investigation: Develop a nutrient budget and investigate the risks and sources impacting these named Habitat sites	~£76k	Short	NFDC NFNPA NE

Investment Needs – Slowhill Copse Marchwood (SLOW)

DRAFT

No	Ref	Location	Issues	Option	Indicative Cost	Indicative Timescale	Potential Partners
1	SLOW.S C01.1	Catchment wide	Flooding, Storm Overflow	Study / Investigation: Identify suitable location/s for NFMs in the Slowhill Copse Marchwood catchment (update hydraulic model)	£TBC	Short to Medium	NFDC NFNPA NFCP, HH
2	SLOW.S C01.2	Catchment wide	Flooding, Storm Overflow	Study / Investigation: Identify suitable location/s for surface water separation in the Slowhill Copse Marchwood catchment (update hydraulic model)	£TBC	Short to Medium	NFDC NFNPA NFCP, HH
3	SLOW.S C01.3	North of Catchment	Flooding, Storm Overflow, Nutrients	Study / Investigation: Identify suitable location/s for wetland construction in the north of the Slowhill Copse Marchwood catchment (update hydraulic model)	£TBC	Short to Medium	NFDC NFNPA NFCP
4	SLOW.S C03.1	Hotspot 1 - Central Totton (Commercial Road, Osborne Rd, Rumbridge St)	Flooding	Targeted Customer Education Programme to prevent blockages	~£24k	Short	NFDC NFNPA NFCP
5	SLOW.S C03.1	Hotspot 2 - West Totton (Ethelred Gardens, Alfred Close, Calmore Road)	Flooding	Targeted Customer Education Programme to prevent blockages	~£24k	Short	NFDC NFNPA NFCP
6	SLOW.S C03.1	Hotspot 3 - Ashurst (Princess Road)	Flooding	Targeted Customer Education Programme to prevent blockages	~£24k	Short	NFDC NFNPA NFCP
7	SLOW.S C03.1	Hotspot 4 - Marchwood (Sandpiper Close)	Flooding	Targeted Customer Education Programme to prevent blockages	~£24k	Short	NFDC NFNPA NFCP
8	SLOW.S C03.1	Hotspot 5 - Hythe (Shore Road)	Flooding	Targeted Customer Education Programme to prevent blockages	~£24k	Short	NFDC NFNPA NFCP
9	SLOW.P W01.6	Hotspot 1 - Central Totton (Commercial Road, Osborne Rd, Rumbridge St)	Flooding	Enhanced Maintenance: Review and enhance jetting programme of the pipe network in this location to maximise the capacity of the network for rainfall	~£24k	Short	
10	SLOW.P W01.6	Hotspot 2 - West Totton (Ethelred Gardens, Alfred Close, Calmore Road)	Flooding	Enhanced Maintenance: Review and enhance jetting programme of the pipe network in this location to maximise the capacity of the network for rainfall	~£24k	Short	

Investment Needs – Slowhill Copse Marchwood (SLOW)

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No	Ref	Location	Issues	Option	Indicative Cost	Indicative Timescale	Potential Partners
11	SLOW.P W01.6	Hotspot 3 - Ashurst (Princess Road)	Flooding	Enhanced Maintenance: Review and enhance jetting programme of the pipe network in this location to maximise the capacity of the network for rainfall	~£24k	Short	
12	SLOW.P W01.6	Hotspot 4 - Marchwood (Sandpiper Close)	Flooding	Enhanced Maintenance: Review and enhance jetting programme of the pipe network in this location to maximise the capacity of the network for rainfall	~£24k	Short	
13	SLOW.P W01.6	Hotspot 5 - Hythe (Shore Road)	Flooding	Enhanced Maintenance: Review and enhance jetting programme of the pipe network in this location to maximise the capacity of the network for rainfall	~£24k	Short	
14	SLOW.P W01.7	Cooks Lane	Flooding	Upsize 413m of 225mm to 525mm diameter sewer	£350k	Short	
15	SLOW.P W01.8	Ashurst Bridge WPS	Flooding	Upsize 33m 800mm and 850mm to 1800mm diameter	£40k	Short	
16	SLOW.P W01.9	Butts Ash Lane	Flooding	Upsize 96m 150mm to 1050mm diameter	£155k	Short	
17	SLOW.P W01.10	Eling Lane	Flooding	Upsize 128m 225mm to 675mm diameter	£155k	Short	
18	SLOW.P W01.11	North Dibden	Flooding	Upsize 93m 750mm to 1350mm diameter	£150k	Short	
	SLOW.P W01.12	Mulberry Road	Flooding	Upsize 100m 150mm to 450mm diameter	£85k	Short	
19	SLOW.OT 01.4	Catchment wide	Storm Overflows, Flooding	Study / Investigation: Update and re-verify the Slowhill Copse Marchwood Hydraulic Model to improve model confidence	£225k	Short to Medium	
20	SLOW.P W01.2	Downes Park Totton WPS	Pollution Risk	Enhanced maintenance: Review operation and maintenance of Downes Park Totton pumping station to improve resilience	~£250k	Short	

Investment Needs – Slowhill Copse Marchwood (SLOW)

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No	Ref	Location	Issues	Option	Indicative Cost	Indicative Timescale	Potential Partners
21	SLOW.P W01.2	Ashurst Bridge WPS	Pollution Risk	Enhanced maintenance: Review operation and maintenance of Ashurst Bridge pumping station to improve resilience	~£250k	Short	
22	SLOW.P W02.1	Slowhill Copse Marchwood WTW	Pollution Risk	Enhanced Maintenance: Identify potential locations across the catchment for surface water removal to enhance the efficacy of the existing tertiary treatment at the works and reducing storm spills	£700k	Short	NF DC NF NPA NF CP
23	SLOW.P W01.3	Totton Hotspot (Russel Place, Totton; Whitcombe Close, Totton)	Sewer Collapse Risk	Targeted CCTV/Electroscan surveys and proactive sewer rehabilitation to reduce risk of sewer collapse.	~£750k	Short	
24	SLOW.P W01.3	Hythe Hotspot (Southampton Road, Hythe)	Sewer Collapse Risk	Targeted CCTV/Electroscan surveys and proactive sewer rehabilitation to reduce risk of sewer collapse.	~£750k	Short	
25	SLOW.P W01.16	Slowhill Copse Marchwood WTW	Storm Overflow, Shellfish Waters	Surface water separation to reduce spills from Slowhill Copse Marchwood WTW storm overflow (costs provided for storage tank but sustainable solutions preferred)	~£1000k	Short to Medium	
26	SLOW.P W01.17	Ashdene Road Ashurst CSO	Storm Overflow	Surface water separation to reduce spills from Ashdene Road Ashurst WTW storm overflow (costs provided for storage tank but sustainable solutions preferred)	~£1000k	Short to Medium	
27	SLOW.OT 01.6	Downes Park Totton WPS	Storm Overflow, Shellfish Waters	Surface water separation to reduce spills from Downes Park Totton WTW storm overflow (costs provided for storage tank but sustainable solutions preferred)	~£1000k	Short to Medium	
28	SLOW.P W02.2	Slowhill Copse to Marchwood WTW	DWF at Treatment Works	Increase capacity of the wastewater treatment Works (WTW). Optimisation or extension of site to allow for the extra 2301m3 DWF required due to growth in catchment	£2500k	Medium	EA
29	SLOW.OT 01.3	Solent and Dorset Coast, Solent and Southampton Water, & Solent Maritime	Nutrients	Study / Investigation: Develop a nutrient budget and investigate the risks and sources impacting these named Habitat sites	~£76k	Short	NF DC NF NPA NE



