

United Utilities Water

Drainage and Wastewater Management Plan

Weaver Gowy DWMP

Document Reference: SPA_13

May 2023

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Glossary

For the glossary, refer to document C003.

1. Introduction to DWMP

The Drainage and Wastewater Management plan (DWMP) is a long-term plan setting out how we intend to maintain robust and resilient drainage and wastewater systems, now and in the future. Whilst long term planning for wastewater has always been undertaken, this is the first time that we are developing a region wide plan in this format, and we have taken a comprehensive approach as we recognise the importance of long-term planning and the increasing need for partnership solutions.

The heart of the plan will be built around collaborative and innovative working, while encompassing all activities relating to drainage, flooding and delivering a wastewater service that protects the environment. We have led on this plan, but have developed it in consultation with our partners as we will be delivering the DWMP in partnership with other organisations such as the Environment Agency and local councils.

By developing the DWMP, we have an opportunity to:

- Provide a basis for more collaborative and integrated planning alongside stakeholders across the region to tackle shared and interrelated risks relating to drainage, flooding and protecting the environment;
- Strengthen partnership working with all key stakeholders to drive integrated investment in the environment and communities;
- Develop a plan that will help address the increasing environmental expectations from customers and stakeholders and work towards the ambitions set out in Defra’s 25-year plan;
- Collectively explore innovative solutions such as Sustainable Drainage Systems (SuDS) and nature-based solutions to understand what is best for the North West; and
- Embed Systems Thinking to better understand drainage and environmental interactions, and to maximise the potential for integrated solutions.

Throughout the DWMP process, we have engaged with stakeholders to share our data and findings, to ensure that the solutions delivered are co-created, drive efficiencies and will benefit the communities and environment that we live and work in.

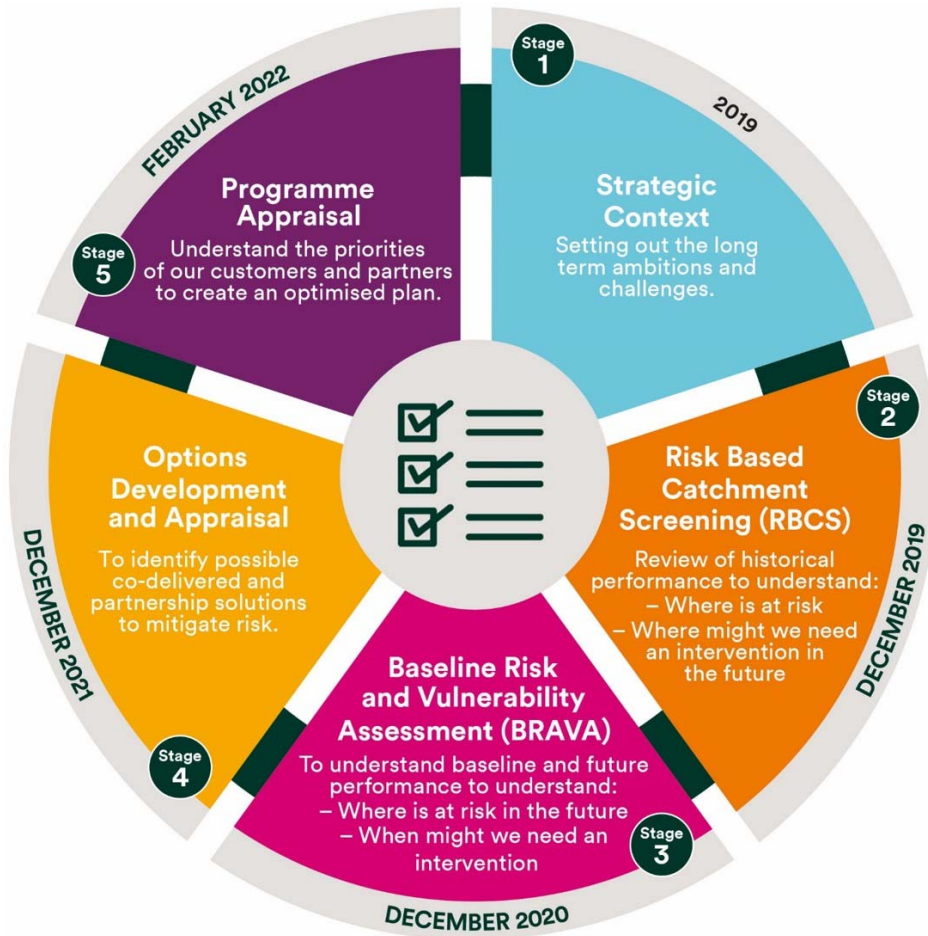
The plan will be set out at three levels (Figure 1) to maximise the potential for partnership working and for effective engagement between regulators and stakeholders at both company-wide level and more locally.

Figure 1 Geographical scales applied for planning and collaboration within DWMP



The plan is made up of five main stages (Figure 2) which each contribute to developing the most sustainable and effective future for the North West. These stages include setting out the long-term ambition for the region, identifying risk and understanding the possible interventions and solutions that could be developed.

Figure 2 Five stages of the DWMP



Across the North West, there are 14 Strategic Planning Areas (SPAs) and the purpose of this document is to share local, place-based information.

We will share the results from the different stages of the DWMP and how the DWMP plans to make a difference in the Weaver Gowy SPA.

2. Background to the Weaver Gowy catchment

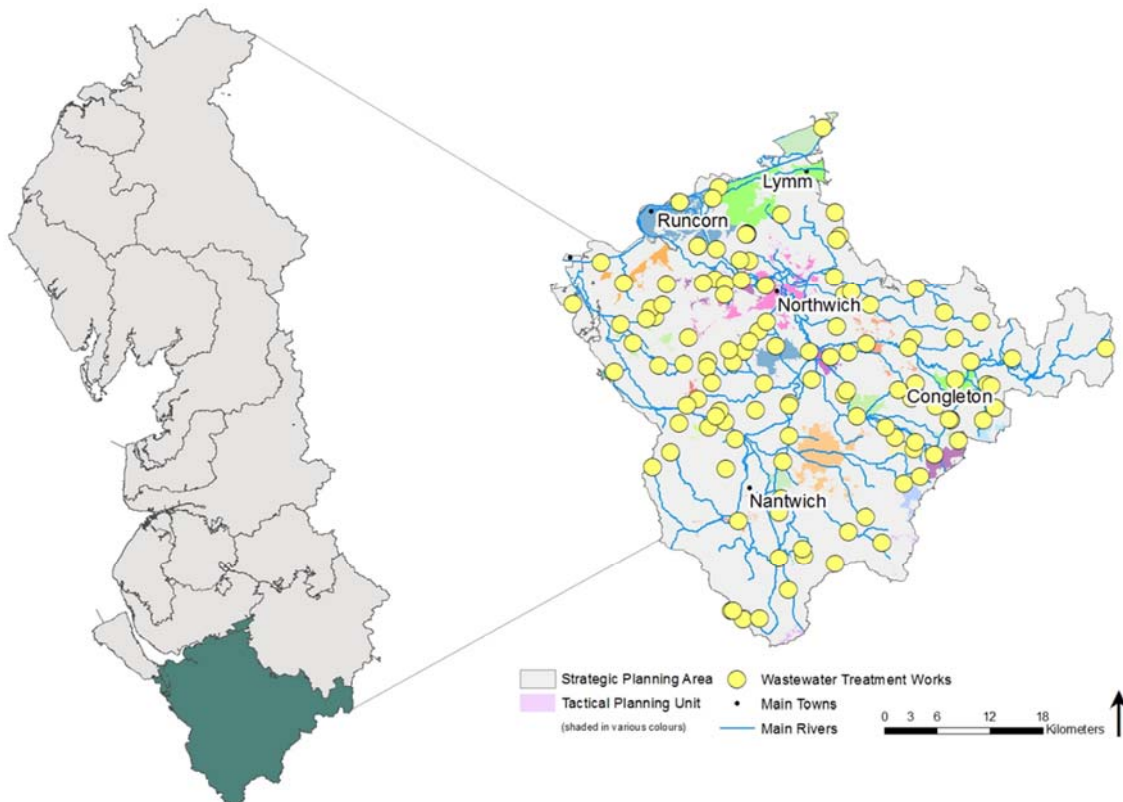
The Weaver Gowy catchment covers a large area (1753.3km²) in the southern-most part of the region incorporating Cheshire East and Cheshire West and Chester council areas. The catchment is largely composed of low-lying countryside and made up of a number of small towns such as Northwich, Congleton and Nantwich as well as a number of more industrialised areas along the Mersey Estuary such as Runcorn and Ellesmere Port ^[1]. The River Weaver and the River Gowy are the main rivers which flow through the catchment and drain into the Mersey Estuary in the north-east.

There are four main operational sub catchments in the Weaver Gowy:

- Gowy – the sub catchment is host the to the River Gowy which carries water drained from the western part of the Cheshire hills north-west toward the Mersey Estuary at Ellesmere Port ^[2].
- Upper Weaver – the sub catchment is located in the south of Cheshire and carries water from the eastern parts of the Peckforton hills and the western perimeters of the Cheshire plain into the Lower Weaver sub catchment ^[3].
- Lower Weaver – the sub catchment is located in the north of Cheshire and carries water drained throughout a large area of the rest of the catchment into the Mersey Estuary ^[4].
- Dane – the sub catchment covers the east of Cheshire and carries water drained into the River Dane from the western side of the Peak District towards Northwich where it drains into the Lower Weaver ^[5].

There are 120 wastewater tactical planning units (TPU, also known as wastewater treatment work (WwTW drainage catchments) within the Weaver Gowy SPA. A TPU is the drainage area including all the sewers and wastewater assets e.g. pumping stations, which drain to the associated wastewater treatment works. The TPUs within the SPA vary in size from larger catchments such as Crewe to smaller, rural catchments such as Ince. The TPUs are highlighted in Figure 3.

Figure 3 Map of the Weaver Gowy SPA



There are numerous strategic management plans within the Weaver Gowy that are owned by various other organisations. Within the Weaver Gowy catchment, there are active management plans such as:

- The Environment Agency River Basin Management Plan (RBMP) and Flood Risk Management Plan (FRMP);
- Lead Local Flood Authority (LLFA) Surface Water Management Plans (SWMP); and
- Local council plans.

Each of these strategic plans focuses on managing particular risks and links to programmes of work. A high-level summary of these management plans is shown in Table 1.

The DWMP aims to collaborate, share best practice and to align with other strategic plans throughout the catchment. This will help to highlight common challenges, ambitions and goals where there are shared or interconnected risks and opportunities.

Table 1 Summary of stakeholder management plans

Management plan	Overview	Key aspects for the Weaver Gowy catchment
<p>River Basin Management Plan (RBMP) ^[6]</p> <p>Owner: Environment Agency</p>	<p>A river basin district covers an entire river system, including river, lake, groundwater, estuarine and coastal water bodies. The RBMP aim is to improve the quality of our water environment to best support wildlife, agriculture, and businesses, and to boost regeneration and recreation.</p>	<p>The main reasons for not achieving good ecological status are physical modifications and pollution from rural areas, towns, cities, transport and wastewater.</p> <p>Future challenges predicted by the Environment Agency include invasive non-native species and pollution from a range of sources.</p> <p>Future challenges predicted by partnerships include pollution from towns, cities, transport, wastewater, agriculture and rural areas.</p>
<p>Flood Risk Management Plan (FRMP) ^[7]</p> <p>Owner: Environment Agency</p>	<p>The FRMP is a strategic plan, which reviews and develops measures to manage the risk of flooding from rivers, the sea, surface water, groundwater and reservoirs. The plan outlines flood risk areas, hazards, and sets out measures and objectives to manage flood risk.</p>	<p>The catchment is within the North West River Basin District (RBD). The area covers approximately 13,200km² and is occupied by close to seven million people. More than 370,000 of these people being at risk from flooding by rivers and the sea with a further 600,000 people at risk of surface water flooding.</p> <p>Around 35,000 people are thought to be living in areas that are deemed high risk of flooding from surface water with a further 97,500 at a moderate risk. 31,000 people are living in areas at are high risk of flooding due to rivers and the sea with a further 46,500 at a moderate risk.</p> <p>Areas of significant flood risk across the North West include Ambleside, Ashton under Lyne, Atherton, Blackburn, Burnley, Ellesmere Port, Formby, High Folds, Kendal and Liverpool.</p> <p>The North West has a large amount of reservoirs credited to its industrial history, there are currently approximately 290 in the region that are classed as large raised reservoirs. 300,000 people are at risk of flooding from reservoirs in the North West.</p>
<p>Surface Water Management Plan (SWMP) ^[8]</p> <p>Owner: Lead Local Flood Authority (LLFA)</p>	<p>A SWMP is a plan which outlines the preferred surface water strategy for a location. Although owned and led by the LLFA, a SWMP is produced in collaboration with other drainage owners, water companies included.</p> <p>Partners work together to understand the surface water flood risk in an area and agree an approach to address these issues innovatively and in a cost-effective way, and where appropriate, in partnership. A SWMP is a long-term plan and should influence development.</p> <p>The decision on whether a SWMP is appropriate is down to the LLFA, generally they are produced for areas considered to experience a high flood risk. U UW continues to work closely with LLFAs and supports the development of SWMPs where required, and the delivery of SWMPs where they are published.</p>	

Management plan	Overview	Key aspects for the Weaver Gowy catchment
<p>Catchment Based Approach (CaBA) Catchment Plan ^[6] ^[9] ^[10]</p> <p>Owner: Weaver Gowy Catchment Partnership</p>	<p>The aim of the partnership is to bring together stakeholders to create and deliver a focussed, sustainable and collaborative action plan to deliver benefits within the catchment.</p>	<p>The vision of the Weaver Gowy catchment partnership is that all waterbodies in the catchment will be clean and healthy, supporting abundant wildlife, valued by people and enabling sustainable economic growth. They hope to achieve this by collecting a robust evidence base to identify, prioritise and address the needs of the catchment. Businesses and communities will be engaged, and will work collectively to deliver water quality improvements and manage water quantity to protect people and wildlife from the influences of climate change, floods and drought.</p> <p>Current risks in the catchment include:</p> <ul style="list-style-type: none"> • Water quality including run off from agriculture, septic tanks, sewage, industrial discharges and pollution incidents. Also, nutrient and sediment loadings. • Habitat and wildlife suffer due to current and past industrial discharges compounded by river modifications including weirs and locks that act as barriers to fish migration and degraded bankside habitat. Pressures on habitat such as overgrazing and trampling of banks by livestock, tree removal, and artificial channel modifications are also a key issue. • Flooding affects numerous communities and businesses across the catchment. • Invasive non-native species is a widespread issue across the catchment and includes species such as giant hogweed, Himalayan balsam and Japanese knotweed.

2.1 Strategic Planning Group (SPG)

We appreciate that there are many organisations with formal roles and responsibilities relating to drainage, flooding and protection of the environment. By participating in the creation of a DWMP much more can be achieved compared to working on our plans in isolation.

Within DWMP, SPGs have been a key form of engagement with stakeholders across the region. SPGs have operated at a local, catchment scale to allow stakeholders to input into the identification of priority and shared risk locations, and develop an understanding of potential collaborative solutions to tackle shared risks. The SPGs have covered a wide range of issues including reducing flooding and improving water quality. A key driver is understanding where there may be potential to achieve multiple benefit through solutions.

Through the SPGs, we have been able to consult with strategic partners on the various stages of the DWMP (Figure 4) and share outputs as and when they become available. This has been a two-way process and stakeholders have had the opportunity to share information with us such as action plans, confirmed projects, priority areas and ambitions for the future which could be developed and delivered in partnership. We have been able to review and incorporate the information shared during the different stages of the DWMP process.

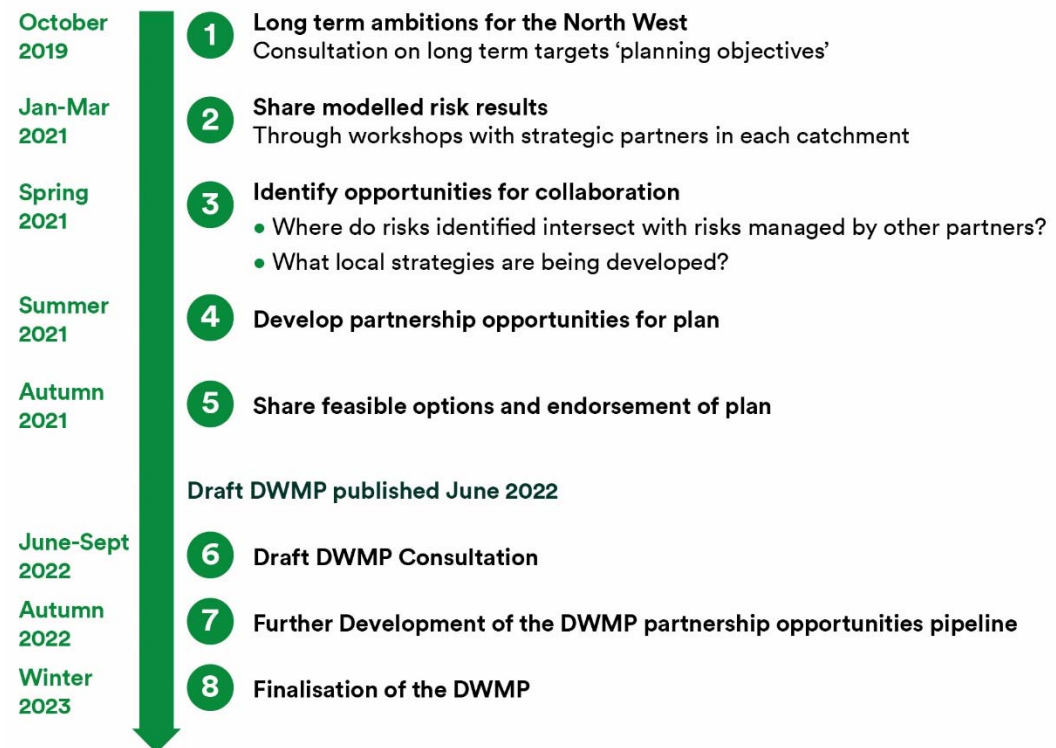
Within the Weaver Gowy, we have engaged with stakeholders such as:

- The Environment Agency;
- Cheshire West and Chester Council;
- Cheshire East Council;
- Cheshire Wildlife Trust;
- St Helens Borough Council;
- Halton Borough Council;
- Warrington Borough Council; and
- Groundwork (Cheshire, Lancashire and Merseyside, host of the Weaver Gowy Catchment Based Approach (CaBA) partnership).

More information on co-creation activity undertaken with the SPG can be found in Technical Appendix 2 - Stakeholder Engagement (TA2). The outputs from this activity in the Weaver Gowy catchment are outlined in section 4.1.

Figure 4 DWMP framework for engagement

A framework for engagement in the North West



3. Risk identification

A key component of the DWMP has been around risk identification. This has been a mixture of both historical risk and forecast risk. Activities to understand this were completed through the Risk Based Catchment Screening (RBCS) and Baseline Risk and Vulnerability Assessment (BRAVA) stages. We have also undertaken numerous additional assessments to understand wider resilience and catchment risks.

Further detail on the approaches can be found in Technical Appendix 4 - Risk Based Catchment Screening (TA4) and Technical Appendix 5 - Understanding Future Risk (TA5).

3.1 Risk Based Catchment Screening (RBCS) and Horizon Scan

The RBCS stage is a series of high-level assessments that are used to review and screen each TPU to determine whether a more detailed assessment is required during the Baseline Risk and Vulnerability Assessment (BRAVA) stage.

The assessments are designed to span the key aspects of a wastewater company's responsibilities: from the network, to the treatment works, to its interaction with the environment. Examples of the assessments considered are internal sewer flooding, storm overflow performance, and pollution incidents. The assessments typically used three to five years of historical data.

Additional assessments termed 'horizon scanning' were undertaken to understand wider exogenous factors and opportunities that could inform future investment e.g. major infrastructure projects, private septic tank locations and potential major infrastructure projects (HS2 etc). Areas with potential future developments were also considered and further information on projected growth areas can be found within the associated Local Plans.