Investment Needs – Brockenhurst (BROC)

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No	Ref	Risk / Problem Location	Issues	Option	Indicative Cost	Indicative Timescale	Potential Partners
1	BROC. OT01.1	Catchment wide	Flooding, Drainage, & Storm Overflows	Study / Investigation: Update and re-verify the Brockenhurst Hydraulic Model to improve model confidence	£325k	Short to Medium	NFDC NFNPA
2	BROC. OT01.2	Catchment wide	Flooding, Drainage, Storm Overflows, & Dry Weather Flow	Study / Investigation: Identify suitable location/s for surface water separation in the Brockenhurst catchment (update hydraulic model)	~£250k	Medium	NFDC NFCP
3	BROC. OT01.4	Brockenhurst WTW CSO	Storm Overflow	Surface water separation to reduce spills from Brockenhurst WTW storm overflow (costs provided for storage tank but sustainable solutions preferred)	~£1000k	Short to Medium	
4	BROC. OT01.3	Solent and Dorset Coast, & Solent and Southampton Water	Nutrients	Study / Investigation: Develop a nutrient budget and investigate the risks and sources impacting these named Habitat sites	~£76k	Short	NFDC NFNPA NE
5	BROC. PW02.1	Brockenhurst WTW	Growth	Increase capacity of the Wastewater Treatment Works (WTW). Optimisation or extension of site to allow for the extra 153m3/dav DWF required due to growth in the catchment	£3200k	Medium	EA
6	BROC. SC01.3	Site of New Forest Show ground	Flooding, & Storm Overflows	Study / Investigation: Identify suitable location/s for surface water separation on the grounds of New Forest Show (update hydraulic model)	£TBC	Medium	NFDC NFNPA NFCP



Investment Needs – Ashlett Creek Fawley (ASHL)

DRAFT

No	Ref	Risk / Problem Location	Issues	Option	Indicative Cost	Indicative Timescale	Potential Partners
1	ASHL.O T01.6	Catchment Wide	Storm Overflow	Study / Investigation: Update and re-verify the Ashlett Creek Fawley Hydraulic Model to improve model confidence	£250k	Short to Medium	NF DC NF NPA
2	ASHL.O T01.4	Ashlett Creek Fawley CSO	Storm Overflow, & Shellfish Waters	Surface water separation to reduce spills from Ashlett Creek Fawley storm overflow (costs provided for storage tank but sustainable solutions preferred)	~£1000k	Short to Medium	
3	ASHL.O T01.3	Solent and Dorset Coast; Solent and Southampton Water; & Solent Maritime	Nutrients	Study / Investigation: Develop a nutrient budget and investigate the risks and sources impacting these named Habitat sites	~£76k	Short to Medium	NF DC NF NPA NE
4	ASHL.O T01.5	Approaches To Southampton Water	Shellfish Water Quality	Study / Investigation: Shellfish water study (under WINEP programme for AMP7)	£TBC	Short	
5	ASHL.S C01.1	Route of A326	Storm Overflows	Study / Investigation: Identify suitable location/s for surface water separation along route of A326, partnering with NFs recreational mitigation project (update hydraulic model)	£TBC	Medium	NF DC NF NPA NF CP
6	ASHL.O T01.7	Fawley refinery complex	Storm Overflow	Study / Investigation: Identify suitable location/s for surface water separation in the Fawley refinery complex (update hydraulic model)	£TBC	Short to Medium	NF DC NF NPA NF CP Developers

Investment Needs – Lyndhurst (LYND)

DRAFT

No	Ref	Location	Issues	Option	Indicative Cost	Indicative Timescale	Potential Partners
1	LYND.O T01.1	Catchment Wide	Flooding, Drainage, & Storm Overflows	Study / Investigation: Build and verify the Lyndhurst Hydraulic Model to improve model confidence	£325k	Short to Medium	NF DC NF NPA
2	LYND.O T01.4	Lyndhurst WTW CSO	Storm Overflow	Surface water separation to reduce spills from Lyndhurst storm overflow (costs provided for storage tank but sustainable solutions preferred)	~£1000k	Short to Medium	
3	LYND.O T01.3	New Forest, Solent and Dorset Coast, & Solent and Southampton Water	Nutrients	Study / Investigation: Develop a nutrient budget and investigate the risks and sources impacting these named Habitat sites	~£76k	Short	NF DC NF NPA NE
4	LYND.P W03.1	Lyndhurst WTW	Nutrients	No other WTWs are within a 20km radius of LYNDHURST WTW with spare capacity to take DWF	£TBC	Short to Medium	

Questions



Review of Investment Needs

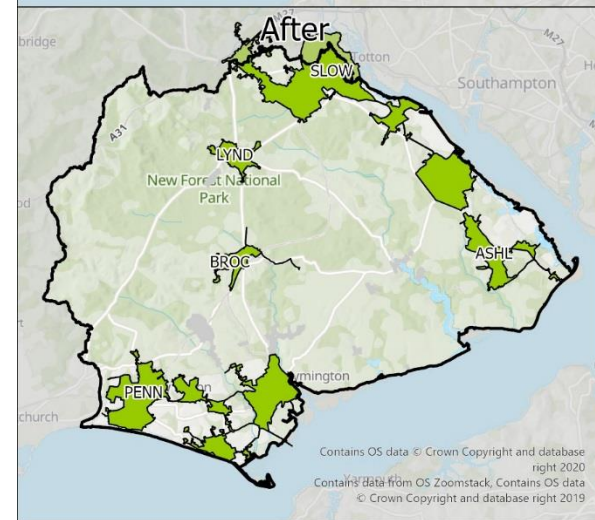
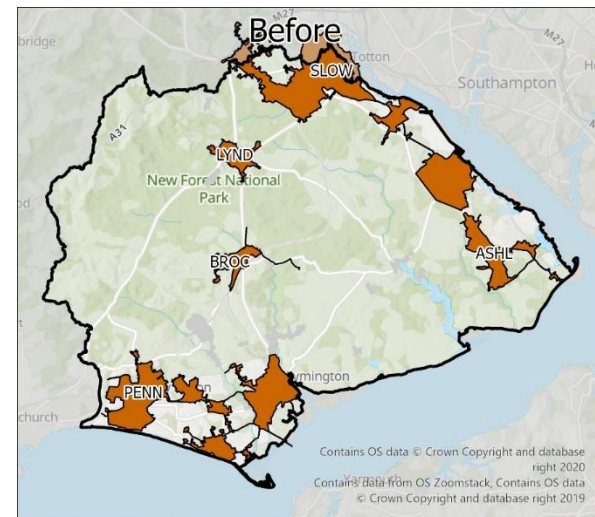
Risks in the New Forest Catchment

BRAVA Results indicated the main risks in this river basin catchment are for the following Planning Objectives (PO):

- Storm Overflows (PO5)
- Nutrients (PO11)

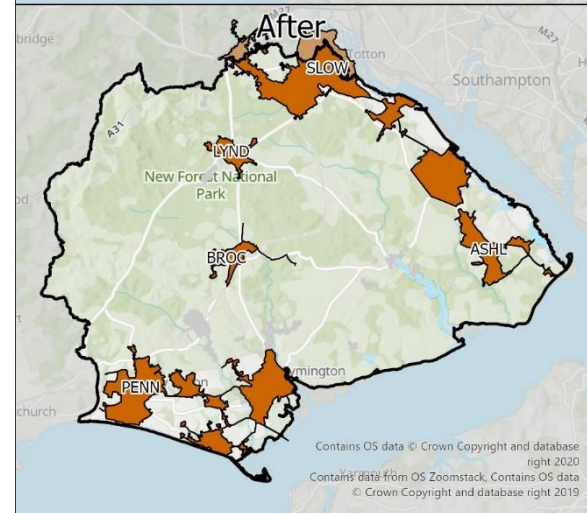
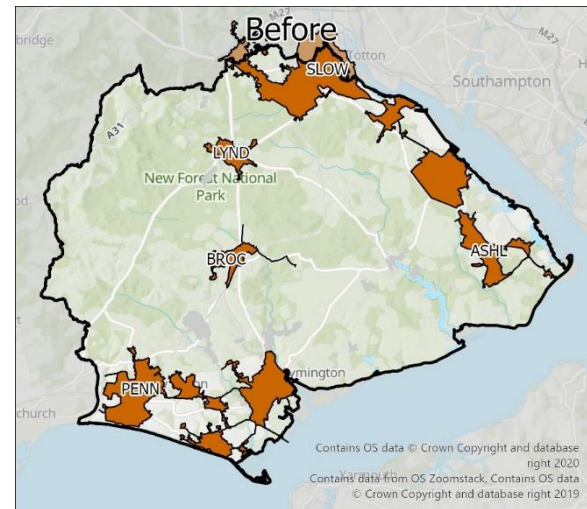
PO5 – Storm Overflow

New Forest		PO5	Nr failing CSOs (Residual Risk to properties)			BRAVA (2050)	
Option Type	Est Cost(£)	Solution Reduction	Total Nr of High Spillers (2050)	Reduction Req'd for Band 0	Before	After	
Ashlett Creek Fawley							
ASHL.OT01.4 - Further Study/Investigation	£1000 K	1					
ASHL.OT01.6 - Improve Hydraulic Model	£250 K	0	1		2	0	
ASHL.OT01.7 - Further Study/Investigation	£TBC	0					
Brockenhurst							
BROC.OT01.1 - Improve Hydraulic Model	£325 K	0	1		2	0	
BROC.OT01.4 - Further Study/Investigation	£1000 K	1					
Lyndhurst							
LYND.OT01.1 - Improve Hydraulic Model	£325 K	-	1		2	0	
LYND.OT01.4 - Further Study/Investigation	£1000 K	1					
Pennington							
PENN.PW01.15 - Storage	£1000 K	1					
PENN.PW01.16 - Storage	£1000 K	1					
PENN.OT01.5 - Storage (FC08 - BECTON LANE BARTON ON SEA CEO)	£1000 K	1	4		2	0	
PENN.OT01.6 - Storage (FC09- LYMINGTON SLIPWAY PENNINGTON CSO)	£1000 K	1					
PENN.OT01.9 - Improve Hydraulic Model	£225 K	0					
Slowhill Copse Marchwood							
SLOW.PW01.16 - Storage	£1000 K	1					
SLOW.PW01.17 - Storage	£1000 K	1					
SLOW.OT01.4 - Improve Hydraulic Model	£225 K	0	3		2	0	
SLOW.OT01.6 - Storage	£1000 K	1					



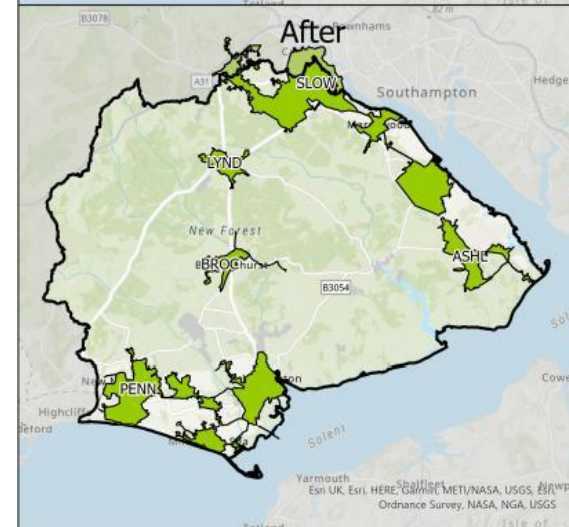
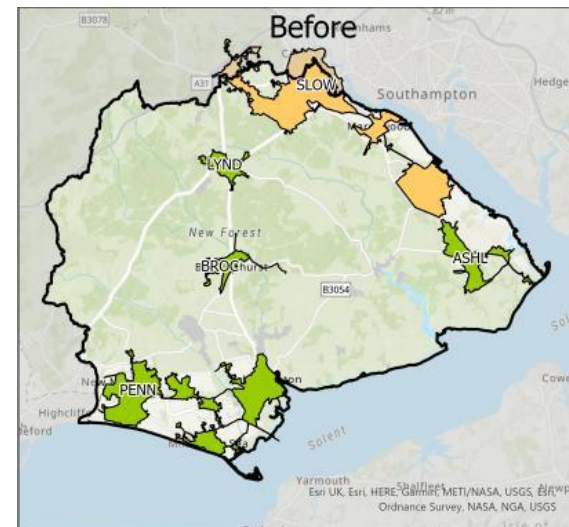
PO11 – Nutrient Neutrality

New Forest	PO11	BRAVA (2050)	
Option Type	Est Cost(£)	Before	After
Ashlett Creek Fawley			
ASHL.OT01.3 - Nutrient Budget	£76 K	2	2
Brockenhurst			
BROC.OT01.3 - Nutrient Budget	£76 K	2	2
Lyndhurst			
LYND.OT01.3 - Nutrient Budget	£76 K	2	2
Pennington			
PENN.OT01.10 - Nutrient Budget	£76 K	2	2
Slowhill Copse Marchwood			
SLOW.OT01.3 - Nutrient Budget	£76 K	2	2