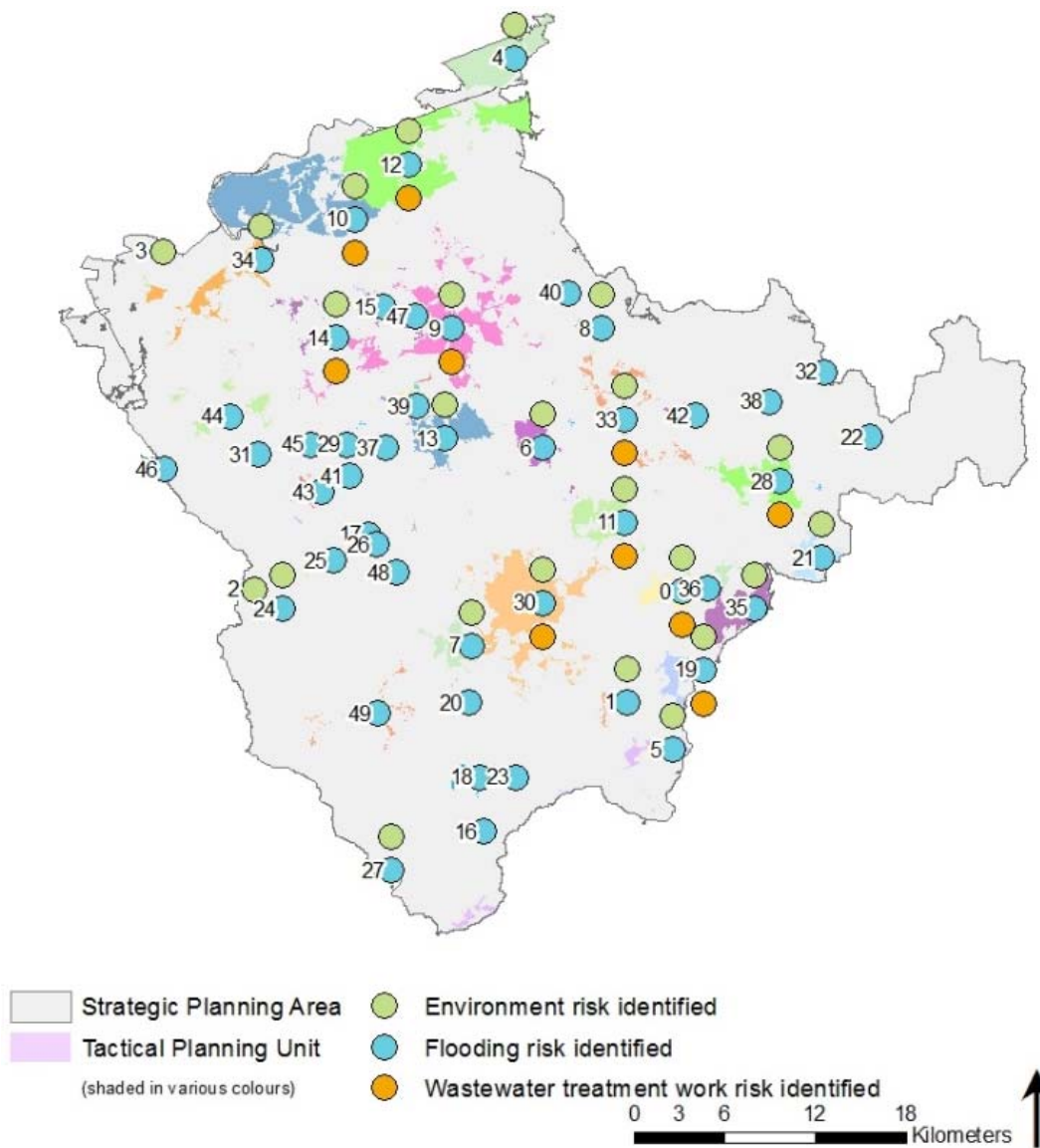
Within the Weaver Gowy, the RBCS stage identified 53 out of 120 TPUs that required further investigation and therefore passed onto the BRAVA stage (outlined in section 3.2).

Figure 5 indicates which of the RBCS categories (environmental, flooding and wastewater treatment works capacity) have triggered within each TPU. There are numerous TPUs which did not trigger for RBCS across any of the categories and are therefore not shown in Figure 5. A list of these TPUs can be found in Table A.1 in the Appendix. Environmental and flooding categories are the most common within the Weaver Gowy catchment, which is supported by the highest triggered RBCS assessments which are:

- Storm Overflow Assessment Framework - (24/120) – Environment; and
- External Sewer Flooding - (45/120) – Flooding.

Further detail on the approaches and assessment results can be found in Technical Appendix 4 (Risk Based Catchment Screening).

Figure 5 Map of the RBCS results for the Weaver Gowy. Risk categories indicate areas triggering further investigation following RBCS



Map no.	TPU name	Map no.	TPU name	Map no.	TPU name	Map no.	TPU name
0	Alsager	16	Adderley	32	Gawsworth	48	Wardle
1	Betley	17	Alraham	33	Holmes Chapel	49	Wrenbury
2	Bickerton	18	Audlem	34	Helsby		
3	Ince	19	Audley	35	Kidsgrove		
4	Irlam	20	Baddington	36	Lawton Gate		
5	Madeley	21	Biddulph	37	Little Budworth South		
6	Middlewich	22	Bosley	38	Marton (Macclesfield)		
7	Nantwich	23	Buerton South	39	Marton North		
8	Nether Peover	24	Bulkeley	40	Plumley		
9	Northwich	25	Bunbury	41	Rushton		
10	Runcorn	26	Calveley	42	Swettenham		
11	Sandbach	27	Calver Hall North	43	Tarporley		
12	Warrington South	28	Congleton	44	Tarvin		
13	Winsford	29	Cotebrook	45	Utkinton		
14	Kingsley	30	Crewe	46	Waverton		
15	Acton Bridge	31	Duddon	47	Weaverham		

3.2 Baseline Risk and Vulnerability Assessment (BRAVA) and Resilience

The TPUs that were identified during RBCS were then taken forward into BRAVA, which aims to assess the baseline and future position of system performance against the DWMP planning objectives, to understand where there may be issues. It is also to understand wider resilience issues that could also impact upon the DWMP planning objectives. This stage considers risk at 2020, 2030 and 2050 design horizons.

In addition to BRAVA, a range of resilience assessments were undertaken and will have been incorporated throughout the plan to allow us to expand our understanding of wider core risks, such as how the water quality of rivers may change as a result of climate change. We have also assessed risks such as fluvial and/or coastal flooding and fluvial and/or coastal erosion and land stability.

Further detail on the approaches and assessment results can be found in TA5 and Technical Appendix 6 – Resilience (TA6).

The BRAVA and resilience results for the Weaver Gowy catchment are outlined in Table 2 to Table 5.

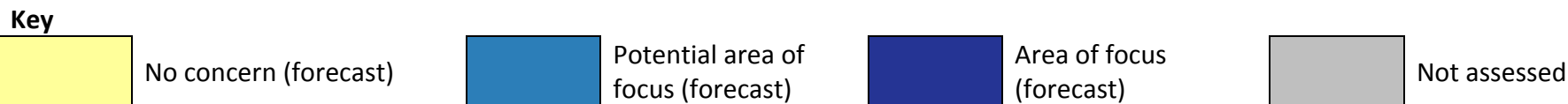
Table 2 Environmental BRAVA results

Tactical Planning Unit	Environmental					
	Pollution Assessment	Storm Overflow Performance		Bathing and Shellfish Spill Assessment		
	2020	2020	2050	2020	2030	2050
Acton Bridge						
Adderley						
Alpraham						
Alsager						
Audlem						
Audley						
Baddington						
Betley						
Bickerton						
Biddulph						
Bosley						
Brereton						
Buerton South						
Bulkeley						
Bunbury						
Calveley						
Calver Hall North						
Congleton						
Cotebrook						
Crewe						
Crowton						
Duddon						
Gawsworth						
Helsby						
Holmes Chapel						
Ince						

BRAVA	
	No concern (forecast)
	Potential area of focus (forecast)
	Area of focus (forecast)
	Not assessed / Not applicable

Tactical Planning Unit	Environmental					
	Pollution Assessment	Storm Overflow Performance		Bathing and Shellfish Spill Assessment		
	2020	2020	2050	2020	2030	2050
Irlam						
Kidsgrove						
Kingsley						
Lawton Gate						
Little Budworth South						
Madeley						
Marton (Macclesfield)						
Marton North						
Middlewich						
Moston West						
Nantwich						
Nether Peover						
Northwich						
Plumley						
Runcorn						
Rushton						
Sandbach						
Swettenham						
Tarporley						
Tarvin						
Utkinton						
Wardle						
Warrington South						
Waverton						
Weaverham						
Winsford						
Wrenbury						

Table 3 Flooding BRAVA results



Tactical Planning Unit	Flooding												
	Internal Flooding Risk			External Flooding Risk			Sewer Collapse Risk	Risk of flooding in a storm (1:50yr)		Flooding of open spaces			Blockage Assessment
	2020	2030	2050	2020	2030	2050	2020	2020	2050	2020	2030	2050	2020
Acton Bridge	Dark Blue	Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Yellow	Yellow	Dark Blue	Blue	Dark Blue	Dark Blue	Dark Blue
Adderley	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Alpraham	Yellow	Yellow	Blue	Yellow	Yellow	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Yellow	Yellow	Yellow	Blue
Alsager	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Yellow	Yellow	Yellow	Dark Blue	Dark Blue	Dark Blue	Blue
Audlem	Blue	Blue	Blue	Blue	Dark Blue	Dark Blue	Yellow	Yellow	Yellow	Dark Blue	Dark Blue	Dark Blue	Blue
Audley	Blue	Blue	Blue	Yellow	Yellow	Yellow	Yellow	Dark Blue	Dark Blue	Yellow	Yellow	Yellow	Yellow
Baddington	Grey	Grey	Grey	Grey	Grey	Grey	Dark Blue	Grey	Grey	Grey	Grey	Grey	Dark Blue
Betley	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Bickerton	Grey	Grey	Grey	Grey	Grey	Grey	Dark Blue	Grey	Grey	Grey	Grey	Grey	Dark Blue
Biddulph	Blue	Blue	Blue	Yellow	Yellow	Yellow	Yellow	Dark Blue	Dark Blue	Yellow	Yellow	Yellow	Yellow
Bosley	Dark Blue	Dark Blue	Dark Blue	Yellow	Yellow	Yellow	Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue
Brereton	Grey	Grey	Grey	Grey	Grey	Grey	Dark Blue	Grey	Grey	Grey	Grey	Grey	Dark Blue
Buerton South	Blue	Blue	Blue	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Dark Blue	Dark Blue	Dark Blue	Blue
Bulkeley	Blue	Blue	Blue	Yellow	Yellow	Yellow	Blue	Yellow	Yellow	Dark Blue	Dark Blue	Dark Blue	Dark Blue
Bunbury	Blue	Blue	Blue	Dark Blue	Dark Blue	Dark Blue	Yellow	Yellow	Yellow	Yellow	Yellow	Dark Blue	Yellow
Calveley	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue
Calver Hall North	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Dark Blue	Dark Blue	Yellow	Yellow	Yellow	Yellow
Congleton	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Blue
Cotebrook	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue

Tactical Planning Unit	Flooding												
	Internal Flooding Risk	External Flooding Risk		External Flooding Risk			Sewer Collapse Risk	Risk of flooding in a storm (1:50yr)		Flooding of open spaces			Blockage Assessment
	2020	2030	2050	2020	2030	2050	2020	2020	2050	2020	2030	2050	2020
Crewe													
Crowton													
Duddon													
Gawsworth													
Helsby													
Holmes Chapel													
Ince													
Irlam													
Kidsgrove													
Kingsley													
Lawton Gate													
Little Budworth South													
Madeley													
Marton (Macclesfield)													
Marton North													
Middlewich													
Moston West													
Nantwich													
Nether Peover													
Northwich													
Plumley													
Runcorn													
Rushton													

Tactical Planning Unit	Flooding												
	Internal Flooding Risk	External Flooding Risk		External Flooding Risk			Sewer Collapse Risk	Risk of flooding in a storm (1:50yr)		Flooding of open spaces			Blockage Assessment
	2020	2030	2050	2020	2030	2050	2020	2020	2050	2020	2030	2050	2020
Sandbach													
Swettenham													
Tarporley													
Tarvin													
Utkinton													
Wardle													
Warrington South													
Waverton													
Weaverham													
Winsford													
Wrenbury													

Table 4 Wastewater treatment works BRAVA results

Tactical Planning Unit	Wastewater Treatment Works		
	Risk of Wastewater Treatment Works (WwTW) Capacity		
	2020	2030	2050
Alpraham			
Alsager			
Arclid			
Audlem			
Audley			
Betley			
Biddulph			
Bosley			
Bulkeley			
Bunbury			
Calveley			
Calver Hall North			
Congleton			
Crewe			
Crowton			
Duddon			
Gawsworth			
Helsby			
Holmes Chapel			
Irlam			
Kidsgrove			

BRAVA	
	No concern (forecast)
	Potential area of focus (forecast)
	Area of focus (forecast)
	Not assessed / Not applicable

Tactical Planning Unit	Wastewater Treatment Works		
	Risk of Wastewater Treatment Works (WwTW) Capacity		
	2020	2030	2050
Kingsley			
Lawton Gate			
Little Budworth South			
Madeley			
Marton (Macclesfield)			
Marton North			
Middlewich			
Mouldsworth Motor Museum			
Nantwich			
Nether Peover			
Northwich			
Plumley			
Runcorn			
Rushton			
Sandbach			
Swettenham			
Tarporley			
Tarvin			
Utkinton			
Wardle			
Warrington South			
Waverton			
Weaverham			
Winsford			
Wrenbury			

Table 5 Environmental and flooding resilience results

Tactical Planning Unit	Resilience Assessment		
	Environmental		Flooding
	Potential for changes in the water quality of rivers as a result of climate change	Potential for changes in catchment contributions as a result of climate change	Outfall locking
	2050	2050	2020
Ackers Crossing Avondale			
Ackers Crossing Macclesfield Canal			
Acton Bridge			
Adderley			
Allostock Booth Bed Lane			
Allostock Hulme Hall Lane			
Alpraham			
Alsager			
Antrobus			
Arclid			
Audlem			
Audley			
Austerson			
Baddington			
Beeston			
Betley			

Resilience	
	More resilient
	Less resilient
	Not assessed

Tactical Planning Unit	Resilience Assessment		
	Environmental		Flooding
	Potential for changes in the water quality of rivers as a result of climate change	Potential for changes in catchment contributions as a result of climate change	Outfall locking
	2050	2050	2020
Biddulph			
Bosley			
Brereton			
Brindley			
Brookhouse Green			
Buerton North			
Buerton South			
Bulkeley			
Bunbury			
Byley			
Calveley			
Cholmondeston			
Church Minshull East			
Church Minshull West			
Congleton			
Cotebrook			
Crewe			
Crowton			
Darnhall			
Delamere			
Duddon			

Tactical Planning Unit	Resilience Assessment		
	Environmental		Flooding
	Potential for changes in the water quality of rivers as a result of climate change	Potential for changes in catchment contributions as a result of climate change	Outfall locking
	2050	2050	2020
Dunkirk			
Dutton			
Eaton			
Flash			
Fords Lane Mow Cop			
Gawsworth			
Gorsey Bank			
Hassall			
Helsby			
Holmes Chapel			
Hoo Green			
Ince			
Irlam			
Kerminsham			
Kidsgrove			
Kingsley			
Lawton Gate			

Tactical Planning Unit	Resilience Assessment		
	Environmental		Flooding
	Potential for changes in the water quality of rivers as a result of climate change	Potential for changes in catchment contributions as a result of climate change	Outfall locking
	2050	2050	2020
Little Budworth North			
Little Budworth South			
Little Leigh Central			
Little Leigh East			
Madeley			
Manley			
Marton North			
Marton South			
Middlewich			
Moston South			
Moston West			
Mouldsworth			
Nantwich			
Nether Peover			
Newbold 1-14 Brownlow Heath			
Newton Hollows			
Northwich			
Oldfields			
Plumley			
Runcorn			
Rushton			
Sandbach			
Stanthorne			

Tactical Planning Unit	Resilience Assessment		
	Environmental		Flooding
	Potential for changes in the water quality of rivers as a result of climate change	Potential for changes in catchment contributions as a result of climate change	Outfall locking
	2050	2050	2020
Swettenham			
Tabley			
Tarporley			
Tarvin			
Timbersbrook			
Timbersbrook cloud view			
Tiverton			
Utkinton			
Vale Royal Abbey			
Wardle			
Warrington South			
Waverton			
Weaverham			
Wervin			
Whitegate			
Whitley Town Green No 1			
Whitley Town Green No 2			
Whitley Town Green No 3			
Wimboldsley			
Winsford			
Wrenbury			

3.3 Problem characterisation

3.3.1 Complex catchment

Complex catchments were determined through problem characterisation using a combination of a complex and strategic catchment scores based on strategic need (largely derived from growth and climate forecast models) and modelled risks in each of the TPU (largely based on BRAVA).

Within the Weaver Gowy, the Alsager TPU was identified to be 'complex' based on problem characterisation.

3.3.2 Strategic growth catchments

Through the various risk identification assessments, a number of locations were identified through opportunity workshops that require more strategic analysis. These are areas with high growth, a high number of risks and multiple potential scenarios. Different bespoke scenarios are applied to strategic catchments based on the needs and drivers of the catchments to understand the variability of risk as a first step for optioneering, so that the range of options developed can mitigate a different range of scenarios.

There are no TPUs within the Weaver Gowy that were identified as having 'strategic growth'.

3.3.3 Alsager

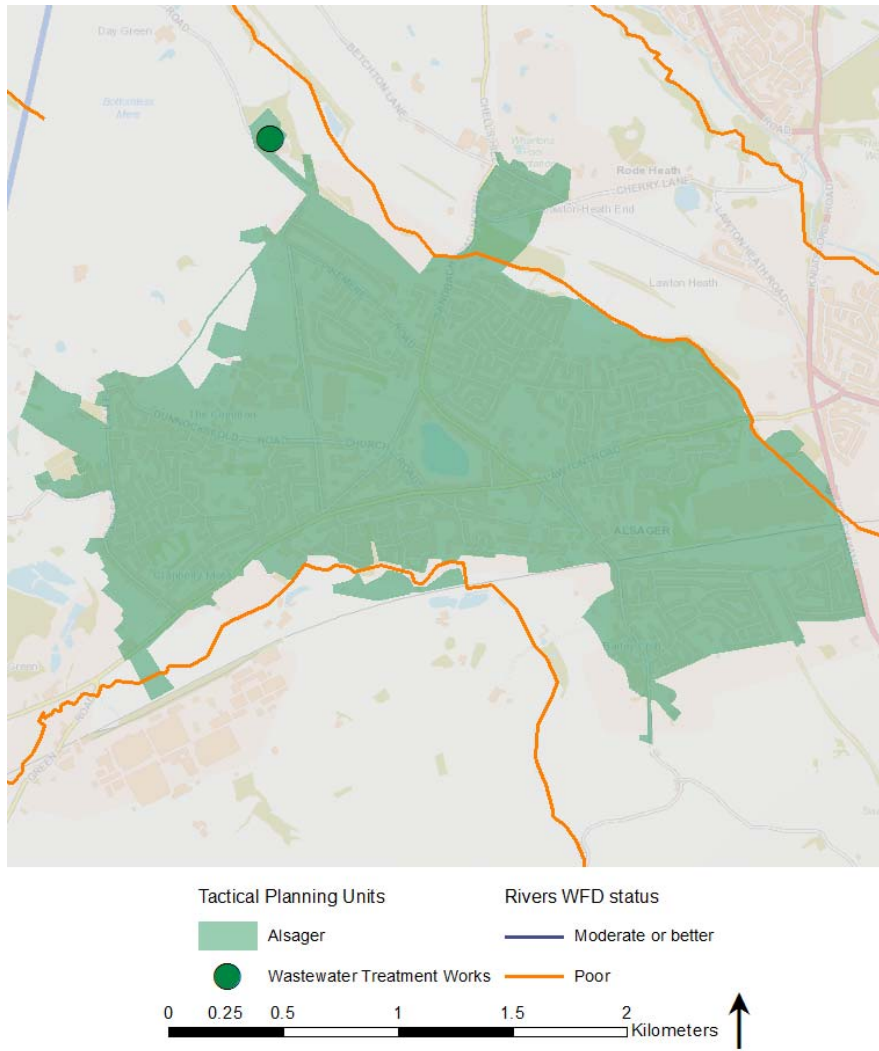
The Alsager TPU is to the south east of the Weaver Gowy catchment (Figure 6), consisting of over 180km of sewer network which serves over 5,700 properties and a residential population of approximately 12,700 people. The population is projected to grow significantly, with an increase of 20% by 2050, which could drive associated development and increase pressure on our network and assets. The two watercourses, Kidsgrove Stream (including Day Green Stream) and Valley Brook (Source to Englesea Brook), are both classed as 'poor' under the Water Framework Directive (WFD) 2019.

Alsager is a complex catchment with a number of storm overflows within the area, and uncertainty around medium and long term performance particularly with regards to meeting future new targets. Alongside this the BRAVA process identified risks for internal flooding, external flooding, flooding of open spaces, pollution, sewer collapse, and blockages by 2050.

The Government's Storm Overflow Discharge Reduction Plan (SODRP) was published in August 2022, which we have aligned with through both the Water Industry National Environment Programme (WINEP) and DWMP development. This could lead to significant changes and investment to both wastewater treatment works and the drainage network.

Note: At the time of DWMP publication, the WINEP was not confirmed by regulators so is likely to change.