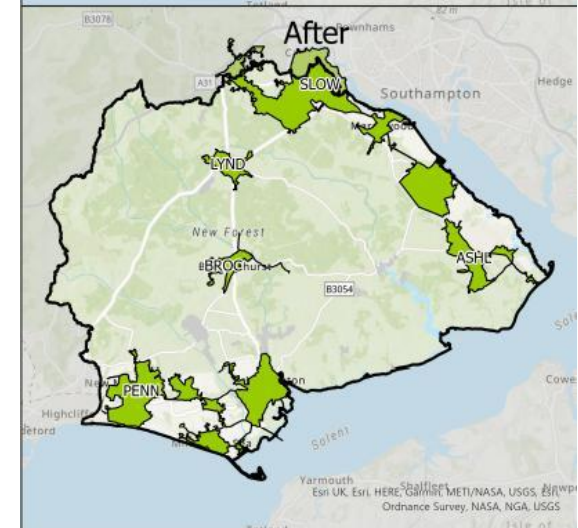
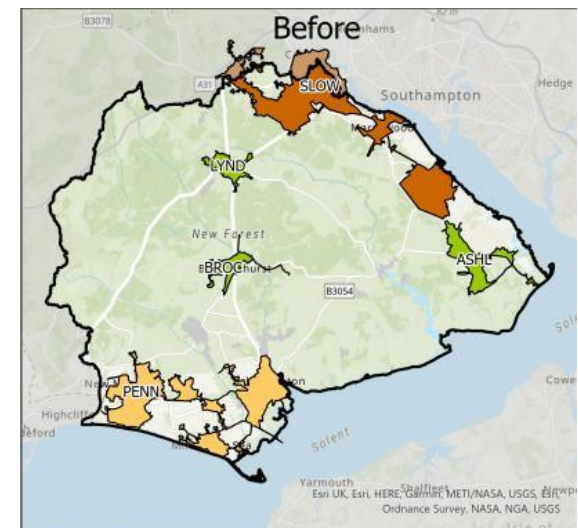
PO1 – Internal Flooding

New Forest Option Type	PO1 Est Cost(£)	Internal Flood Incidents (Nr in 3rs)			BRAVA	
		Solution Reduction	Total	Reduction Req'd for Band 0	Before	After
Ashlett Creek Fawley					0	0
Brockenhurst					0	0
Lyndhurst					0	0
Pennington					0	0
Slowhill Copse Marchwood						
SLOW.SC03.1 - Customer Education Programme	£116 K	3	17	4	1	0
SLOW.PW01.6 - Jetting Programme	£114 K	3				
SLOW.OT01.4 - Improve Hydraulic Model	£225 K	0				



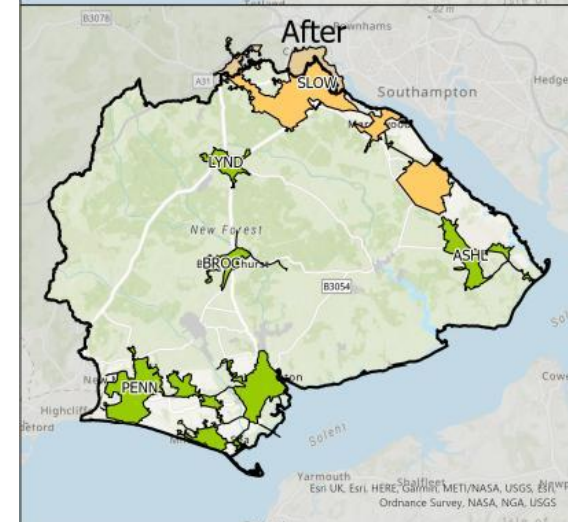
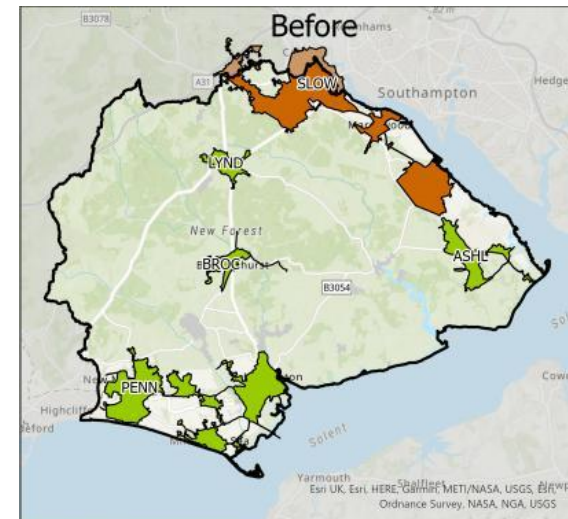
PO2 – Pollution Risk

New Forest		PO2		Pollution Incidents (Nr in 3yrs)			BRAVA	
Option Type	Est Cost (£)	Solution Reduction	Total	Reduction Req'd for Band 0	Before	After		
Ashlett Creek Fawley								
					0	0		
Brockenhurst								
					0	0		
Lyndhurst								
					0	0		
Pennington								
PENN.PW01.12 - Maintenance Programme WPS	£233 K	4	6	3	1	0		
PENN.PW01.12 - Maintenance Programme WPS	£233 K	4						
Slowhill Cope Marchwood								
SLOW.PW01.2 - Maintenance Programme WPS	£466 K	3	9	6	2	0		
SLOW.PW02.1 - Maintenance Programme WTW	£697 K	4						



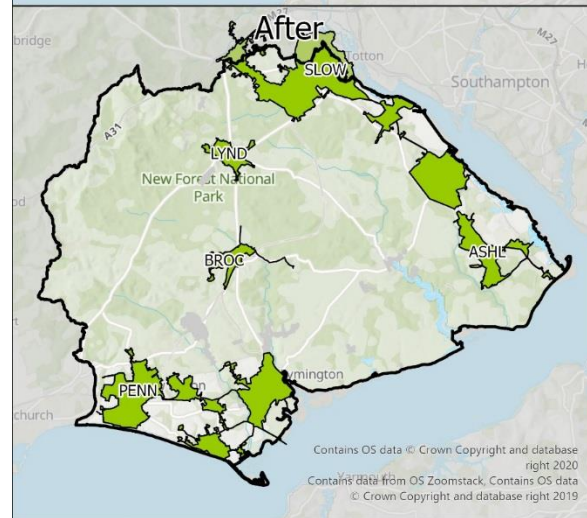
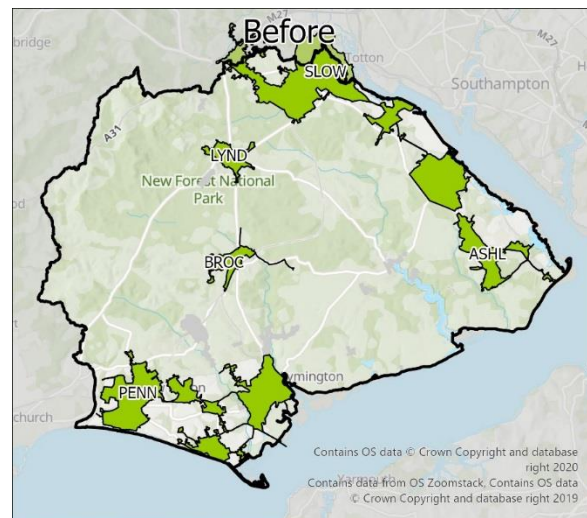
PO3 – Sewer Collapse

New Forest	PO3	Collapses and Bursts (Nr)			BRAVA	
Option Type	Est Cost(£)	Solution Reduction	Total	Reduction Req'd for Band 0	Before	After
Ashlett Creek Fawley					0	0
Brockenhurst					0	0
Lyndhurst					0	0
Pennington					0	0
Slowhill Copse Marchwood						
SLOW.PW01.3 - Pipe Rehabilitation Programme	£1580 K	9	17	6	2	1



PO6 – WTW Compliance Failure

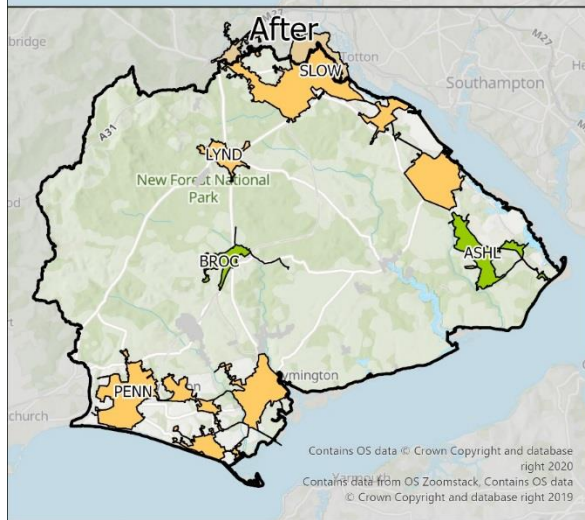
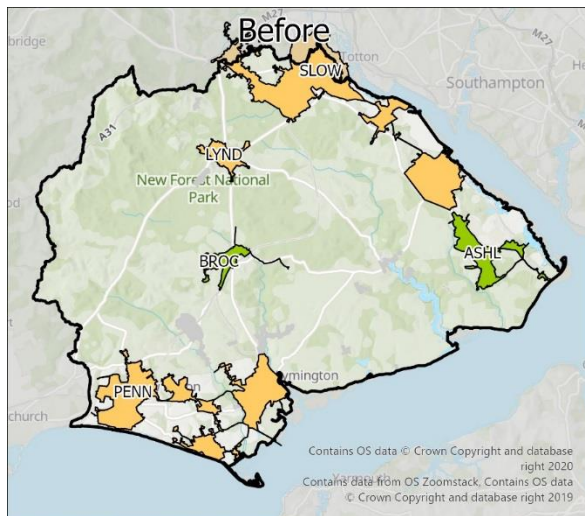
New Forest	PO6	BRAVA (2050)	
Option Type	Est Cost (£)	Before	After
Ashlett Creek Fawley		0	0
Brockenhurst		0	0
Lyndhurst		0	0
Pennington		0	0
Slowhill Copse Marchwood		0	0



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PO7 – Hydraulic Overload

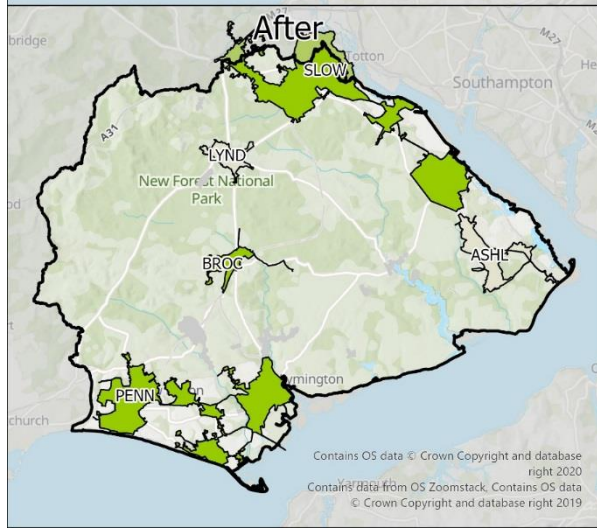
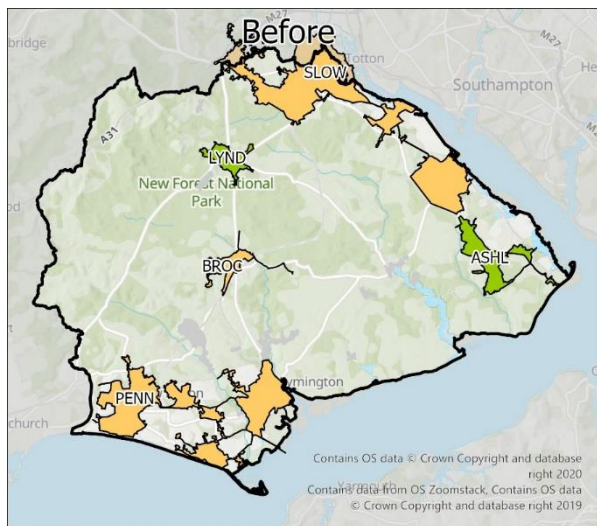
New Forest	PO7	BRAVA (2050)		
		Est Cost(£)	Before	After
Ashlett Creek Fawley			0	0
Brockenhurst			0	0
Lyndhurst				
	LYND.OT01.1 - Improve Hydraulic Model	£325 K	1	1
Pennington				
	PENN.OT01.9 - Improve Hydraulic Model	£225 K	1	1
	PENN.PW01.9 - Upsizing	£378 K		
	PENN.PW01.10 - Upsizing	£605 K		
	PENN.PW01.11 - Storage	£659 K		
	PENN.OT01.9 - Improve Hydraulic Model	£225 K		
Slowhill Copse Marchwood				
	SLOW.PW01.7 - Upsizing	£343 K	1	1
	SLOW.PW01.8 - Upsizing	£40 K		
	SLOW.PW01.9 - Upsizing	£156 K		
	SLOW.PW01.10 - Upsizing	£157 K		
	SLOW.PW01.11 - Upsizing	£151 K		
	SLOW.PW01.12 - Upsizing	£83 K		
	SLOW.OT01.4 - Improve Hydraulic Model	£225 K		



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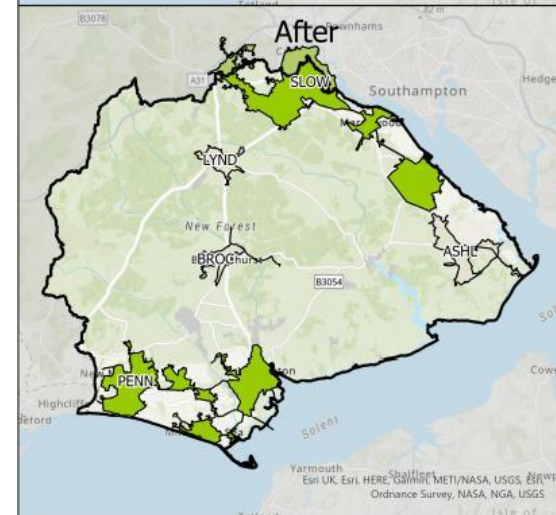
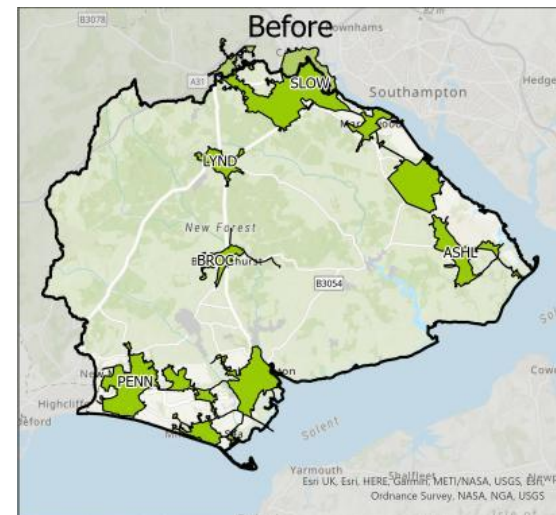
PO8 – DWF Compliance