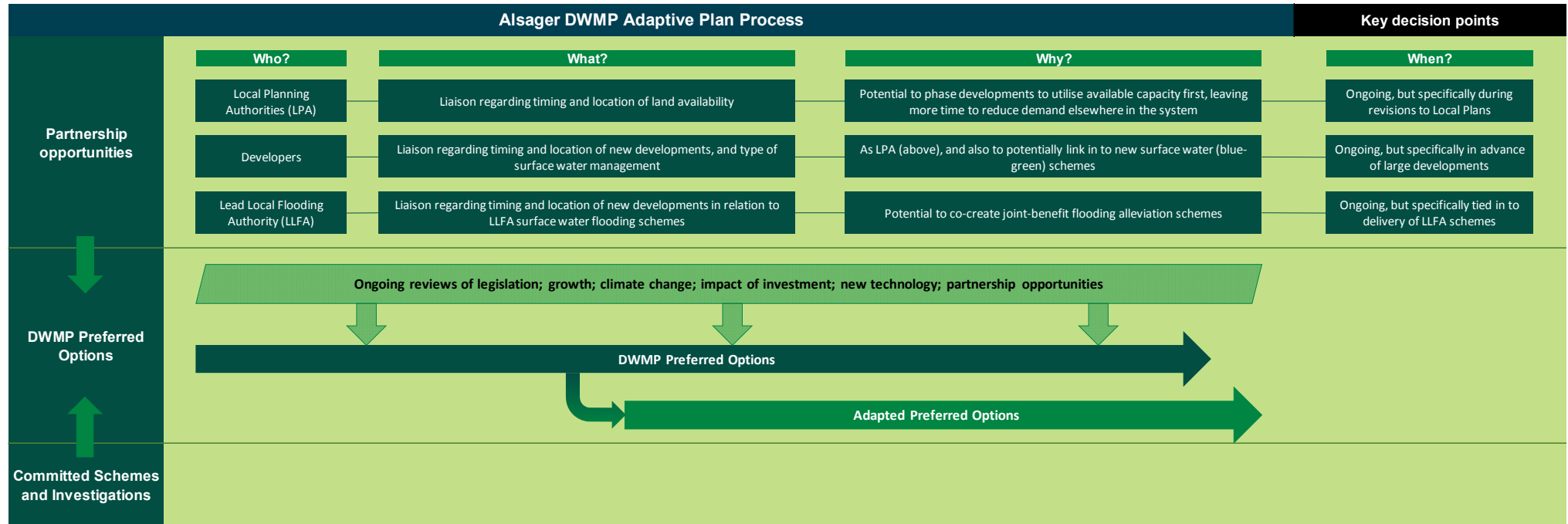
Figure 6 Map of the Alsager TPU



3.3.3.1 Alsager adaptive plan

The first part of the adaptive plan process (Figure 7) highlights the importance of partnership working and regular data reviews.

Figure 7 Adaptive planning process



In a catchment where growth is a significant factor in future performance, it is key to maintain regular conversations with those stakeholders that have knowledge about future developments and can potentially influence their impact. Key organisations include:

- Local Planning Authority;
- The Environment Agency;
- Lead Local Flood Authorities; and
- Housing developers.

The DWMP plan for each TPU is developed based on a number of data sources. Some of these are prone to change over time, which means that original assessments can become out of date. As data from these sources change, it makes sense to re-evaluate the DWMP plan to check the impact on the plan. Examples of data that change over time are shown in Table 6.

Table 6 Examples of data that change over time and can impact upon the plan

Type of data or information	Possible impacts of changes
Government legislation	More or less stringent requirements or regulations, which may require different levels of investment, and policy changes that may drive better or worse incentives on demand.
Development growth projections	These will vary with time in line with economic conditions, changing demographics, or government policy. This can result in the number of new houses and businesses growing at a different rate than originally forecast.
Climate change projections	As more climate data becomes available, climate projections are modified, which may indicate changes to temperature and rainfall patterns.
Impact of investment	As new drainage schemes or new strategies are implemented, we will continue to evaluate their performance. If they turn out to be more or less successful than anticipated, this may allow the extent of another option type to be reduced or increased accordingly.
Development of new technology	Over time, new technology provides opportunities to address and resolve risks differently, or more efficiently.
Partnership opportunities	We will work closely with key stakeholders to address risks jointly. Over time, these stakeholders may see changes in their own risks and funding levels, which may present opportunities for greater collaboration.

Figure 8 shows the second part of the Alsager adaptive plan, reflecting the different option types identified as being appropriate for Alsager. Each line represents a different option type – e.g. schools education programme. The plan shows that each option type will be regularly reviewed in line with the method described in part one. This allows new information and opportunities to be used to adapt the plan by either increasing or reducing the extent of some option types.

Within Alsager, there are opportunities to carry out investigations before making final decisions on the final strategy. This means that we can properly evaluate options before committing to significant investment. These investigations will take into account things such as:

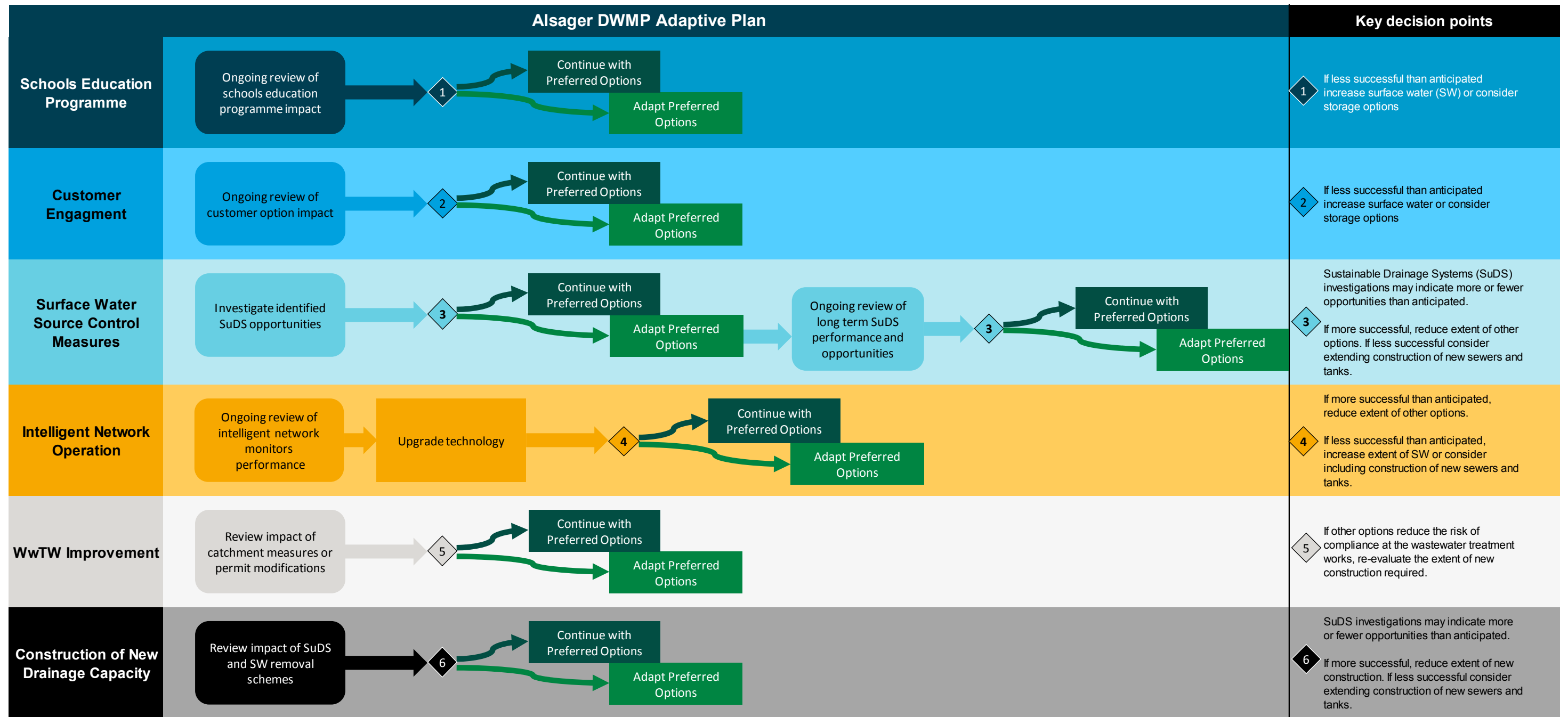
- Technical feasibility;

- Benefit of the work;
- Customer impact;
- Environmental impact; and
- Cost.

The adaptive plan below demonstrates multiple potential scenarios and pathways, and should be read in conjunction with the optimised DWMP plan for the relevant TPU (refer to section 5.2).

The adaptive plan should be reviewed regularly in order to incorporate potential changes in key factors such as legislation, population growth and climate change, which could impact standards or targets, as highlighted above in Figure 7. The adaptive plan may contain potential investigations which are currently excluded from the optimised DWMP plan (refer to section 5.2) until there is more certainty. It is therefore important that both the adaptive plan and the optimised plan are developed together.

Figure 8 Alsager adaptive plan – Possible adaptive pathways as knowledge and opportunities change over time



4. Options development

The approach for options development is an iterative screening process to identify most appropriate solutions for issues in each TPU. These solutions were taken forward for a best value assessment which will select the preferred option (Figure 9).

An options hierarchy was then used which has been endorsed by customers and stakeholders from across the North West to select preferred solutions (Figure 10). The hierarchy covers a range of option types from behavioural, to blue-green solutions e.g. SuDS and traditional grey solutions e.g. storage tanks across benefits such as reducing demand, better system management and creating capacity.

A key element to this has been built around co-development, co-funding and co-delivery through partnerships and third parties (for instances where a specific skill set is required).

Figure 9 Options development process

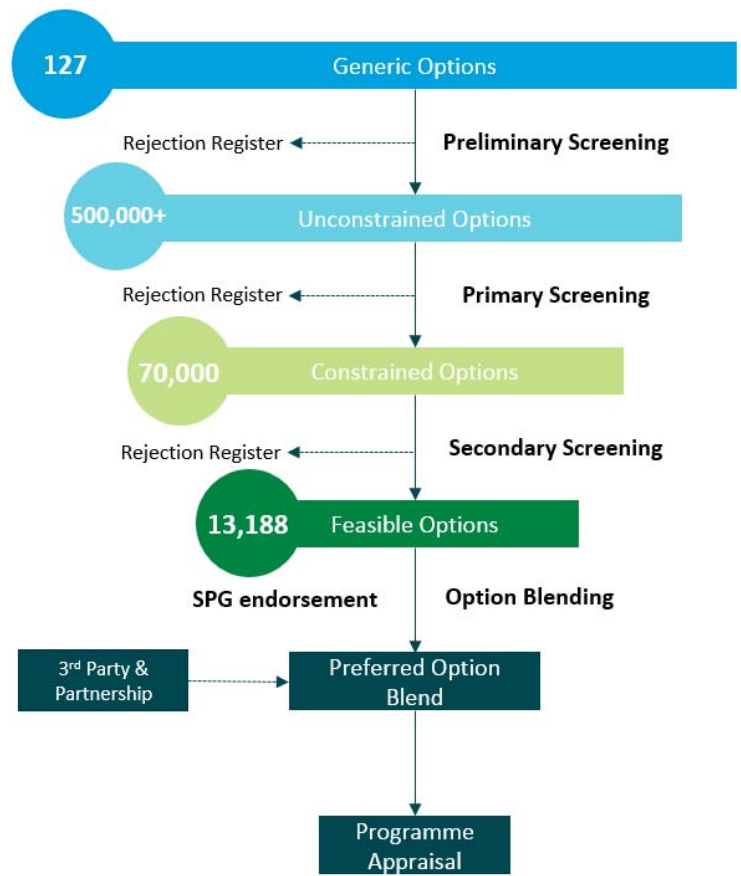
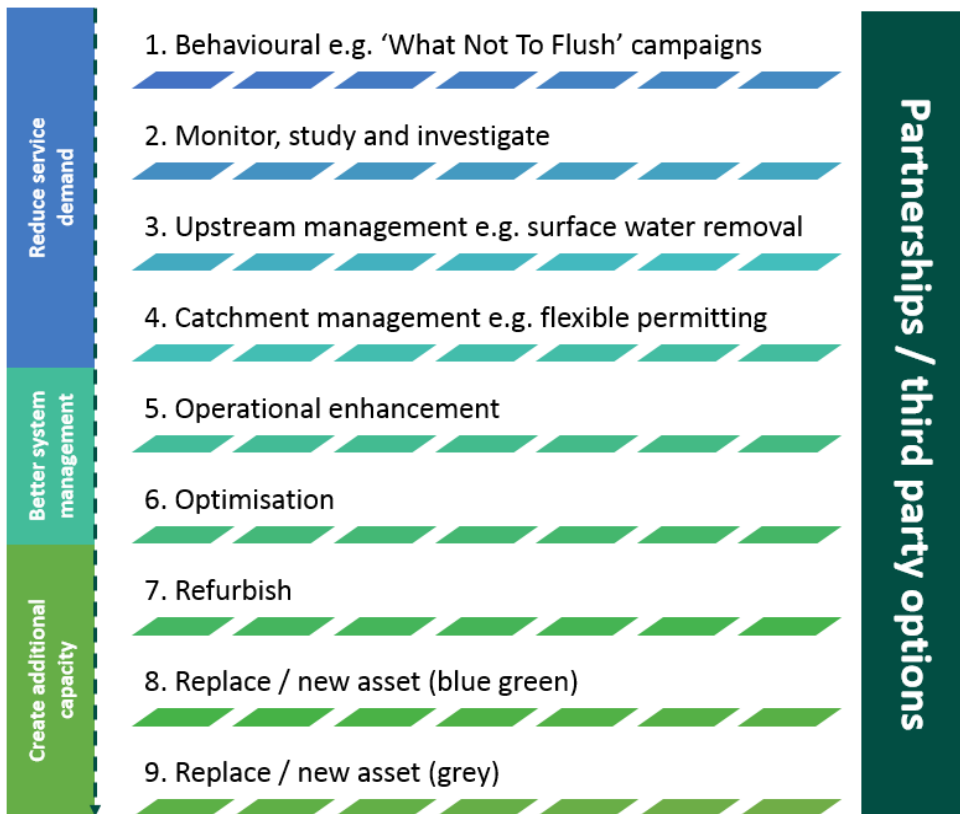


Figure 10 Options hierarchy



4.1 Weaver Gowy partnership opportunities

In order to identify and develop potential partnership options in the Weaver Gowy, through the SPG we have shared the results from the risk identification stages such as BRAVA. This was done through a series of workshops and the purpose was to identify areas of shared risk and partnership opportunities.

The DWMP Partnership Opportunities Pipeline (PoP) was consequently created using the outputs of this engagement. The pipeline includes opportunities at a range of different levels of maturity and confidence in development, as such these are not confirmed or funded schemes at this time. However, they provide an indication of areas where we may be able to work collaboratively with stakeholders in the future when more certainty is available on need and funding.

From the initial suggestions made during the SPG workshops, the DWMP PoP has undergone various refinements as summarised below:

- Where possible, the potential partnership opportunities were mapped and this created over 1,000 opportunities for further investigation. The suggestions were screened depending on the opportunities timescales, proximity to UUW assets and the level of detail. This allowed UUW to refine the opportunities, which were believed to have the most potential;
- This refined list was presented back to the SPGs for updates, review and discussion. This further discussion allowed additional benefits to be identified and better mapping. This was particularly important for potential integrated drainage partnership opportunities as it helps to understand the holistic picture of the flooding mechanism. This refined the list further to approximately 500 potential partnership opportunities;
- Following the SPG events, we mapped the updated DWMP partnership opportunities against asset locations and UUW areas of interest e.g. flooding clusters and mutual natural flood management, to identify those most suited to the DWMP. This produced the list of key DWMP partnership opportunities; and
- The key list of opportunities have been reviewed against the wider DWMP options development process.

The remaining opportunities that did not make it into the key DWMP PoP, for example in areas with no wastewater assets, were captured in our organisation-wide partnership opportunity pipeline where they are considered alongside all other partnership opportunities. Another key reasons for opportunities not being included in the DWMP PoP is where projects may be more imminent as the DWMP is a longer-term plan.

Examples of potential partnership opportunities that were shared during the Weaver Gowy SPG workshops are shown in Figure 11 and Table 7.

We are further developing the organisation-wide partnership opportunity pipeline and are developing a central partnership prioritisation process which comprises of two elements; the partnership solution identification stage and a specific partnership assessment activity which aims to support decision making for partnership schemes against a set of specific criteria. This will allow UUW to harness scheme specific collaboration opportunities as we recognise the need for more strategic partnerships, and we will build on successes from historic partnerships in the North West.

For further information on our approach to partnership working, refer to TA2.

Figure 11 Overview of the potential partnership opportunities in the Weaver Gowy

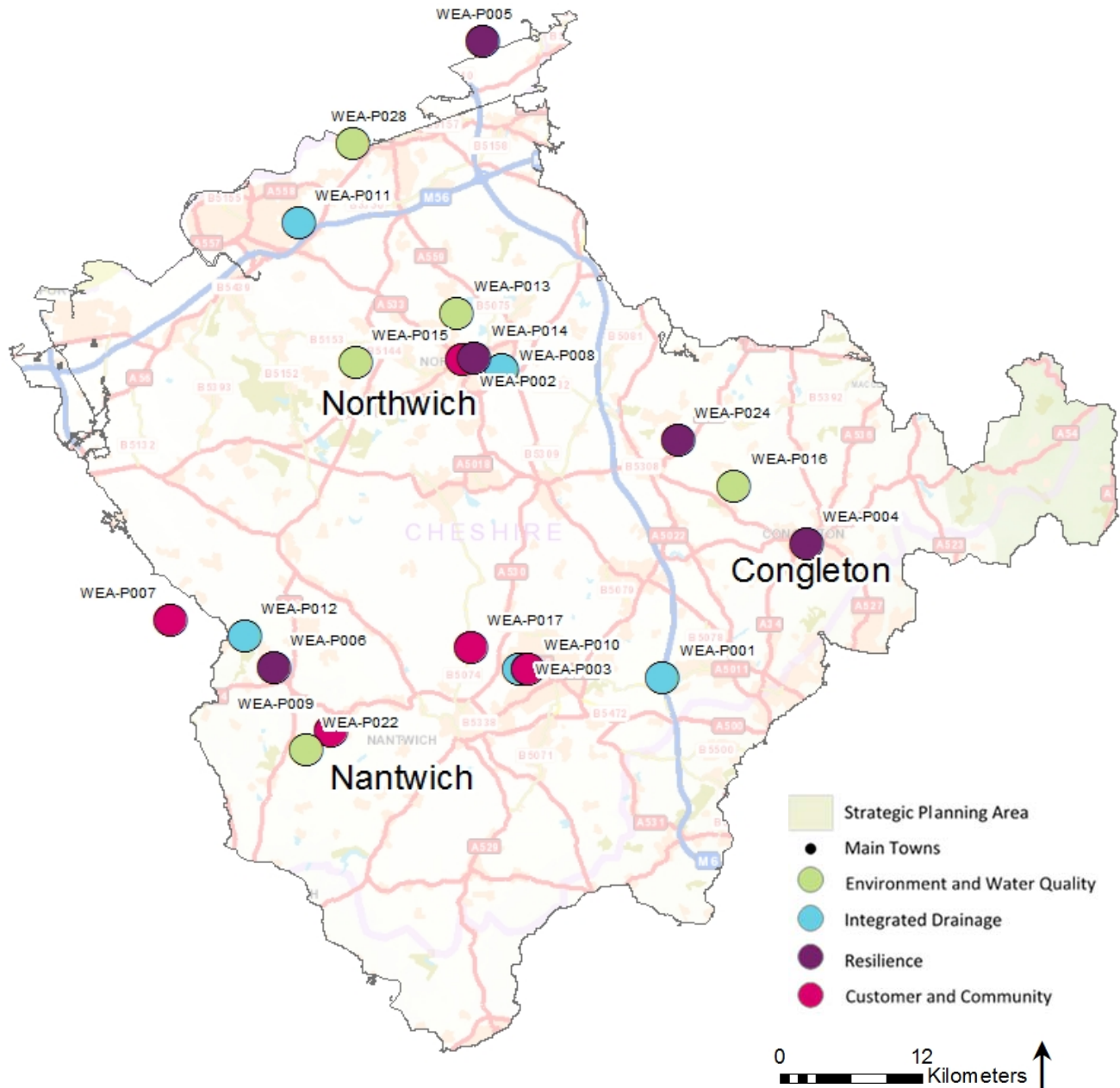


Table 7 Partnership opportunities identified within the Weaver Gowy

ID	Partnership Opportunity	Theme	Organisation Type
WEA-P001	Highway drainage improvement project	Integrated Drainage	Public Bodies
WEA-P002	Community sustainable drainage solutions project	Customer and Community	Public Bodies
WEA-P003	Flood risk management project	Integrated Drainage	Public Bodies
WEA-P004	Natural flood management interventions project	Resilience	Public Bodies
WEA-P005	Natural environment restoration project	Resilience	Undisclosed
WEA-P006	Improving natural capital project	Resilience	Undisclosed
WEA-P007	Agricultural partnerships project	Customer and Community	Public Bodies
WEA-P008	Flood risk management project	Integrated Drainage	Public Bodies
WEA-P009	Community outreach project	Customer and Community	Undisclosed
WEA-P010	Community outreach project	Customer and Community	Undisclosed
WEA-P011	Sustainable drainage solutions project	Integrated Drainage	Local Councils and Planning Authorities
WEA-P012	Sustainable drainage project	Integrated Drainage	Private Sector
WEA-P013	Habitat restoration project	Environment and Water Quality	Private Sector
WEA-P014	Natural environment restoration project	Resilience	Private Sector
WEA-P015	Water quality protection project	Environment and Water Quality	Private Sector
WEA-P016	Community outreach project	Environment and Water Quality	Private Sector
WEA-P017	Community outreach project	Customer and Community	Private Sector
WEA-P022	Communities working to improve water quality and the natural environment project	Environment and Water Quality	Private Sector
WEA-P024	Sustainable drainage project	Resilience	Private Sector
WEA-P028	Habitat restoration project	Environment and Water Quality	Private Sector

Note: The above are suggestions made by stakeholders but not all of them meet DWMP criteria for potential partnership working. Suggestions made that do not meet DWMP criteria have been added to UUW companywide partnership pipeline for further consideration.