New Forest	PO8	BRAVA (2050)		
		Est Cost(£)	Before	After
Ashlett Creek Fawley			0	0
Brockenhurst				
	BROC.PW02.1 - Increase DWF Capacity	£3104 K	1	0
Lyndhurst			0	0
Pennington				
	PENN.PW02.6 - Increase DWF Capacity	£2384 K	1	0
Slowhill Copse Marchwood				
	SLOW.PW02.2 - Increase DWF Capacity	£2269 K	1	0



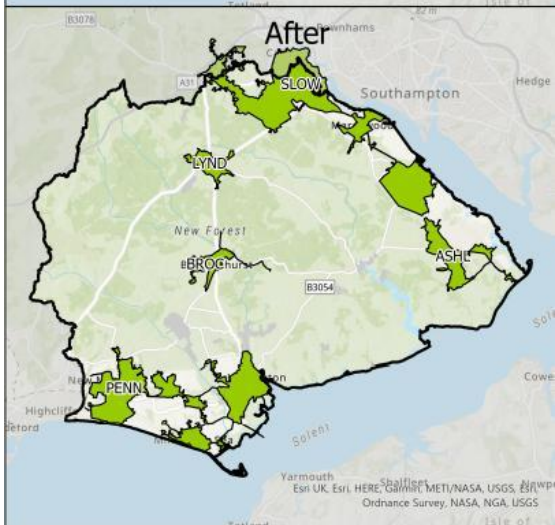
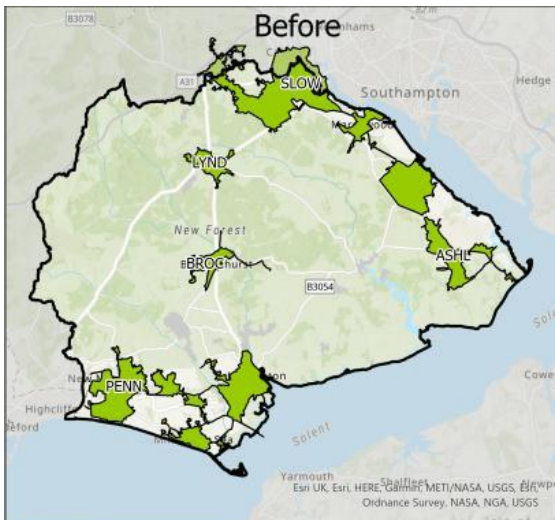
PO9 – Good Ecological Status

New Forest	PO9	BRAVA	
Option Type	Est Cost (£)	Before	After
Ashlett Creek Fawley		0	0
Brockenhurst		0	0
Lyndhurst		0	0
Pennington		0	0
Slowhill Copse Marchwood		0	0



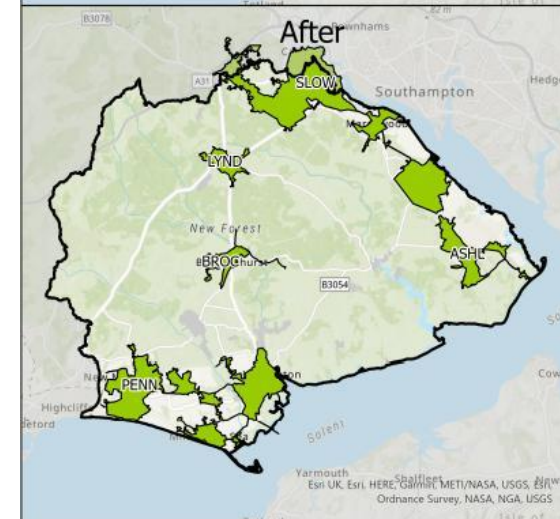
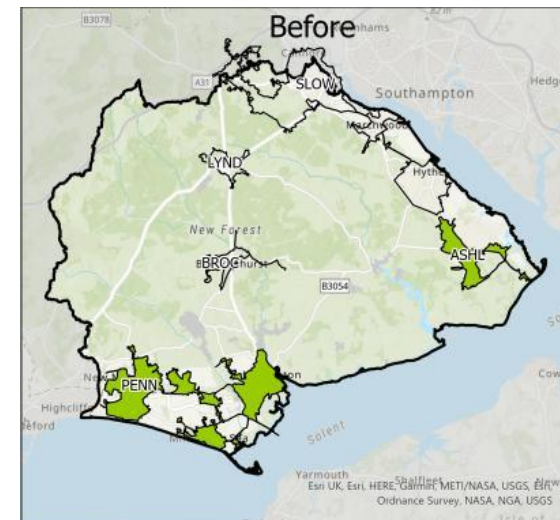
PO12 – Groundwater Pollution Risk

New Forest	PO12	BRAVA	
		Before	After
Option Type	Est Cost (£)	Before	After
Ashlett Creek Fawley		0	0
Brockenhurst		0	0
Lyndhurst		0	0
Pennington		0	0
Slowhill Copse Marchwood		0	0



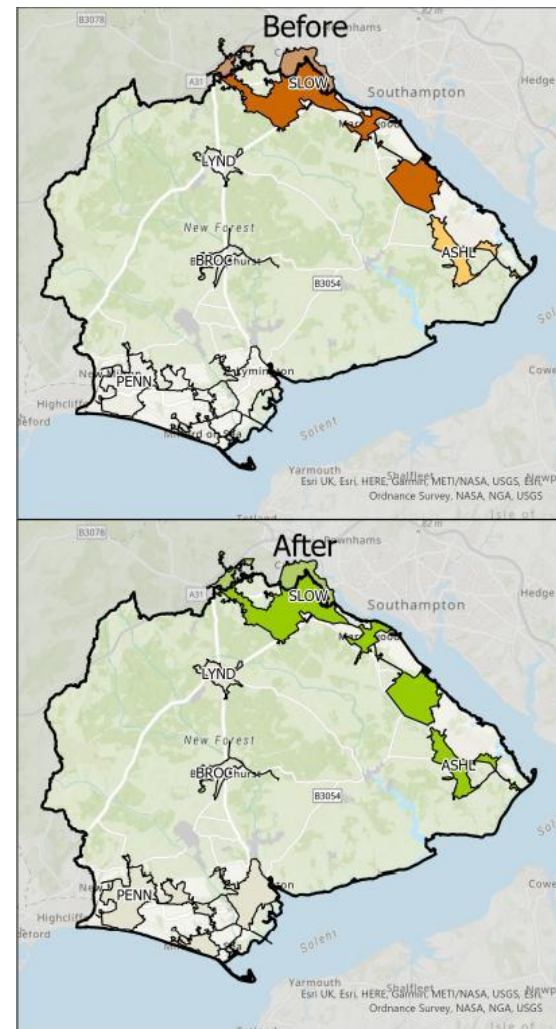
PO13 – Bathing Water

New Forest	PO13	BRAVA	
		Before	After
Option Type	Est Cost (£)		
Ashlett Creek Fawley		0	0
Brockenhurst		0	0
Lyndhurst		0	0
Pennington		0	0
Slowhill Copse Marchwood		0	0



PO14 – Shellfish Water

New Forest	PO14	BRAVA	
		Before	After
Option Type	Est Cost (£)		
Ashlett Creek Fawley			
ASHL.OT01.4 - Further Study/Investigation	£1000 K	1	0
ASHL.OT01.5 - Shellfish Study- Overflows discharging to Shellfish waters	£TBC	1	0
Brockenhurst		0	0
Lyndhurst		0	0
Pennington		0	0
Slowhill Copse Marchwood			
SLOW.PW01.16 - Storage	£1000 K	2	0
SLOW.OT01.6 - Storage	£1000 K	2	0



Other Issues from the DWMP Feedback / Input Log

- Ensuring the DWMP is consistent with the plans for the WRMP, particularly at Ashlett Creek Fawley
- Potential permit review will be needed at Lyndhurst
- Potential expansion of shellfish waters
- Natural Capital Asset Register (pursue in cycle 2?)
- Impact of seasonal demand / ingress (pursue in cycle 2?)