4.1.1 Wider partnerships within the Weaver Gowy catchment

Within the Weaver Gowy catchment, there are numerous challenges such as flood risk, water quality, climate change and population growth. In order to mitigate the risks and to protect both communities and the environment, there is an opportunity for partnership working.

This is something that we have strongly supported in the past and will continue to support moving forwards both through the DWMP and other avenues within the business.

Figure 12 and Figure 13 are examples of partnership that we are proud be involved in within the Weaver Gowy catchment.

Figure 12 Example of the [✂] partnership

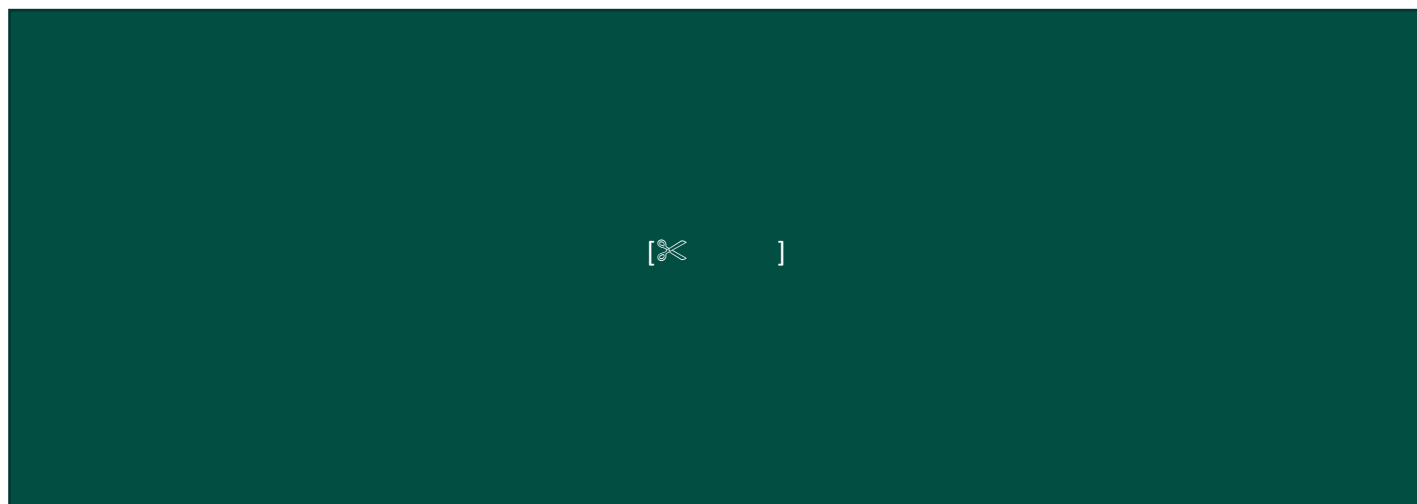


Figure 13 Example of water friendly farming partnership

Water Friendly Farming

Working in partnership, the Mersey Rivers Trust, Severn Rivers Trust and United Utilities used funding from the Water Environment Grant to help protect and improve the water quality in the Upper Weaver, Cheshire. Six sub catchments in this area were chosen due to their moderate to poor Water Framework Directive status. Farms in the catchments were provided with free advice, water quality management plans and small grants to implement the water quality improvement measures identified in the plans.

These measures included:

- Yard works - to separate clean and dirty water and reduce foul drainage runoff and the risk of water pollution;
- Gateway/crossing point resurfacing - to prevent erosion and reduce the risk of water pollution from surface runoff
- Fencing - to prevent livestock entering water courses, reducing erosion of banks and soil runoff;
- Livestock - interventions to provide livestock with drinking sources alternative to the watercourse in order to reduce bank erosion, runoff and water pollution from faecal contamination and mobilised sediments;
- Tree and hedge planting - to reduce soil erosion and runoff and extend or link existing hedgerow to create wildlife corridors; and
- Soil management - aeration, sward lifting, arable subsoiling and the provision of winter cover crops and undersown cereal crops to ensure that the more productive topsoil remains in fields and reduce runoff, soil erosion and water pollution.



Key outcomes

- 80 water management plans written
- 40 farms committed to works with funded interventions
- Over £150k of funding provided to farms

The project was completed March 2022

5. Options for the Weaver Gowy

The DWMP's purpose is to provide a long-term view of potential interventions and opportunities up to 2050. We acknowledge that planning this far in the future can be uncertain. This is why it is important that the DWMP is also aligned with nearer term activities which could influence and change the trajectory of future risks and opportunities.

The success of the DWMP through investment across the North West will depend on continued and new partnership working which is at the heart of both the DWMP, and the development of the business plan for investment cycle 2025 – 2030 (also known as AMP8). We are aligned to ensure that decisions made support the continued growth of the North West for customers and communities, and allow the environment to thrive for future generations.

This section provides a high level overview of the potential benefits and investment that can be delivered across the North West through key activities such as the Water Industry National Environment Programme (WINEP) for investment cycle 2025 – 2030, longer-term measures identified through the DWMP, and other projects such as Better Rivers: Better North West which is our commitment to improving river health.

5.1 WINEP development

Note: At the time of DWMP publication, the WINEP was not confirmed by regulators so is likely to change. The WINEP data presented below aligns to the formal submission from U UW in January 2023.

The WINEP is a programme of works that is jointly developed between water companies and regulators to meet statutory requirements and deliver environmental improvements to customers and communities. It sets out how the water industry will contribute to improving the natural environment.

The water industry has undertaken significant investment in the last three decades to improve the water environment and thus aquatic life. The WINEP drives the largest investment programme in the water environment nationally. For investment cycle 2020 to 2025, it includes activities such as asset improvements, investigations, monitoring and catchment interventions.

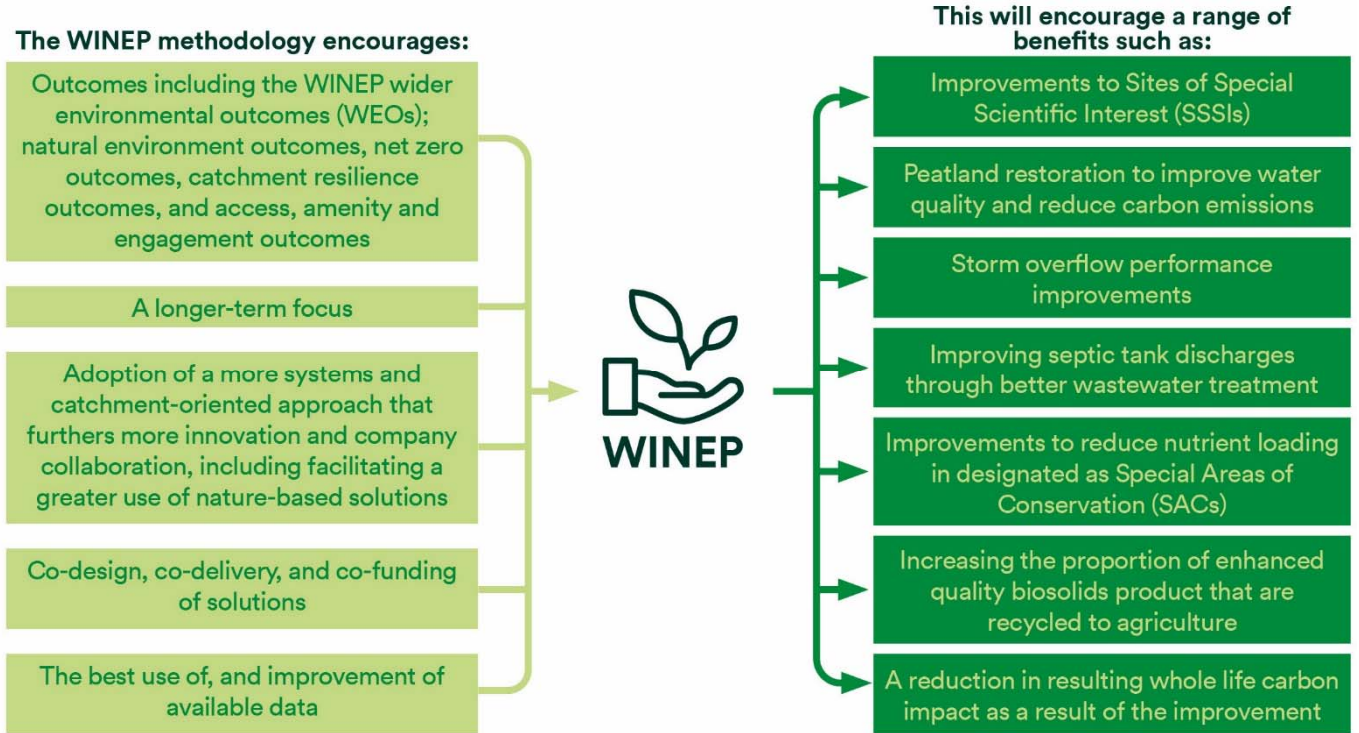
The next WINEP for investment cycle 2025 – 2030 (AMP8) is still to be confirmed (after the publication of the DWMP) and you will be able to find out more about what this means for the Weaver Gowy when we publish our AMP8 submission in autumn 2023.

Moving forwards, there is a collective ambition for the WINEP to deliver even more for the environment, for customers and for communities. This reflects society's high expectations and the UK government's ambition to leave the environment in a better state for the next generation.

As part of this, a large portion of the WINEP for the next investment cycle (2025 – 2030) aims to improve storm overflow performance. The programme has been designed to meet the Government's Storm Overflow Discharge Reduction Plan (SODRP) trajectory targets, address proven harm where we have been able to identify the best value solution and then the remainder includes action at the most cost effective overflows to achieve a reduction in spill frequency to around 20 spills per annum average by 2030. Subsequent investment periods will see further reductions in line with the Government requirements. The scale of transition required to meet the SODRP targets means that U UW will be delivering substantial WINEP investment programmes for the next 25 years.

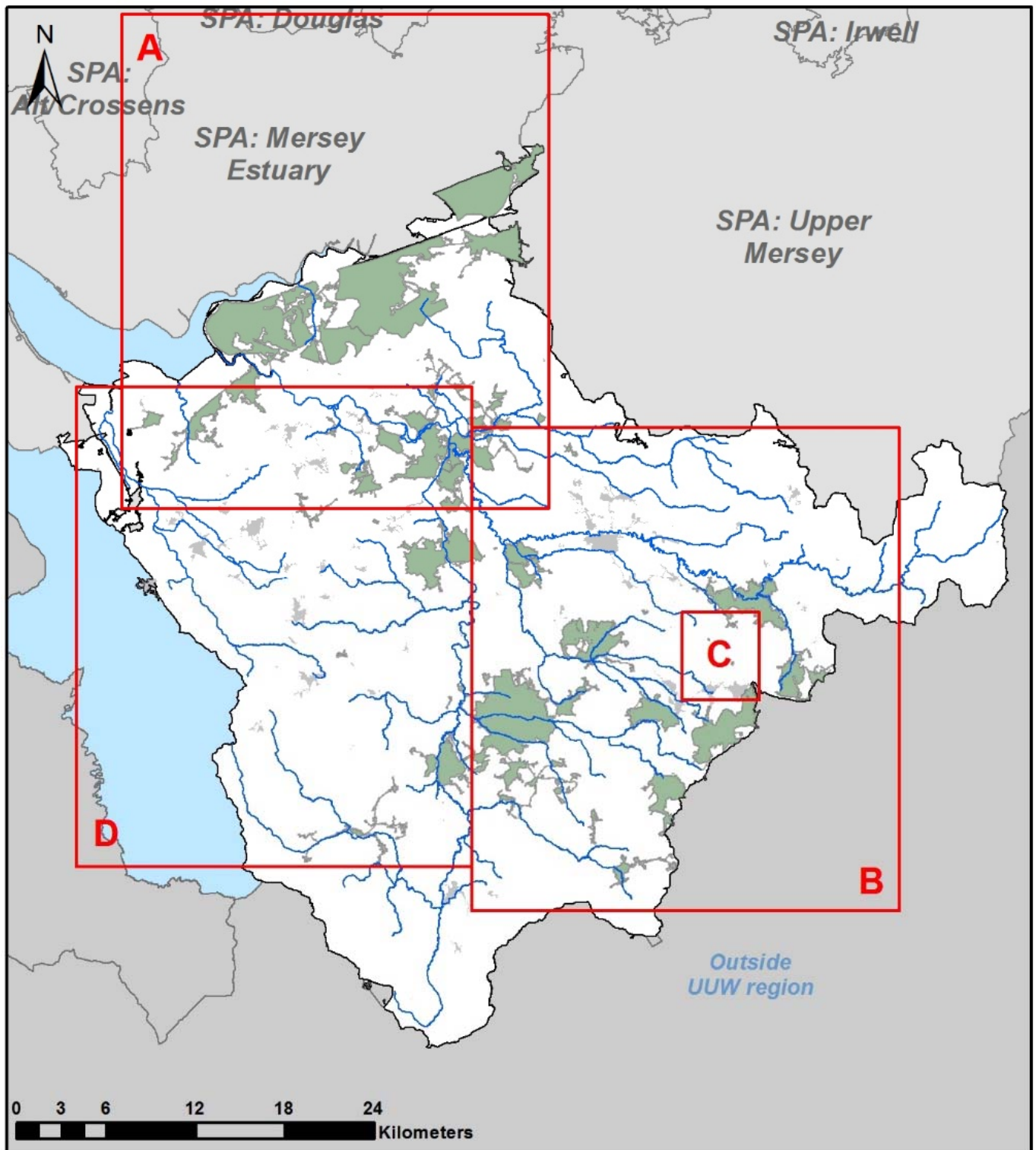
Figure 14 highlights some of the potential benefits as a result of the WINEP.

Figure 14 Potential benefits to the North West as a result of the WINEP



The WINEP will provide great opportunities to drive and deliver benefits across the North West region, and Figure 15 shows which locations within the Weaver Gowy have the potential for investment cycle 2025 – 2030 WINEP schemes, based on the January 2023 WINEP submission.

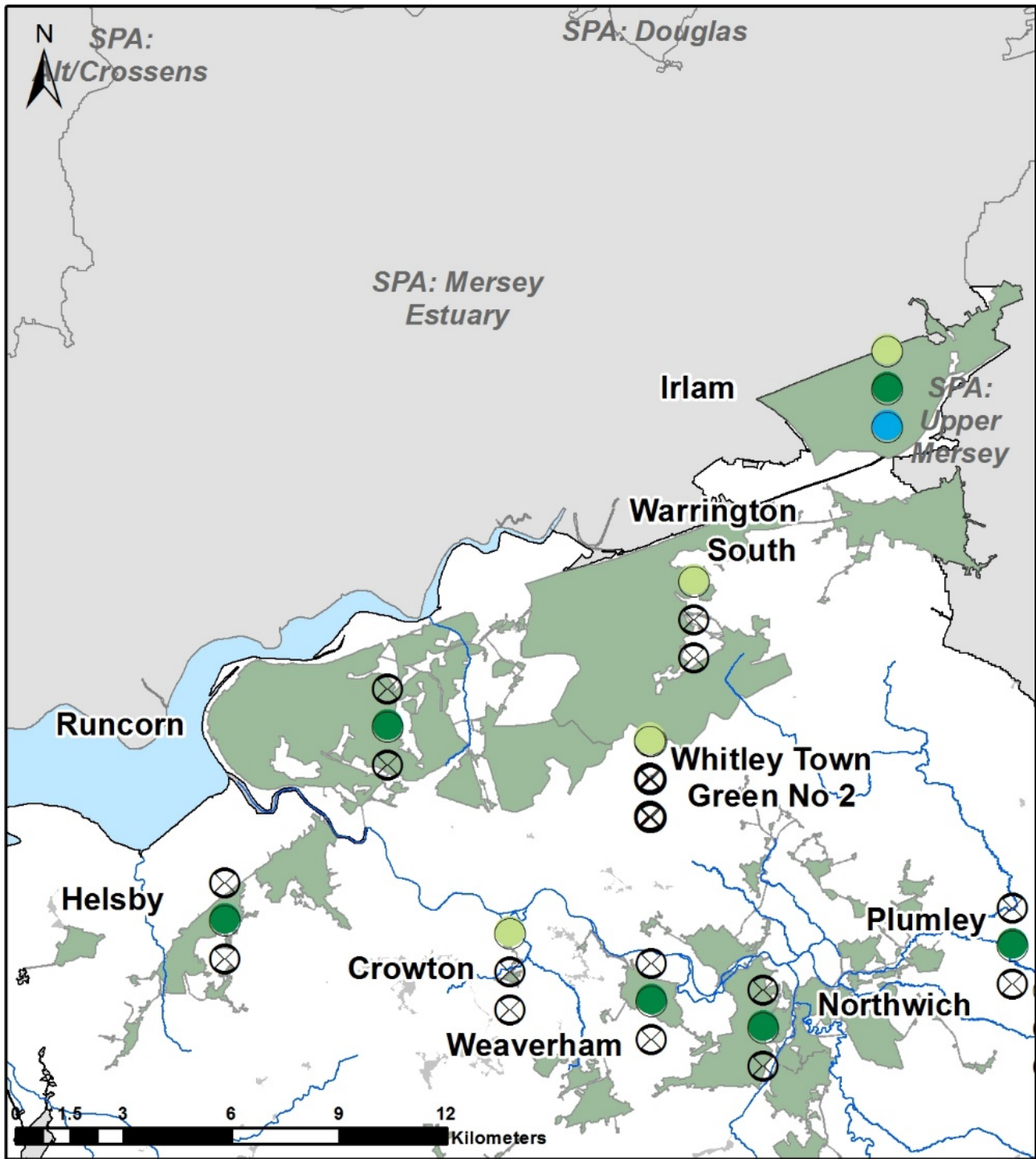
Figure 15 Potential WINEP investment in the Weaver Gowy for investment cycle 2025-2030



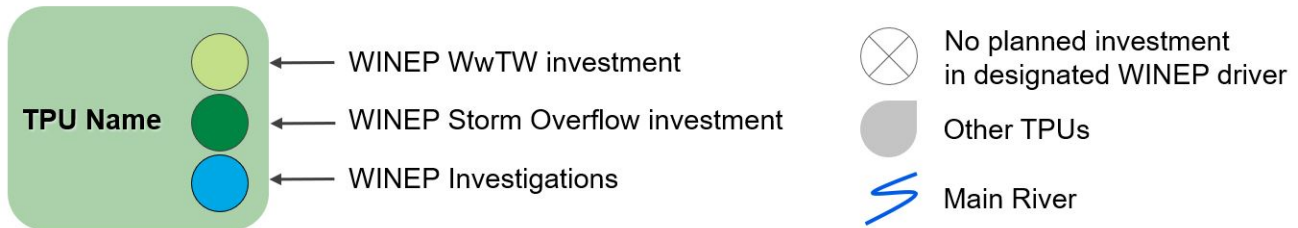
All potential WINEP interventions are subject to a regulatory decision making process that is ongoing at time of DWMP publication.

The insert box references in Figure 15 above refer to Figures 16 to 19.