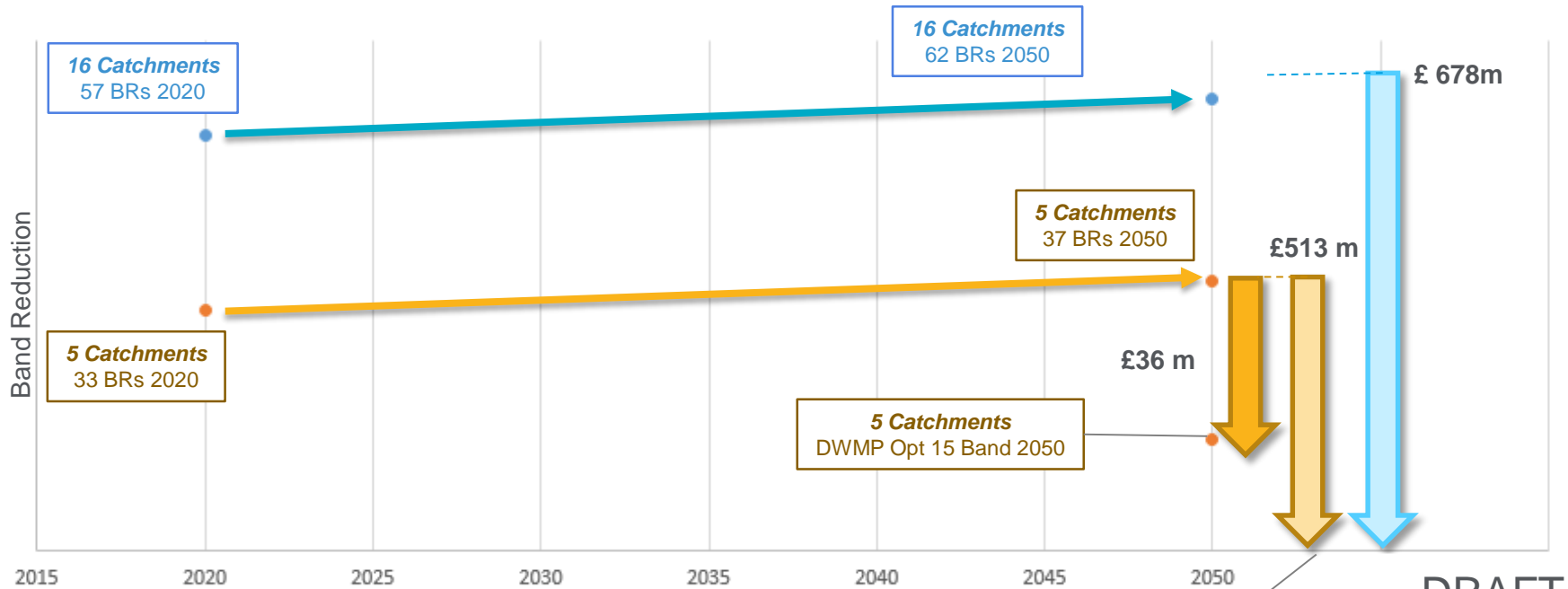
Programme Appraisal

Programme Appraisal

- Purpose: to develop an optimised 'best value' plan of measures to achieve the planning objectives
- Process: Collated all the investment needs from the 61 wastewater catchments, with information on costs and risk band reductions (across all 14 planning objectives)
- Extrapolated investment needs to other wastewater catchments in the river basin based on average cost per band reduction for each planning objective
- Optimise and prioritise investment needs for the final DWMP consultation



DWMP Cost & Risk Band Reduction: New Forest



5 catchments = 136,000 population
16 catchments = 140,000 population

5 Catchments
0 BRs Band 2050



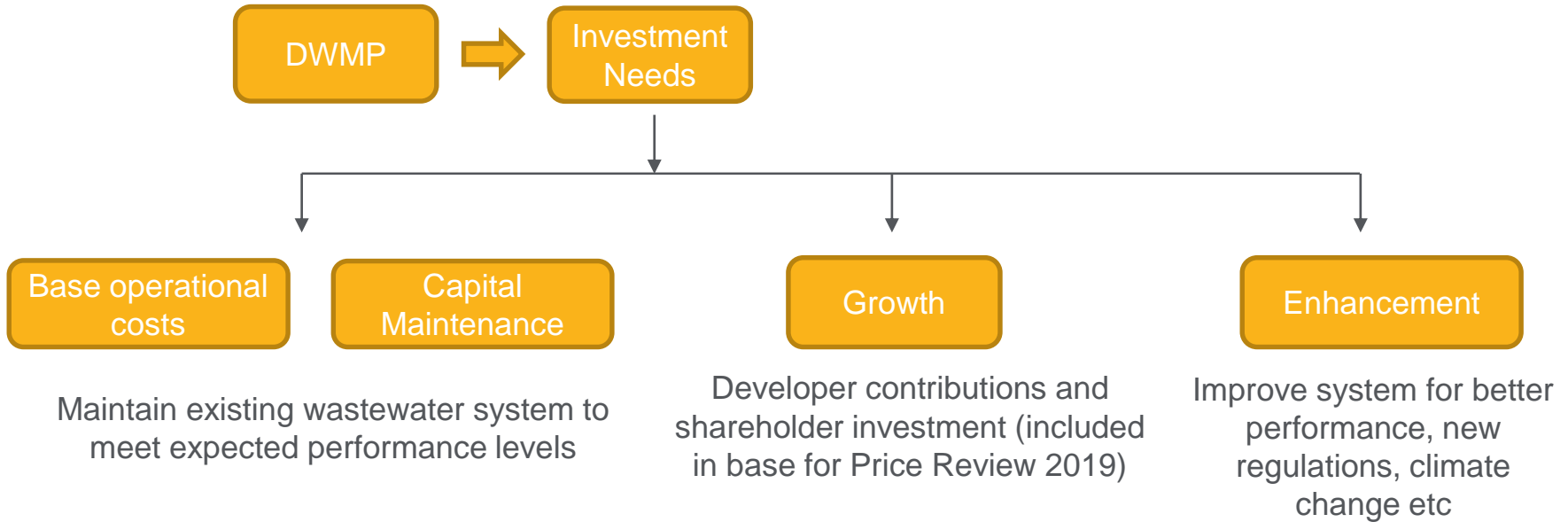
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Questions

Delivering the DWMP Investment Needs

Funding the DWMP Investment Needs in PR24



Examples of Enhancement Spend

- New environmental requirements
- New or emerging water quality risks or tightening of regulations
- Other new statutory or regulatory requirements
- Customer supported improvements – special cost cases
- Level of service improvement beyond upper quartile performance – special cost cases supported by customers



How to Fund Enhancements?