Figure 16 Potential WINEP investment in the Weaver Gowey for investment cycle 2025-2030

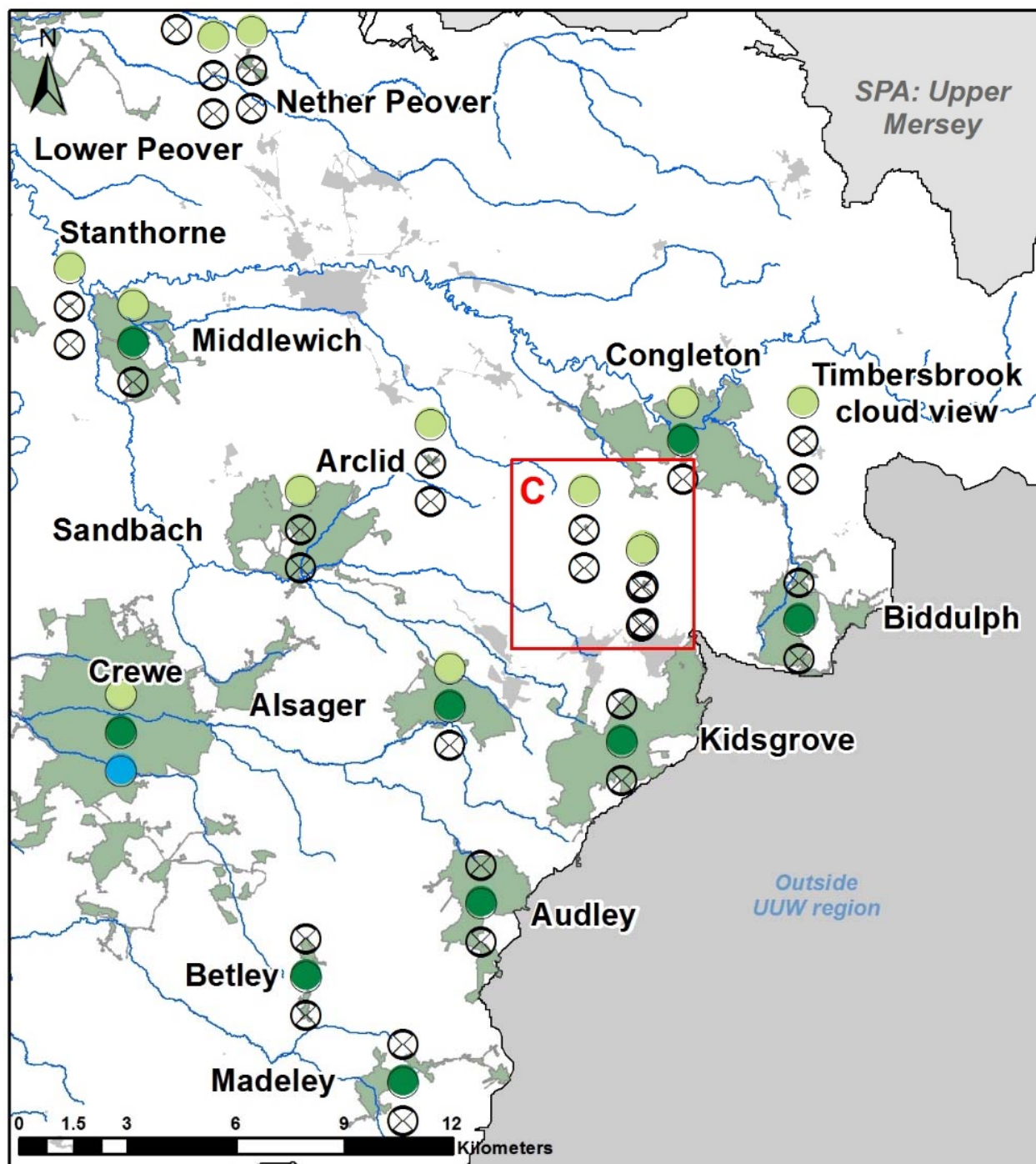


TPUs with WINEP driver investment

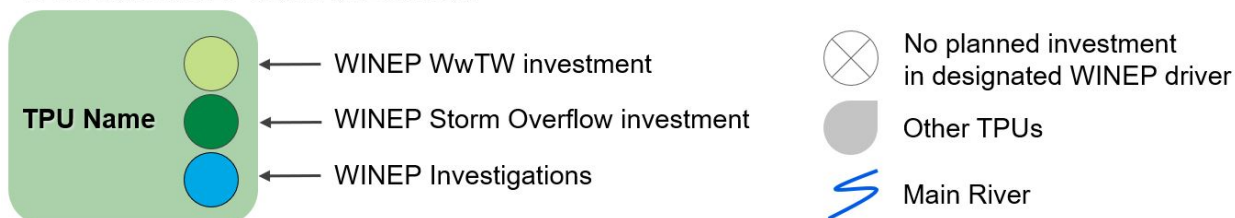


All potential WINEP interventions are subject to a regulatory decision making process that is ongoing at time of DWMP publication.

Figure 17 Potential WINEP investment in the Weaver Gowy for investment cycle 2025-2030

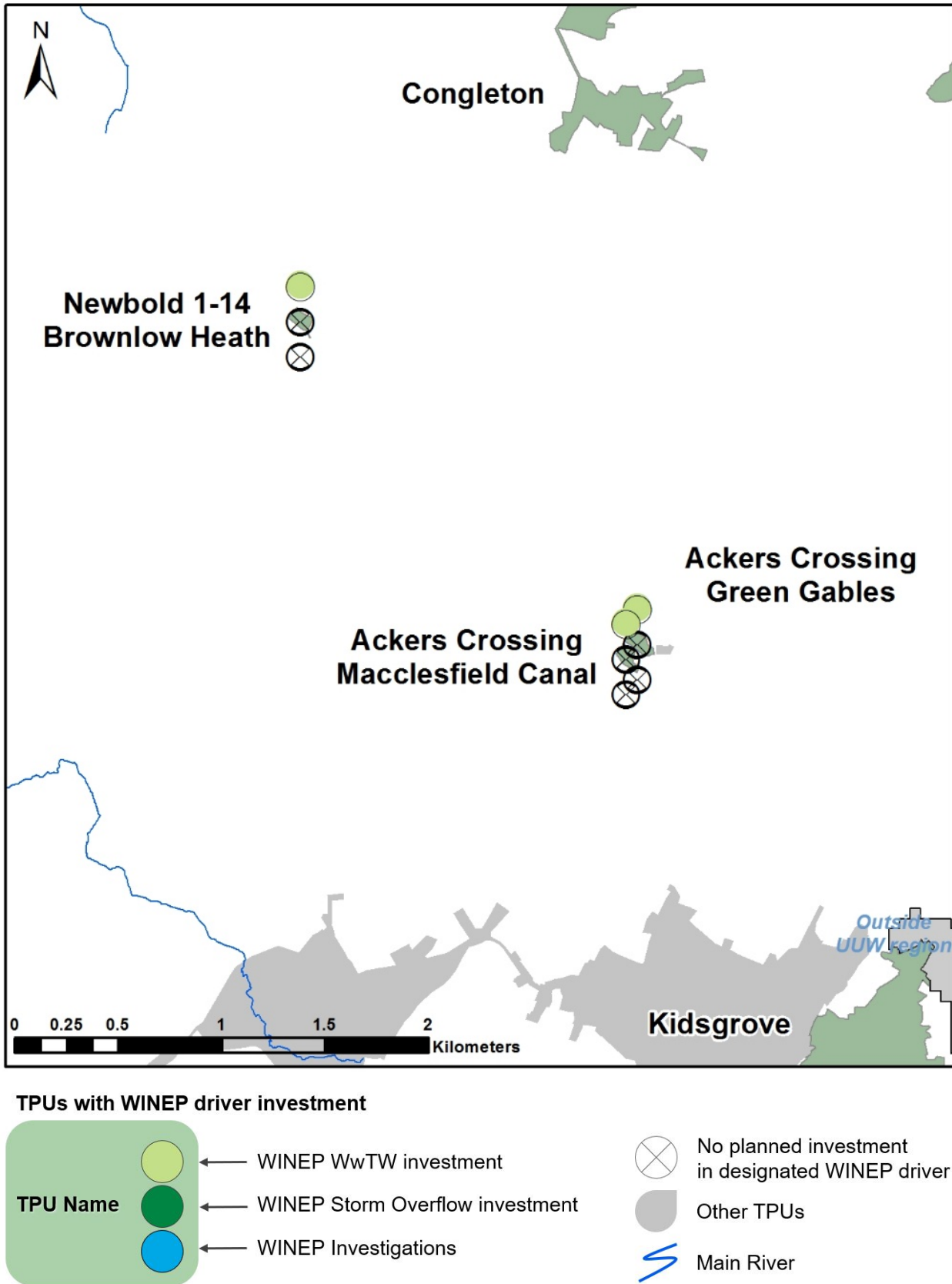


TPUs with WINEP driver investment



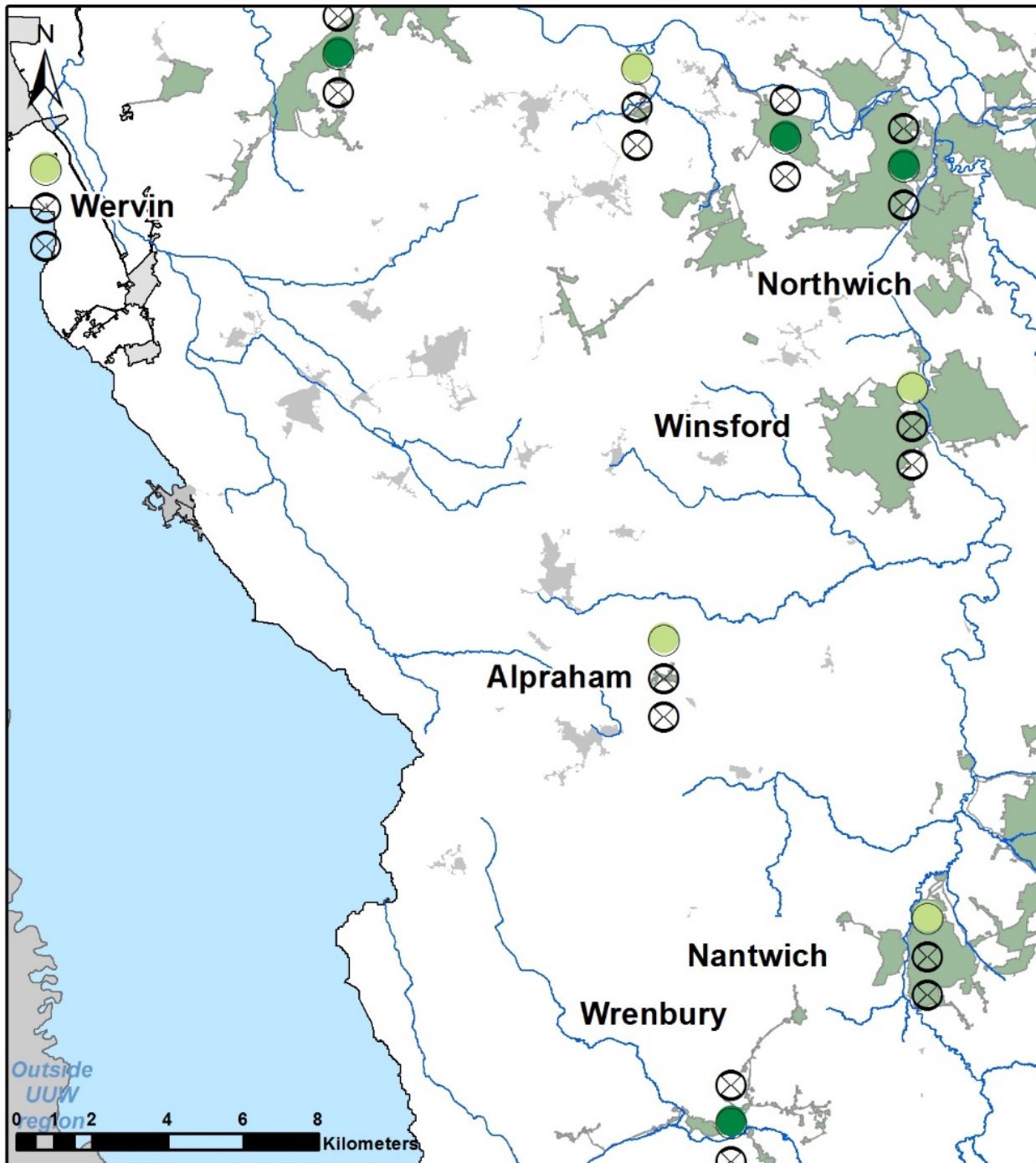
All potential WINEP interventions are subject to a regulatory decision making process that is ongoing at time of DWMP publication.

Figure 18 Potential WINEP investment in the Weaver Gowy for investment cycle 2025-2030

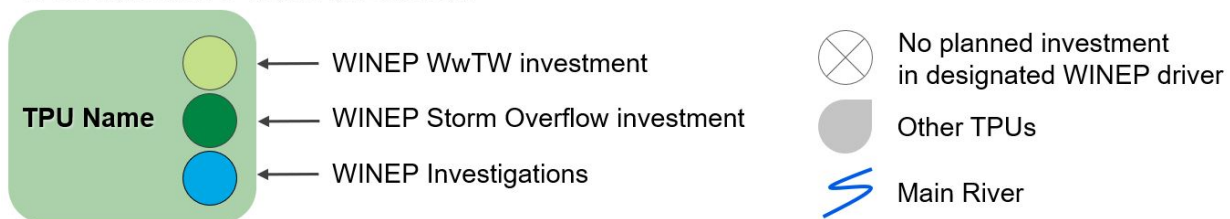


All potential WINEP interventions are subject to a regulatory decision making process that is ongoing at time of DWMP publication.

Figure 19 Potential WINEP investment in the Weaver Gowy for investment cycle 2025-2030



TPUs with WINEP driver investment



All potential WINEP interventions are subject to a regulatory decision making process that is ongoing at time of DWMP publication.

5.2 Options considered within the DWMP

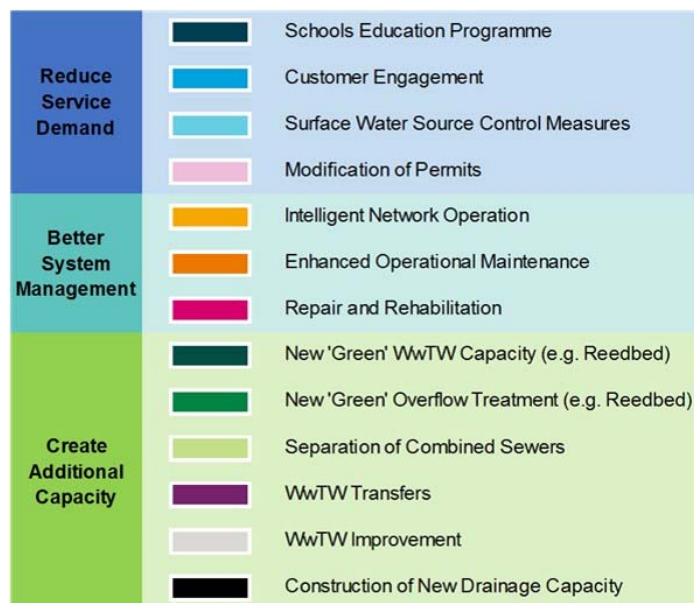
As highlighted above, the delivery of the WINEP will drive improvements and deliver benefits across the North West in the nearer-term. The DWMP is closely aligned with the ambitions and targets included within the WINEP, and included below are potential further enhancement schemes to be delivered over the next 25-years as part of the DWMP.

The development of the DWMP has utilised various data sources across the different stages of the plan, such as risk identification and BRAVA, partnership opportunities, and option development. This has allowed us to understand what options and interventions could be introduced to mitigate shared risks and harness opportunities for collaboration. This aspect of the DWMP is known as preferred options and has been developed using a decision support tool and by following the option hierarchy. The preferred options are high-level potential interventions up to 2050.

The development of the DWMP preferred options followed an iterative screening processes (outlined in section 4) which have been grouped into option types as shown in Figure 20. There are three main categories which are:

- ‘Reducing Service Demand’ which focusses on either reducing the amount of wastewater that is produced, or preventing it from reaching the sewer network;
- ‘Better System Management’ which focusses on managing and operating the existing assets in a more efficient or effective manner; and
- ‘Create Additional Capacity’ which focusses on building new assets, for example storage tanks or new treatment work process units, where it is not possible or economical to reduce demand or improve operations any further.

Figure 20 Option types



Potential opportunities for investment as part of the DWMP can be summarised as:

- Level 1: Regional measures (section 5.2.1);
- Level 2: Options for the Weaver Gowy (section 5.2.2); and
- Level 3: Options for each location within the Weaver Gowy (section 5.2.3).

Across these three levels, there are numerous opportunities over the next 25 years for continued and new partnerships in addition to new innovative technology.

The following sections provides an overview of the outputs from the DWMP. This includes all potential interventions that could be undertaken over the next 25-years to deliver benefit to the North West under the assumption of unconstrained funding. Therefore, it is likely that the interventions implemented will vary.

5.2.1 Level 1: Regional measures

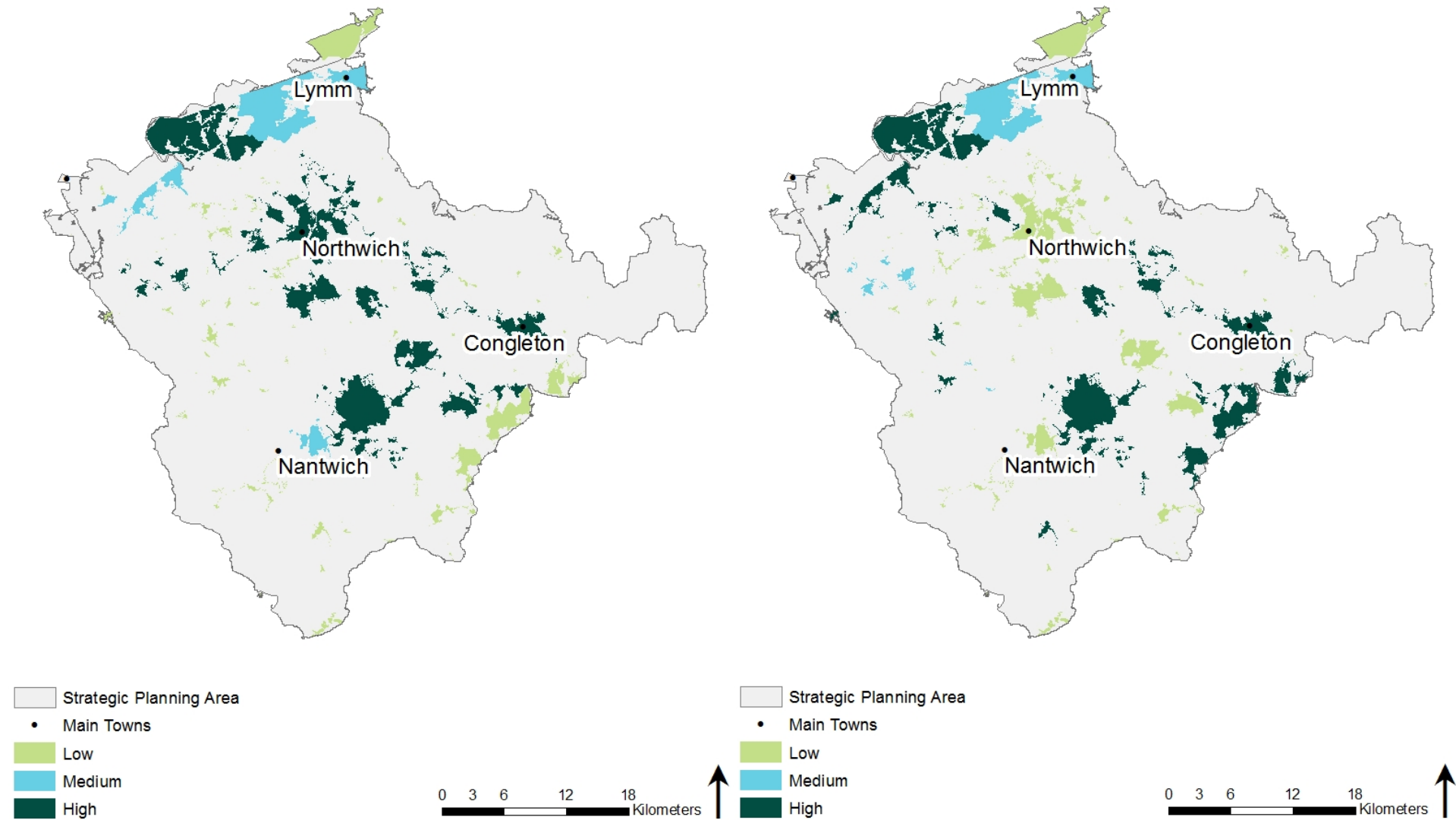
Across these option types, there are numerous opportunities over the next 25 years for continued and new partnerships in addition to new innovative technology.

Of these options a number can be considered regional options – those which could be implemented across the North West but may bring tangible benefits in some areas more than others. These can be investigated further ahead of investment cycle 2025 – 2030 where viable.

Across the Weaver Gowy, customer engagement options (Figure 21) comprising of options to work with customers to reduce demand and increase awareness of ‘what not to flush’ have been identified as having the potential to deliver the highest benefit in areas such as Congleton TPU.

Sustainable Drainage System (SuDS) options have been assessed, these form a key part of the strategy to manage rainwater from entering the sewer system in Kidsgrove and Audley TPUs (Figure 21).

Figure 21 Maps show the benefit of implementing regional customer engagement (left) and sustainable drainage solutions (right) options across the Weaver Gowy



5.2.2 Level 2: Options for the Weaver Gowy

The DWMP preferred options can also be summarised as the potential investment and associated benefits across the Weaver Gowy. These can be demonstrated by:

- The potential options to address environmental planning objectives as shown in Figure 22. This incorporates elements such as wastewater treatment work permit compliance, WINEP compliance and pollution of watercourses;
- The potential options to address flooding planning objectives as shown in Figure 23. This incorporates elements such as internal flooding, external flooding, highway and open space flooding and 1 in 50-year flooding; and
- The distribution of the potential options that could contribute to addressing the above planning objectives as shown in Figure 24.

Figure 22 Distribution of environmental investment by option type within the Weaver Gowy

This is an example of how investment in different options types may be used to address the environmental planning objectives. The vast majority of potential investment could be through surface water source control measures (e.g. SUDS), improvements in wastewater treatment works, and construction of new drainage capacity.

Reduce Service Demand		Schools Education Programme
		Customer Engagement
		Surface Water Source Control Measures
		Modification of Permits
Better System Management		Intelligent Network Operation
		Enhanced Operational Maintenance
		Repair and Rehabilitation
Create Additional Capacity		New 'Green' WwTW Capacity (e.g. Reedbed)
		New 'Green' Overflow Treatment (e.g. Reedbed)
		Separation of Combined Sewers
		WwTW Transfers
		WwTW Improvement
		Construction of New Drainage Capacity

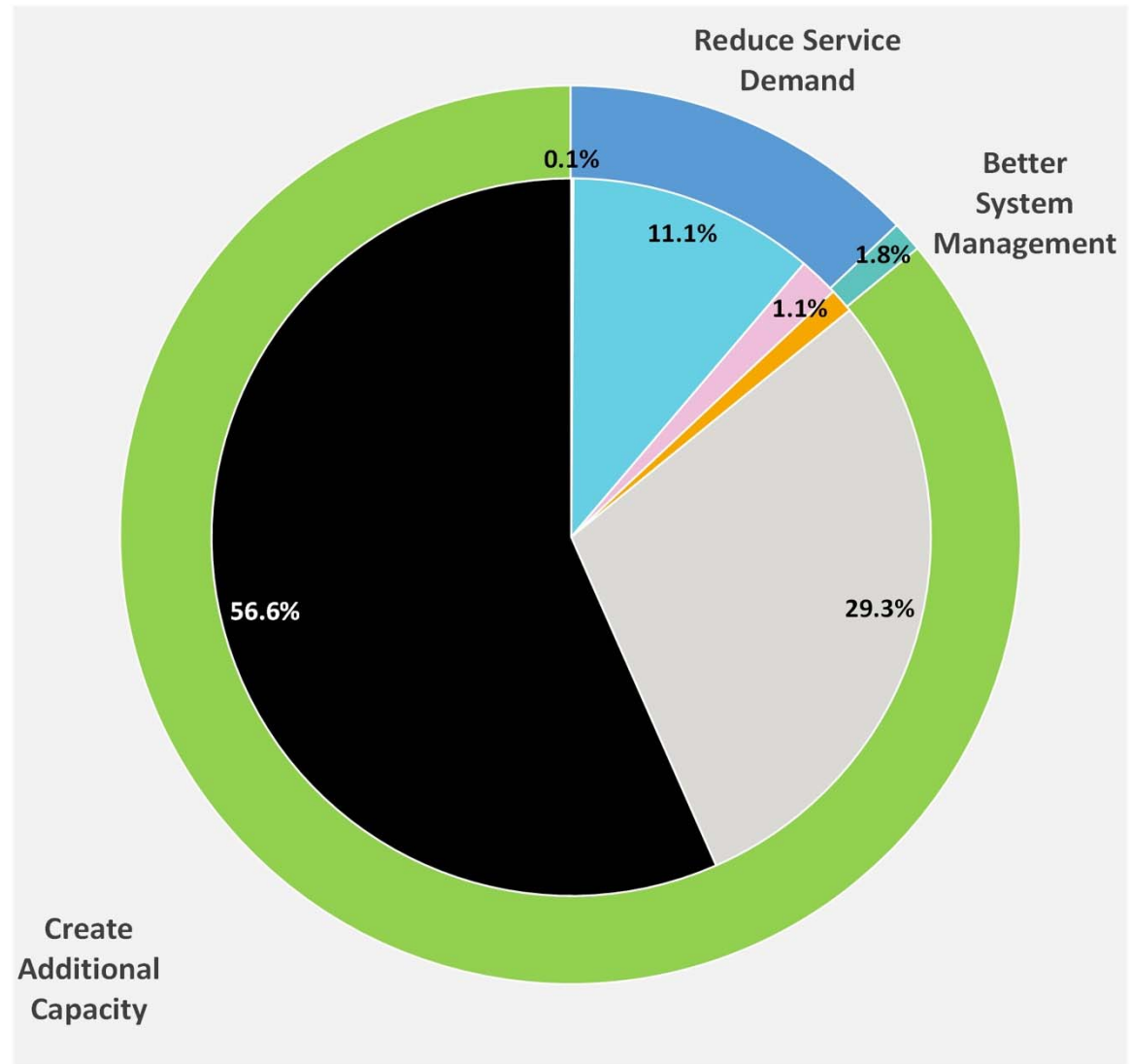


Figure 23 Distribution of flooding investment by option type within the Weaver Gowy

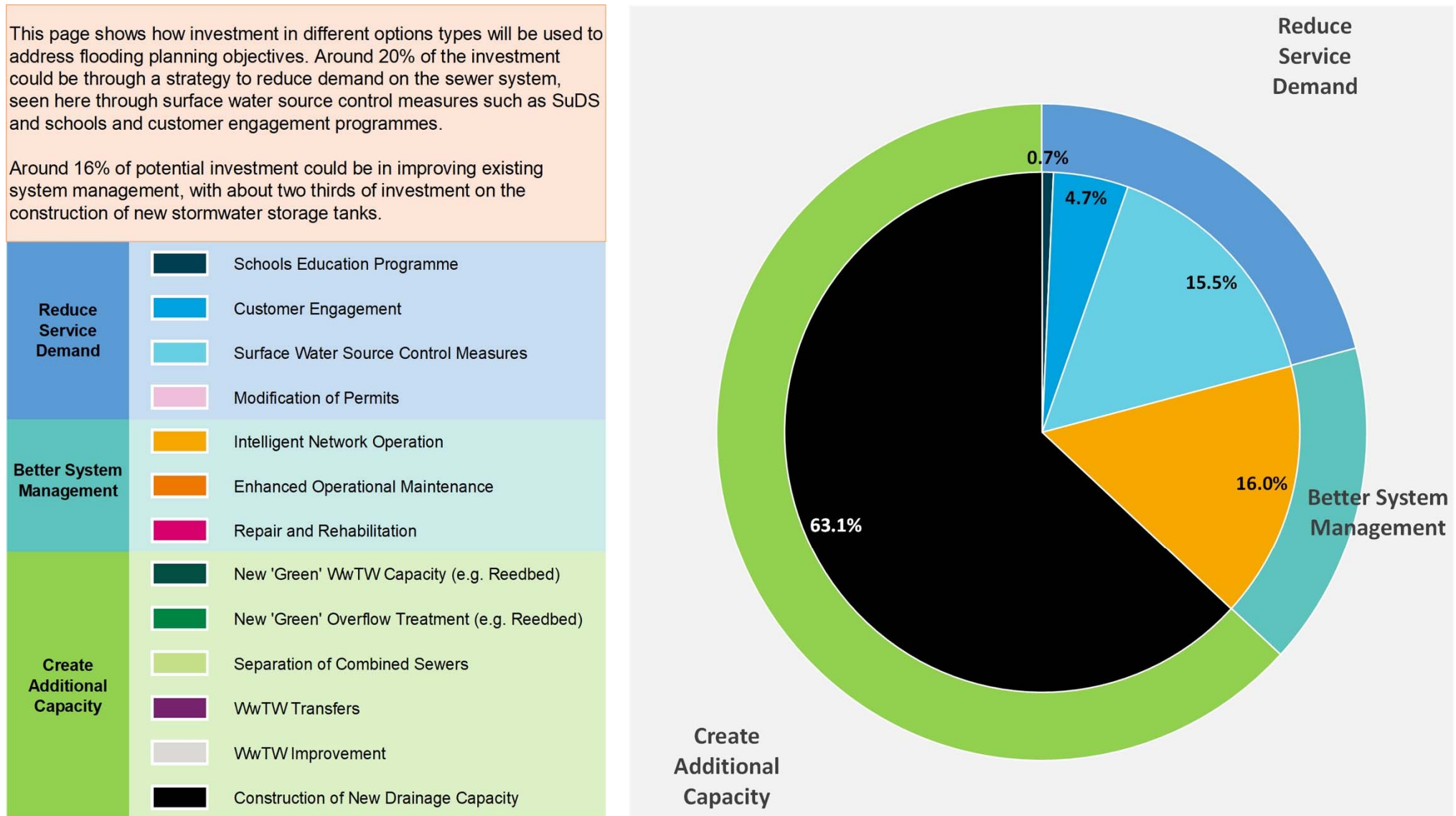
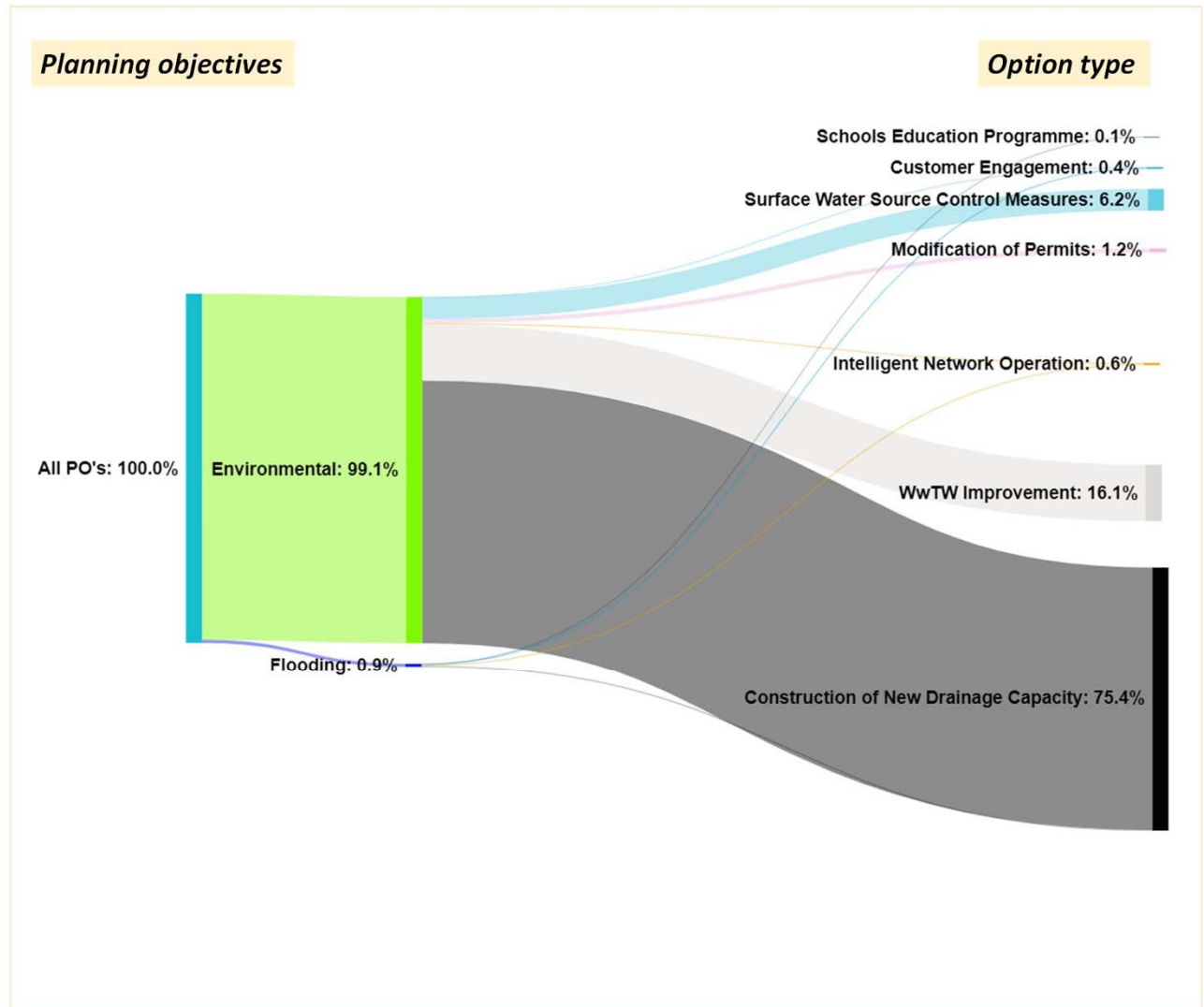
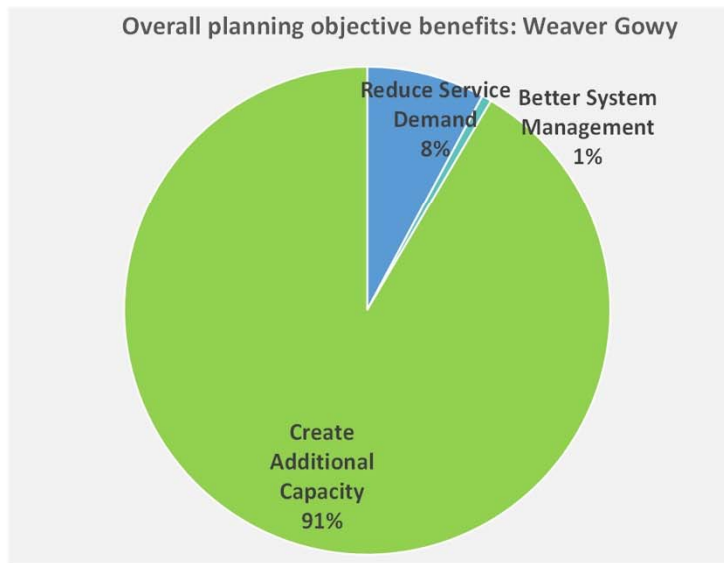


Figure 24 Distribution of benefit by option type within the Weaver Gowy

This page shows how different option types may be used to realise benefits against different planning objectives within the Weaver Gowy SPA.

United Utilities Water (Uuw) commitments to improving flooding performance could be met through the reduction of surface water flows, including the separation of combined sewers, schools and customer engagement programmes, improved operational maintenance systems, and the construction of new stormwater drainage capacity.

Environmental planning objectives could be met mainly through improvements to wastewater treatment works, including 'green' wastewater and overflow treatment, improved operational maintenance systems, and provision of stormwater storage capacity.

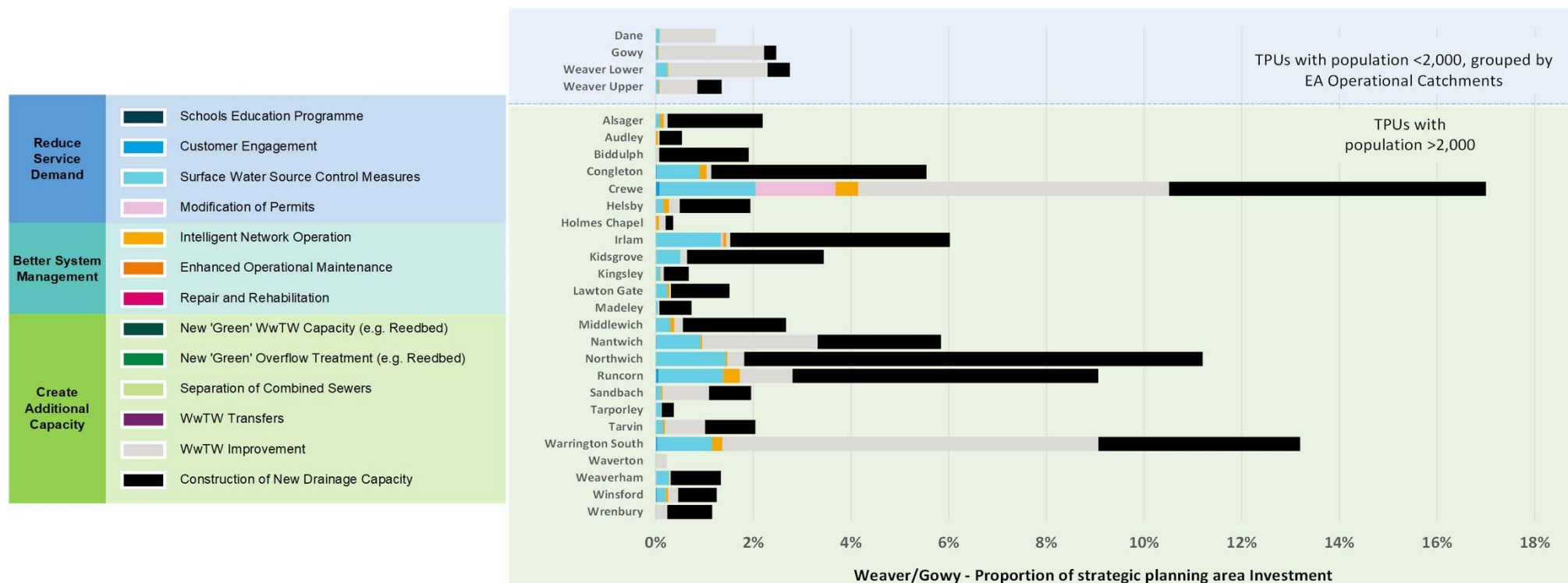


5.2.3 Level 3: Local options for each TPU within the Weaver Gowy

The proportion of the Weaver Gowy’s potential investment in each TPU, split up by option type, is shown in Figure 25. Note that the smaller TPUs within the catchment (those with less than 2,000 population) have been reported together at the top of the chart, grouped by sub catchment (Environment Agency Operational Catchment boundaries).

It can be seen that in the Weaver Gowy, the largest TPUs see the largest potential investment, which is split predominantly between which is split predominantly between surface water control, improved system management, and construction of new storm water storage tanks.

Figure 25 Proportion of investment seen in each TPU within the Weaver Gowy



The following sub-sections show how investment will be split between different types of options to bring benefits to each TPU over the short, medium and long term. Some options, such as construction of new storm water storage tanks, occur at a single point in time; however the benefit of reduced flooding may be seen long into the future. Other options such as school education, are continual programmes that could help to encourage long-term sustainable behaviours, such as reduction in water use.