WINEP

Water Industry National Environment Programme: Owned by the EA
Potential for funding through this route if investment needs meet specific drivers set by the EA

Or

Special Cases

To meet customer needs

Special cases have a high evidence threshold, and must have:

- ✓ A clear need
- ✓ Clear efficient cost of delivery
- ✓ Customer support – Including a clear willingness to pay extra for it
- ✓ Clear cost benefit + proven environmental & social value
- ✓ Customer protection from non-delivery or significant underspend



Catchment and nature-based solutions

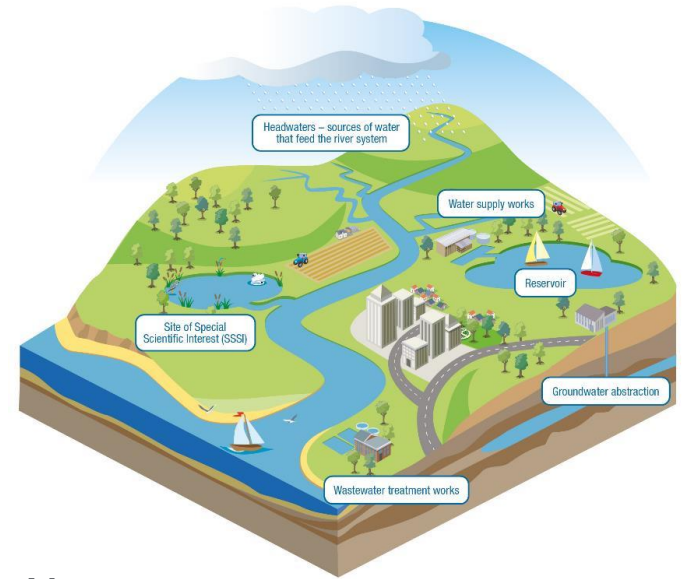
Key findings from our DWMP:

- Significant percentage of rainfall in sewers
- Need to tackle sewer flooding and storm overflows at source – surface water separation / attenuation
- Potentially huge benefits to people & the environment

Pathfinder projects in AMP7 – pioneering solutions in AMP7 to support our business cases for next Business Plan (PR24)

Catchment portfolios have been developed in our Water Resources Management Plan (WRMP), which include solutions such as:

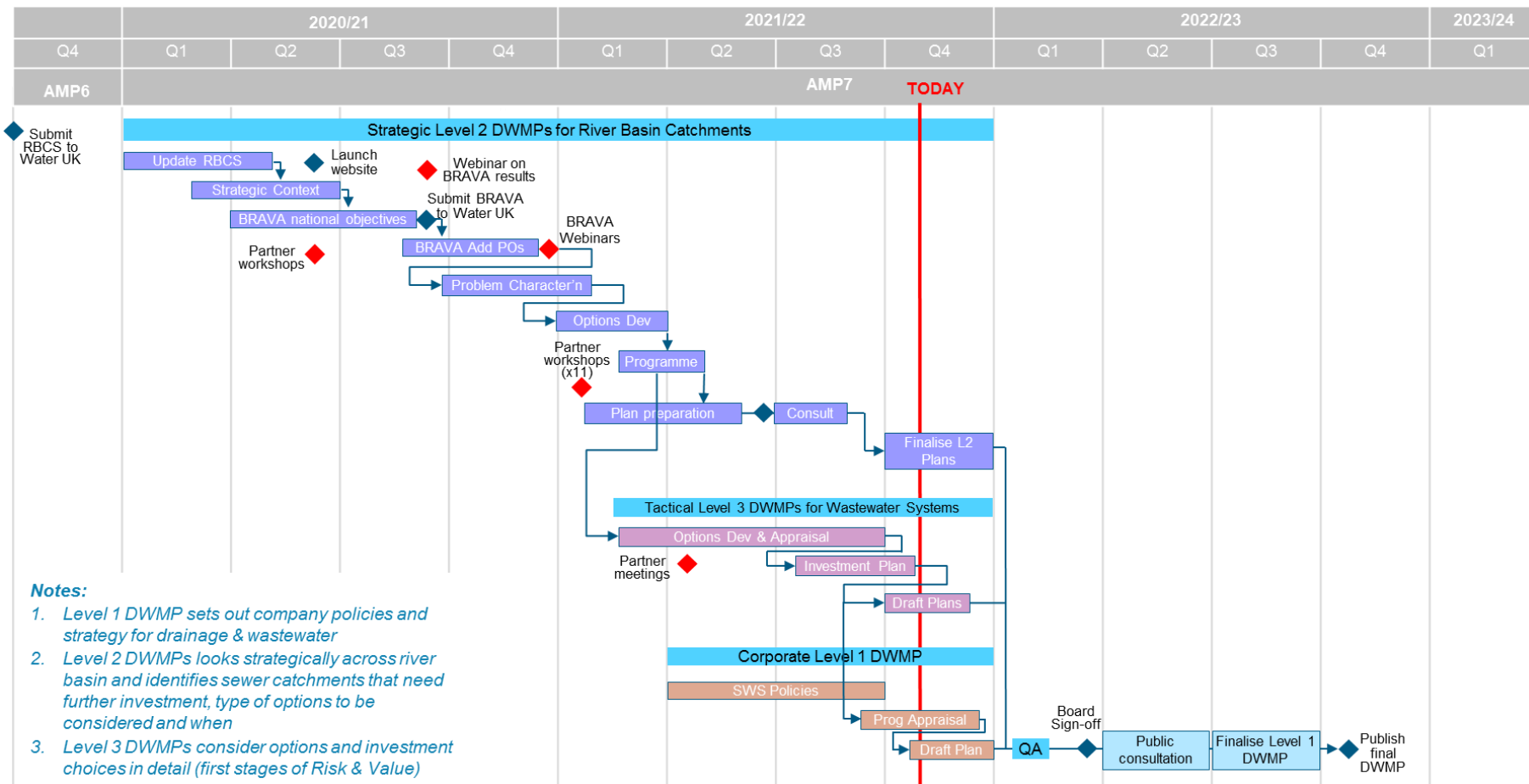
- River restoration
- Nutrient and sediment reduction
- Working with farmers to improve land management practices
- Sustainable drainage systems (SuDS)



Next Steps



Our DWMP Delivery Programme



Questions

Summary

Summary of Workshop

Our aim today was to:

- Discuss and refine the investment needs identified in the draft DWMP
- Flag any missing investment needs
- Discuss prioritisation and timing for investment needs
- Review opportunities to co-create and co-deliver solutions
- Look at total investment needs across the river basin

Poll



Thank you for participating today

Website: www.southernwater.co.uk/dwmp

Contact us: DWMP@southernwater.co.uk



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