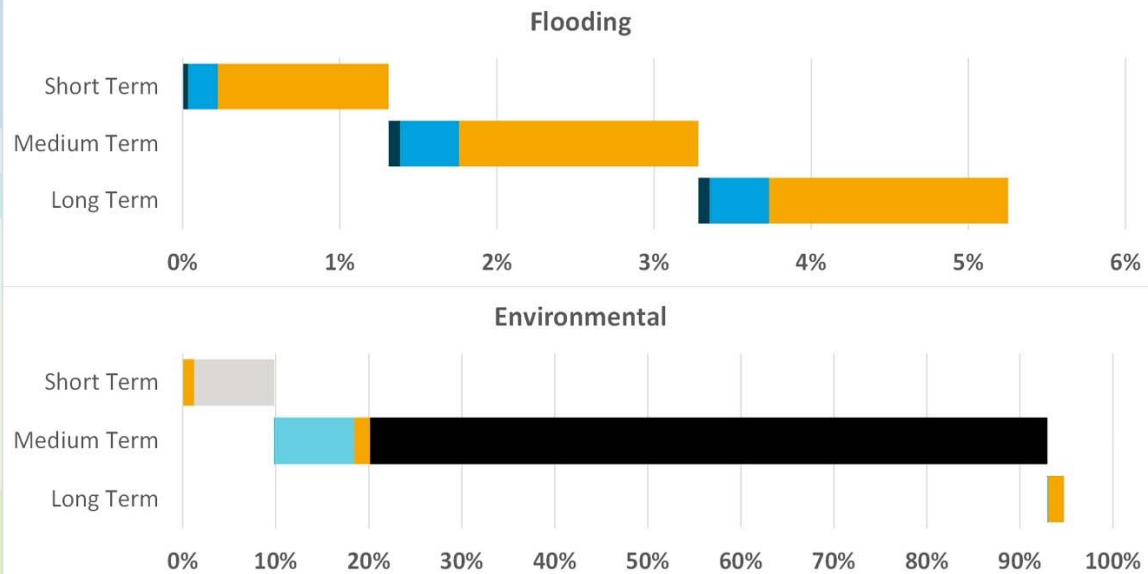
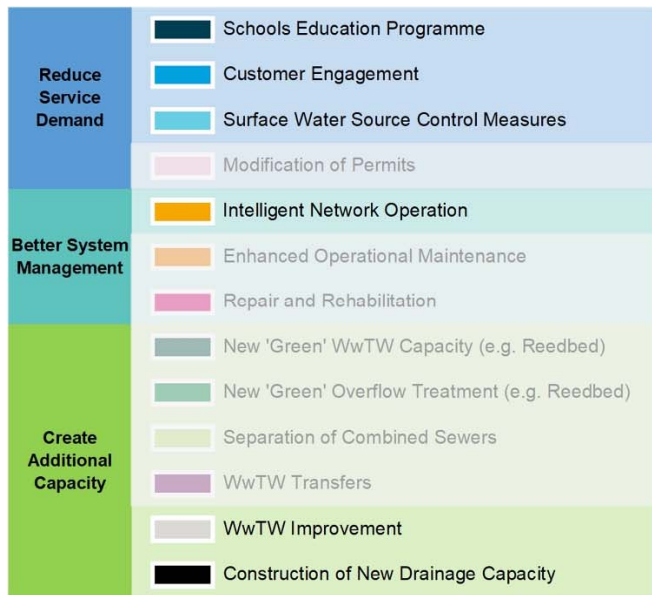
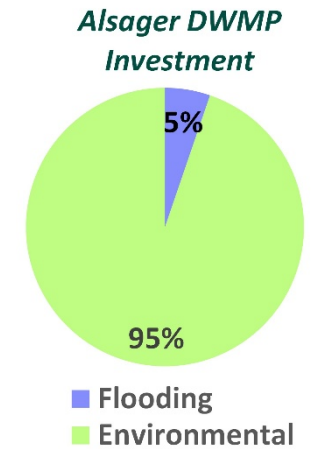
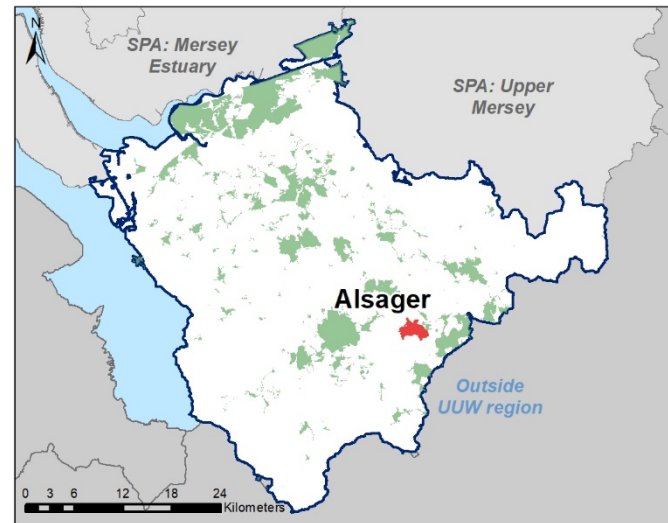
5.2.3.1 Alsager

Figure 26 Details of the DWMP investment plan for Alsager

The data on this page gives details of the investment plan for Alsager TPU. The plan shows the geographic location of Alsager within the Weaver Gowy catchment.

The pie chart to the right of the plan indicates the percentage split of proposed flooding and environmental investment. Environmental investment includes work to address storm overflows, wastewater treatment works and pollution of watercourses.

The bar charts below show a more detailed breakdown of the potential option types that make up the flooding and environmental investment. The key to the left of the bar charts show the colours used for the 13 different option types. Additionally, the charts indicate whether investments are proposed in the short, medium or long term.



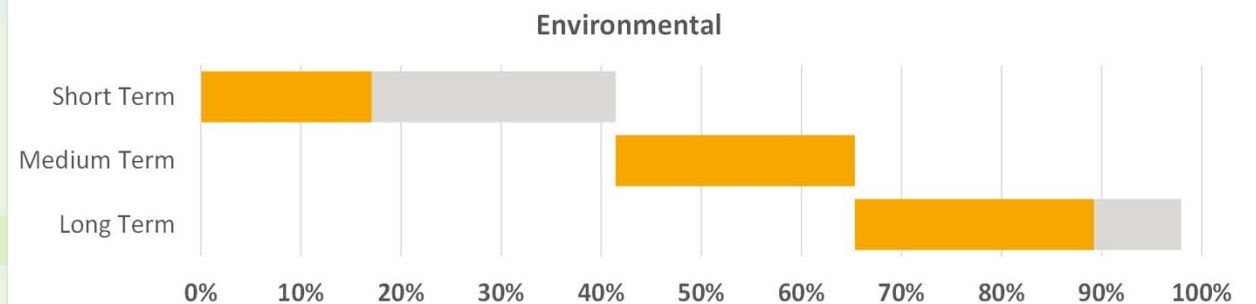
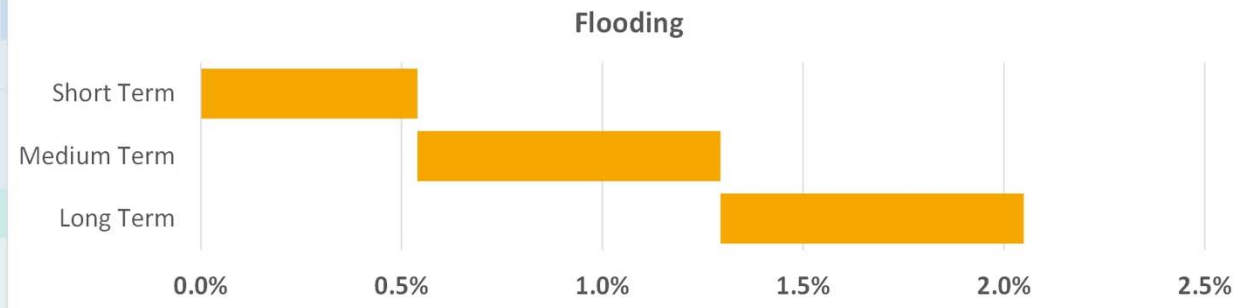
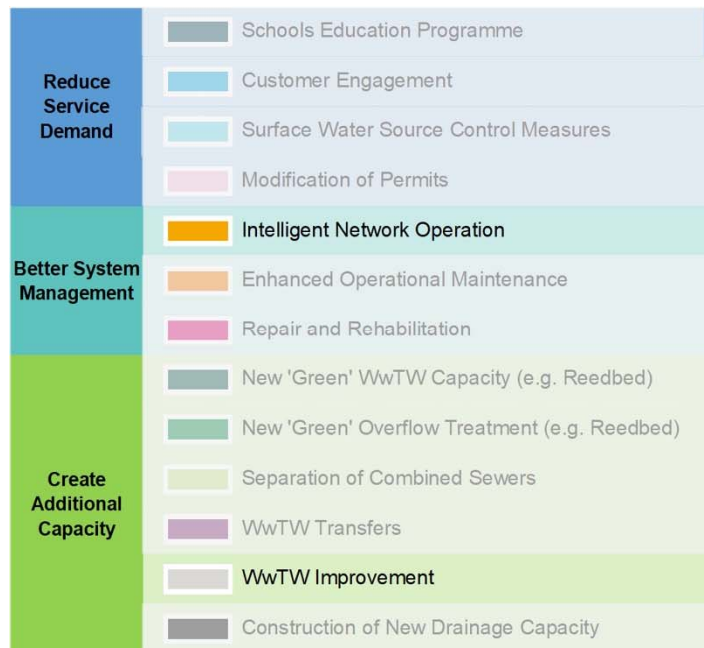
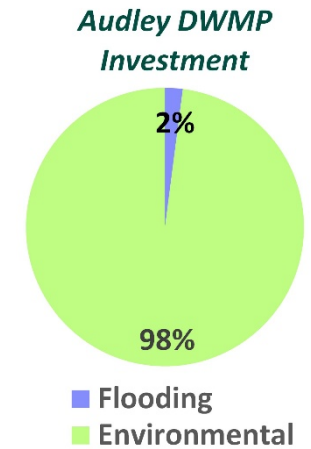
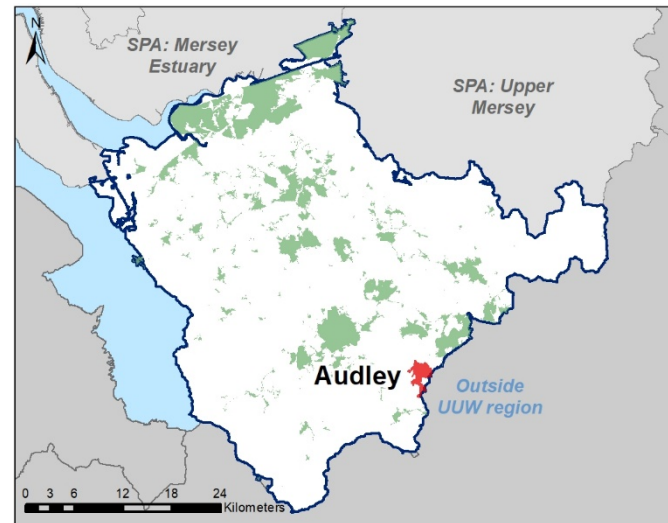
5.2.3.2 Audley

Figure 27 Details of the DWMP investment plan for Audley

The data on this page gives details of the investment plan for Audley TPU. The plan shows the geographic location of Audley within the Weaver Gowy catchment.

The pie chart to the right of the plan indicates the percentage split of proposed flooding and environmental investment. Environmental investment includes work to address storm overflows, wastewater treatment works and pollution of watercourses.

The bar charts below show a more detailed breakdown of the potential option types that make up the flooding and environmental investment. The key to the left of the bar charts show the colours used for the 13 different option types. Additionally, the charts indicate whether investments are proposed in the short, medium or long term.



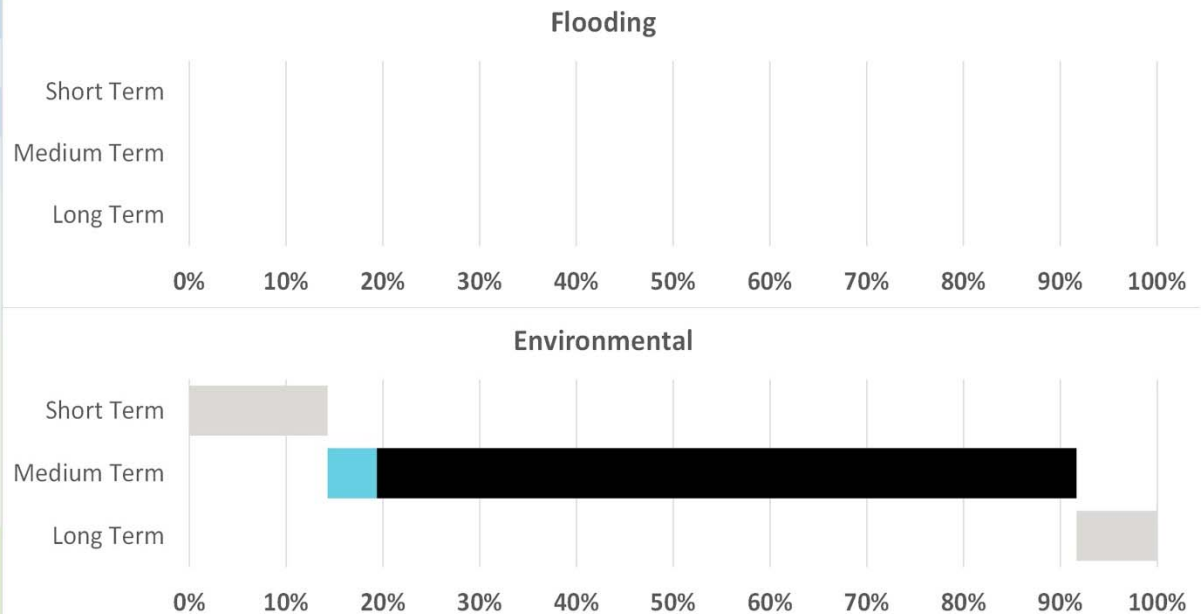
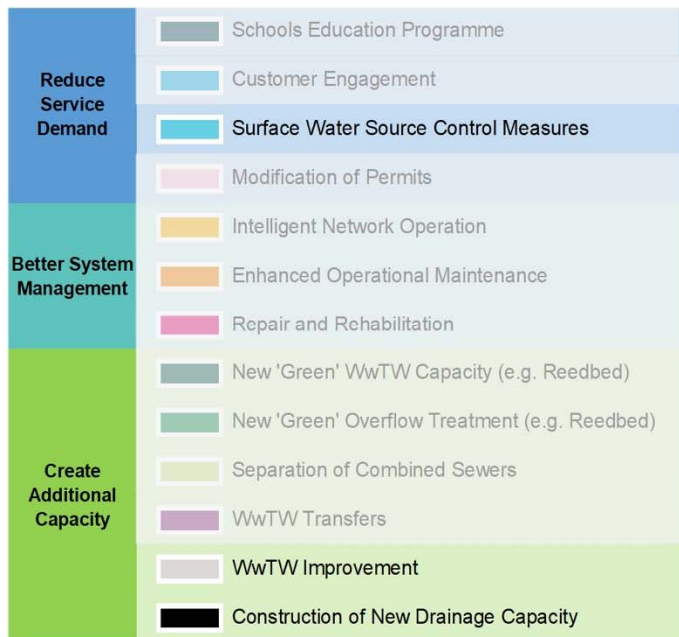
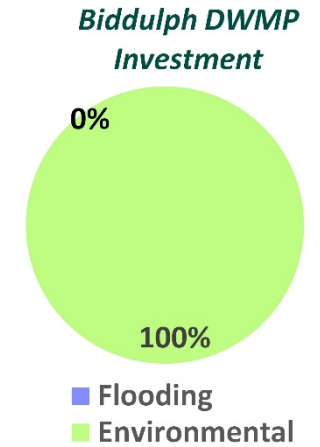
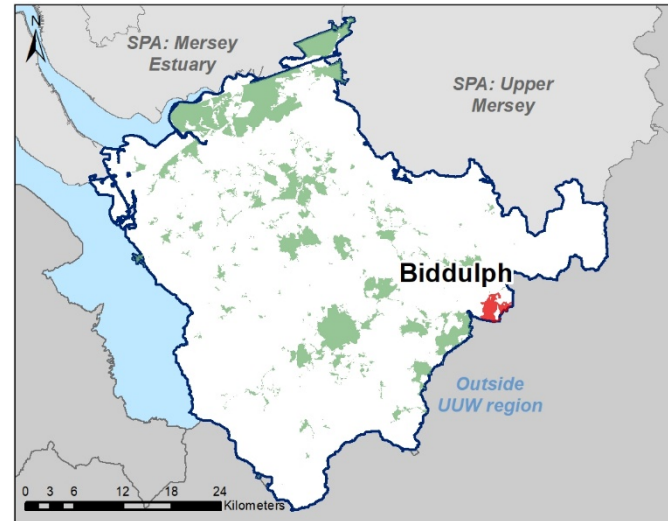
5.2.3.3 Biddulph

Figure 28 Details of the DWMP investment plan for Biddulph

The data on this page gives details of the investment plan for Biddulph TPU. The plan shows the geographic location of Biddulph within the Weaver Gowy catchment.

The pie chart to the right of the plan indicates the percentage split of proposed flooding and environmental investment. Environmental investment includes work to address storm overflows, wastewater treatment works and pollution of watercourses.

The bar charts below show a more detailed breakdown of the potential option types that make up the flooding and environmental investment. The key to the left of the bar charts show the colours used for the 13 different option types. Additionally, the charts indicate whether investments are proposed in the short, medium or long term.



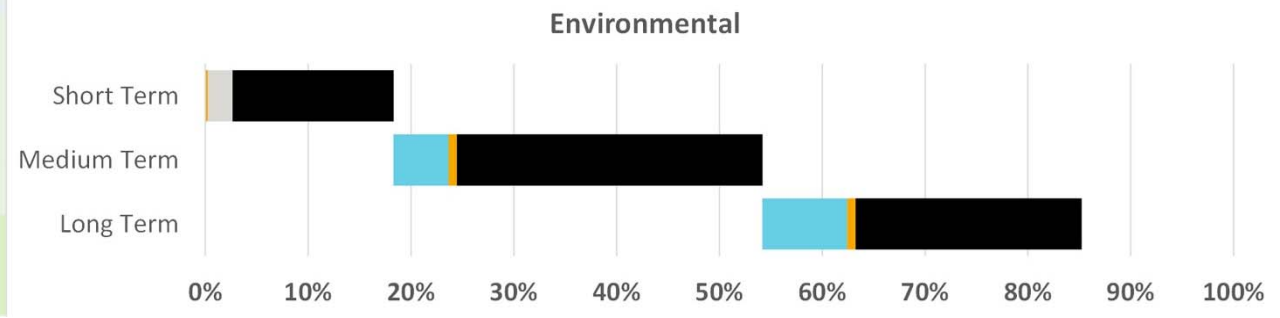
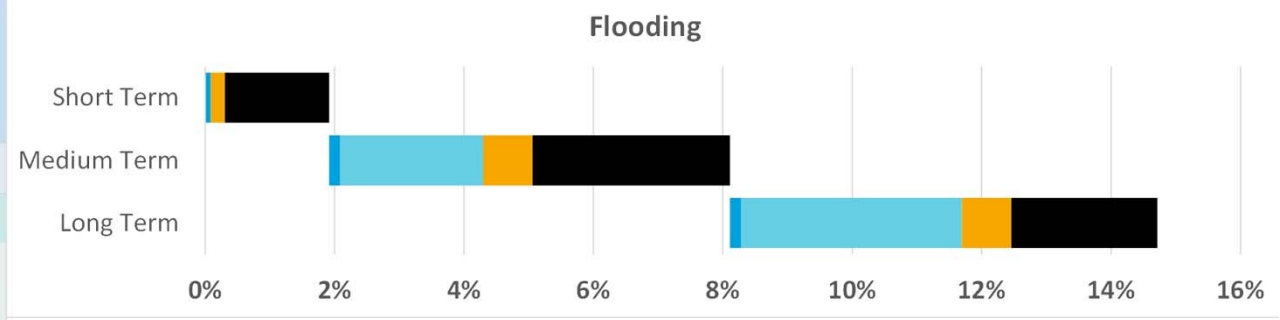
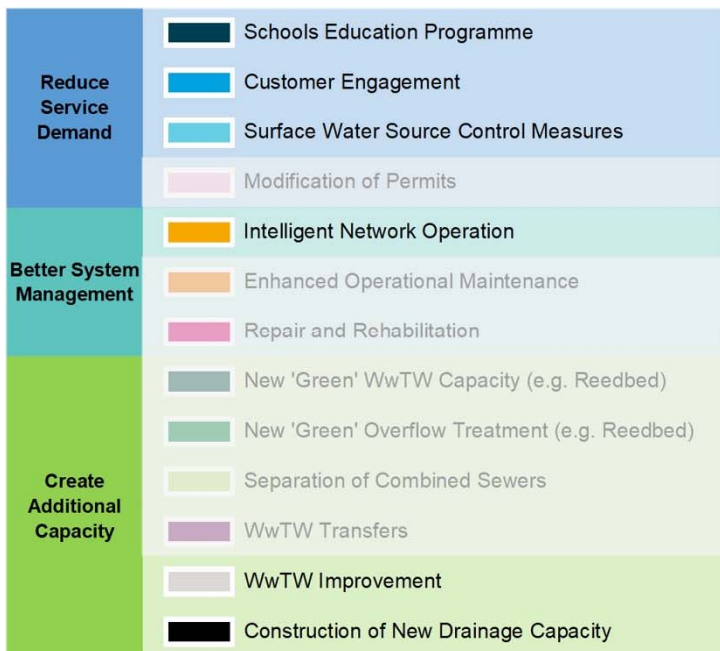
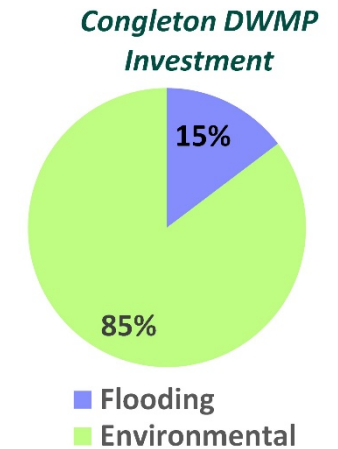
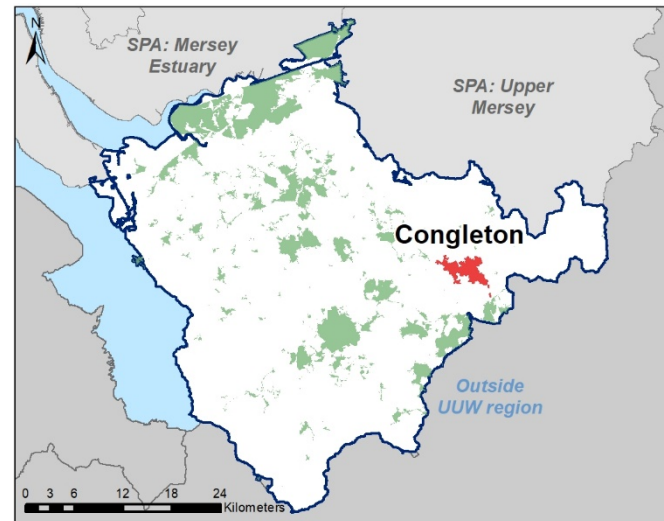
5.2.3.4 Congleton

Figure 29 Details of the DWMP investment plan for Congleton

The data on this page gives details of the investment plan for Congleton TPU. The plan shows the geographic location of Congleton within the Weaver Gowy catchment.

The pie chart to the right of the plan indicates the percentage split of proposed flooding and environmental investment. Environmental investment includes work to address storm overflows, wastewater treatment works and pollution of watercourses.

The bar charts below show a more detailed breakdown of the potential option types that make up the flooding and environmental investment. The key to the left of the bar charts show the colours used for the 13 different option types. Additionally, the charts indicate whether investments are proposed in the short, medium or long term.



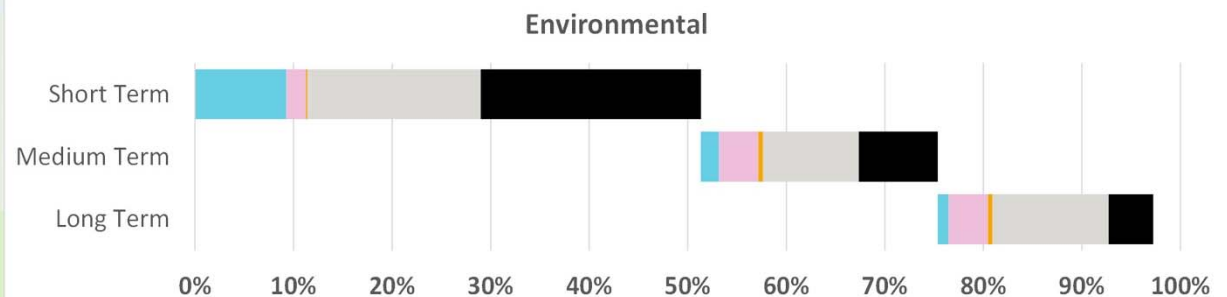
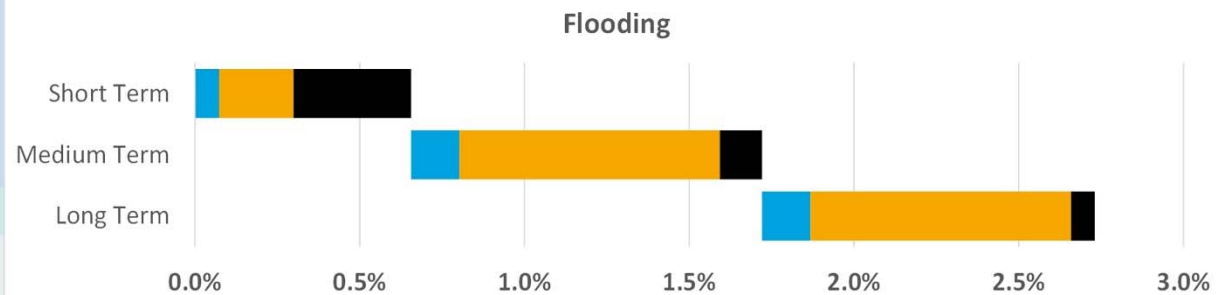
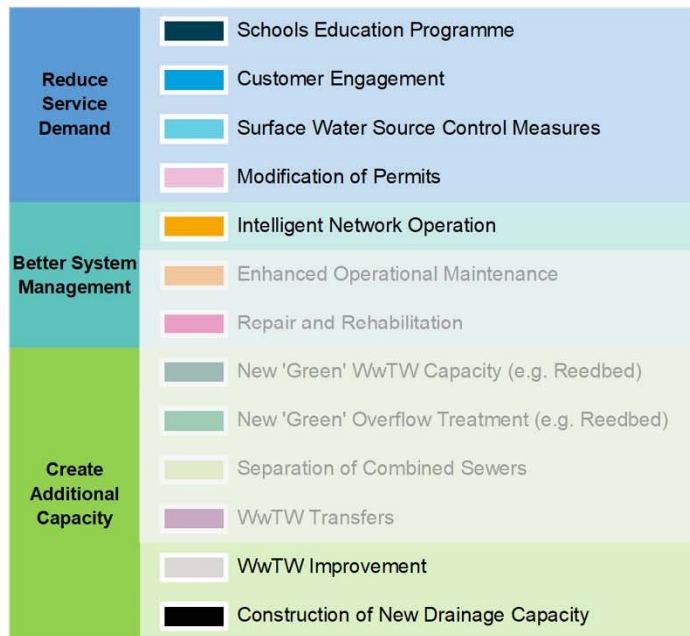
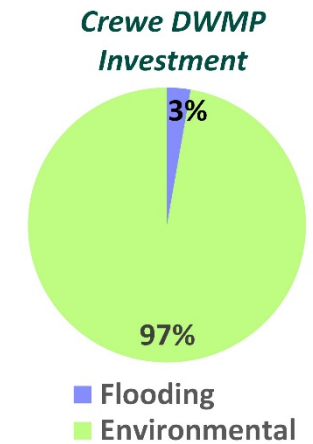
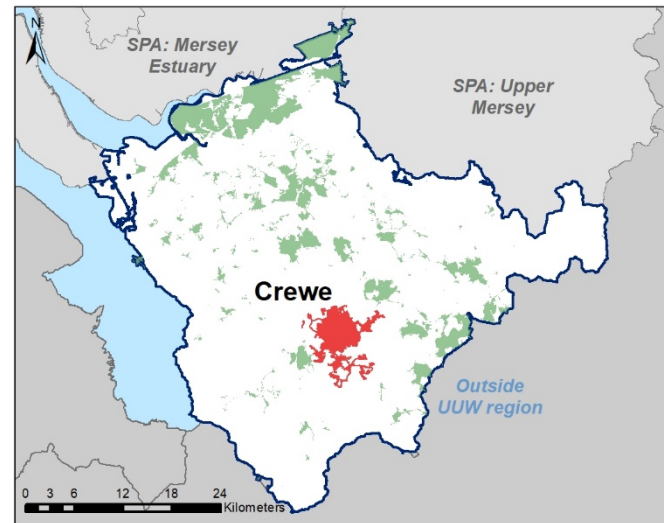
5.2.3.5 Crewe

Figure 30 Details of the DWMP investment plan for Crewe

The data on this page gives details of the investment plan for Crewe TPU. The plan shows the geographic location of Crewe within the Weaver Gowy catchment.

The pie chart to the right of the plan indicates the percentage split of proposed flooding and environmental investment. Environmental investment includes work to address storm overflows, wastewater treatment works and pollution of watercourses.

The bar charts below show a more detailed breakdown of the potential option types that make up the flooding and environmental investment. The key to the left of the bar charts show the colours used for the 13 different option types. Additionally, the charts indicate whether investments are proposed in the short, medium or long term.



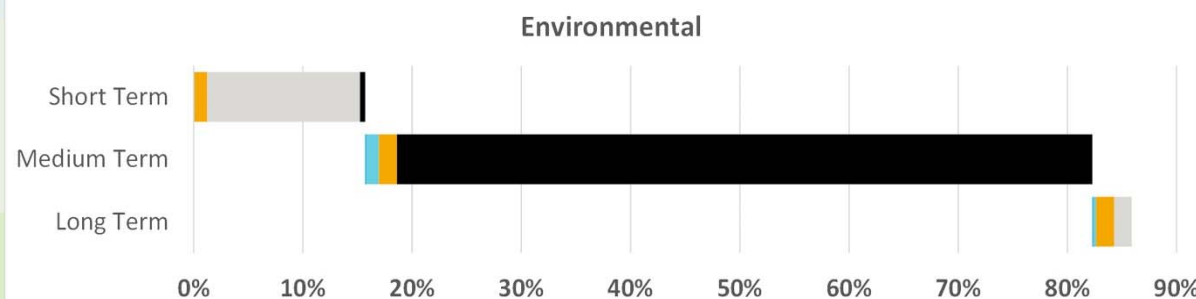
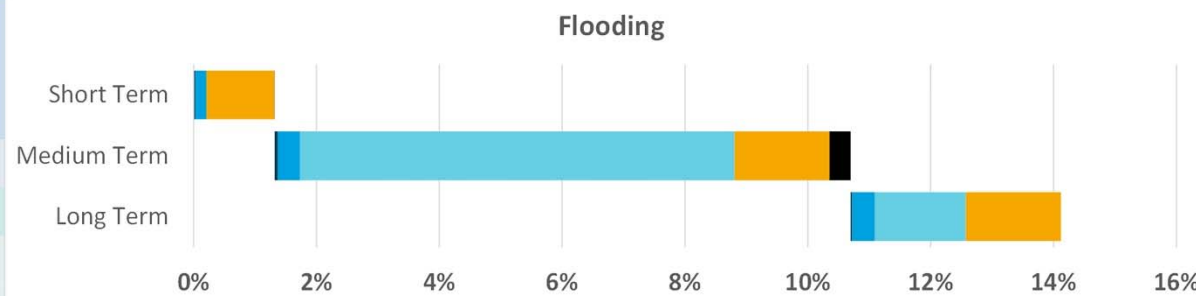
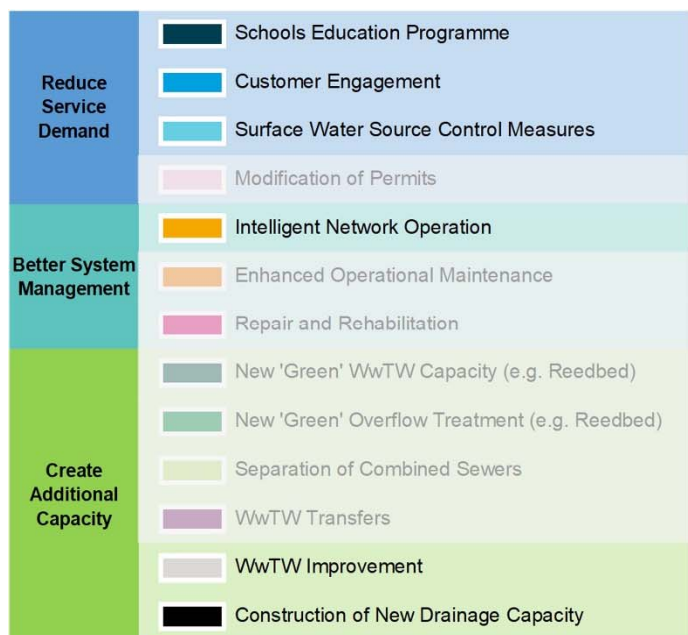
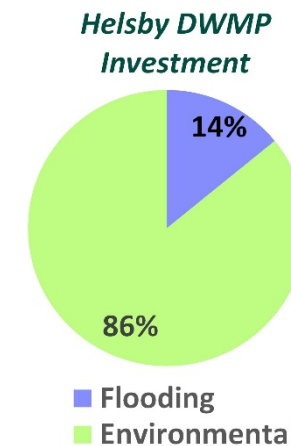
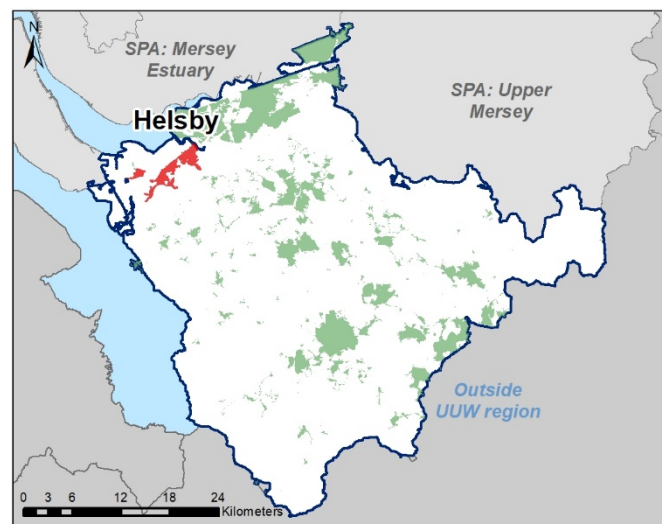
5.2.3.6 Helsby

Figure 31 Details of the DWMP investment plan for Helsby

The data on this page gives details of the investment plan for Helsby TPU. The plan shows the geographic location of Helsby within the Weaver Gowy catchment.

The pie chart to the right of the plan indicates the percentage split of proposed flooding and environmental investment. Environmental investment includes work to address storm overflows, wastewater treatment works and pollution of watercourses.

The bar charts below show a more detailed breakdown of the potential option types that make up the flooding and environmental investment. The key to the left of the bar charts show the colours used for the 13 different option types. Additionally, the charts indicate whether investments are proposed in the short, medium or long term.



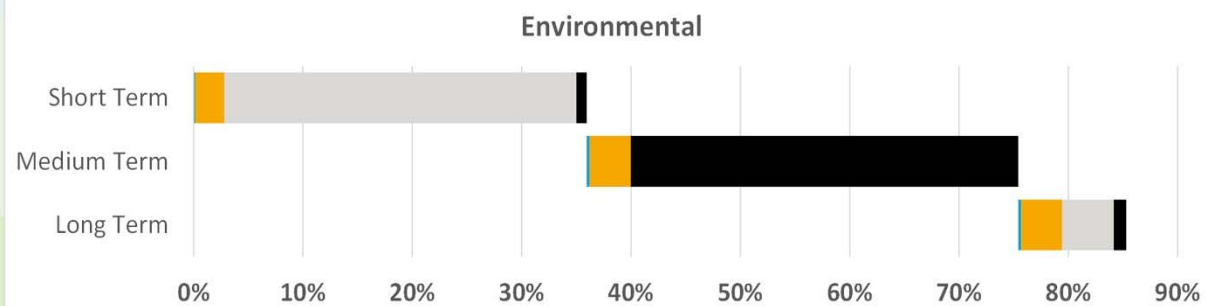
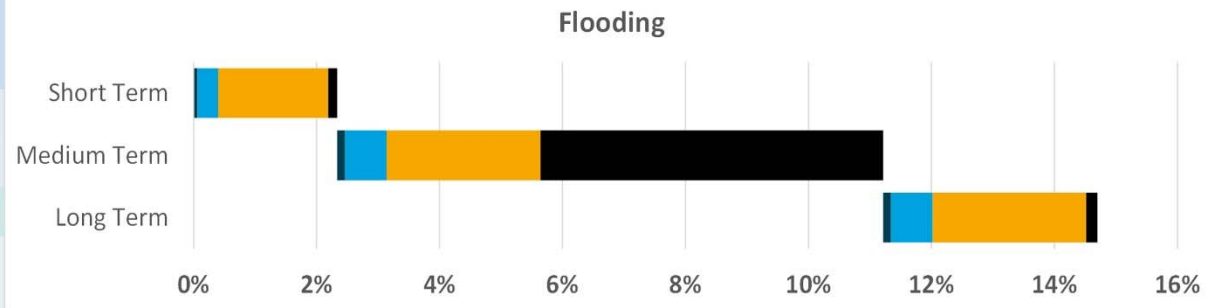
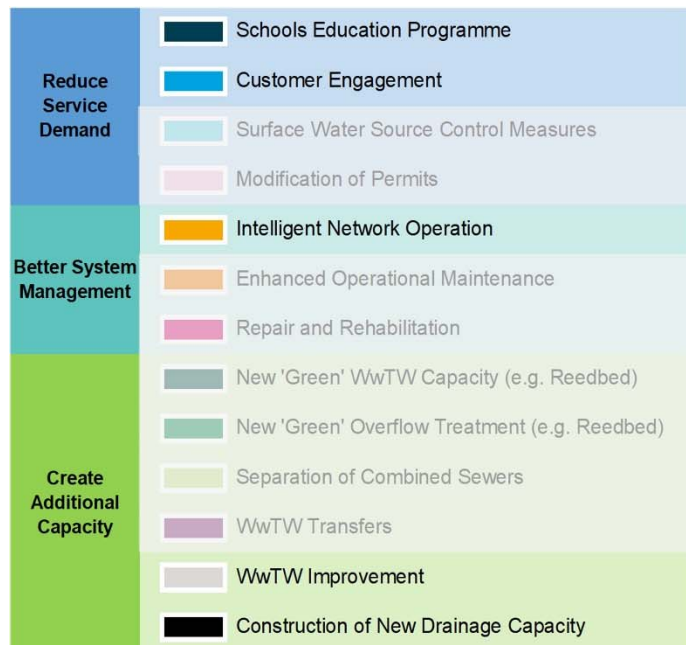
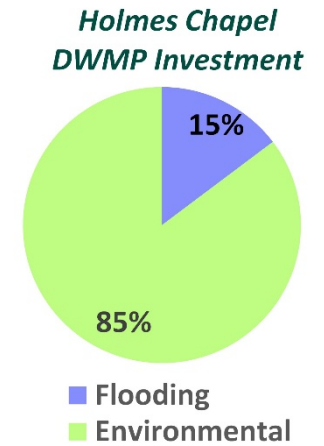
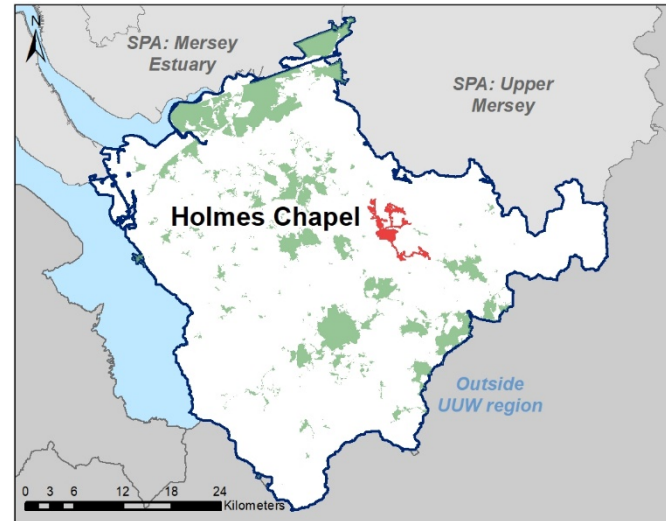
5.2.3.7 Holmes Chapel

Figure 32 Details of the DWMP investment plan for Holmes Chapel

The data on this page gives details of the investment plan for Holmes Chapel TPU. The plan shows the geographic location of Holmes Chapel within the Weaver Gowy catchment.

The pie chart to the right of the plan indicates the percentage split of proposed flooding and environmental investment. Environmental investment includes work to address storm overflows, wastewater treatment works and pollution of watercourses.

The bar charts below show a more detailed breakdown of the potential option types that make up the flooding and environmental investment. The key to the left of the bar charts show the colours used for the 13 different option types. Additionally, the charts indicate whether investments are proposed in the short, medium or long term.



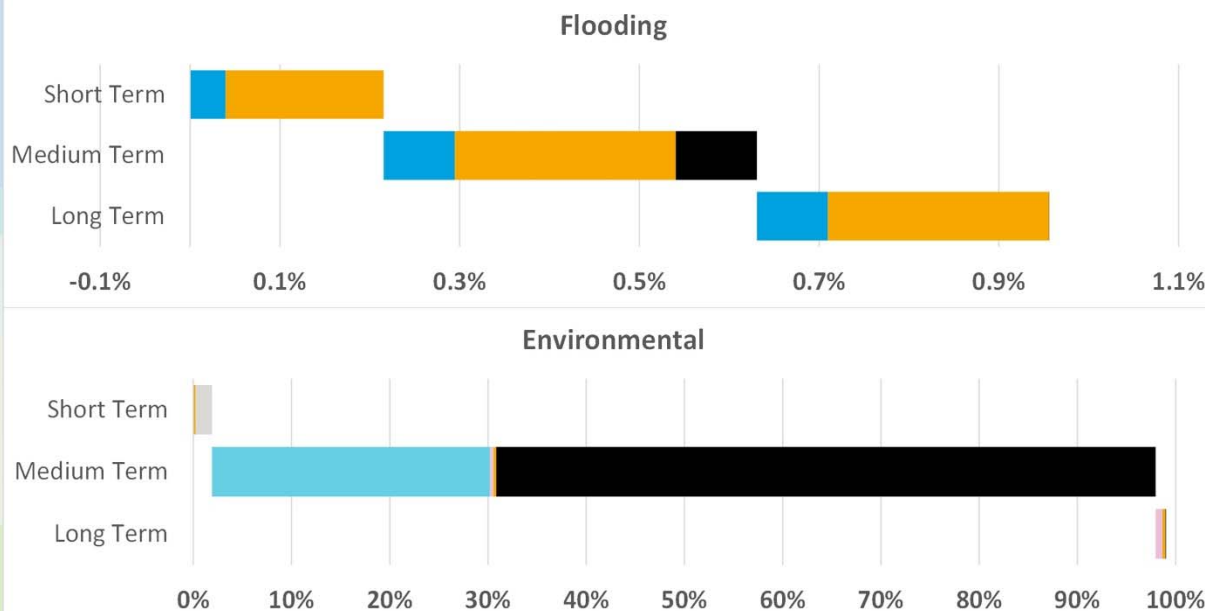
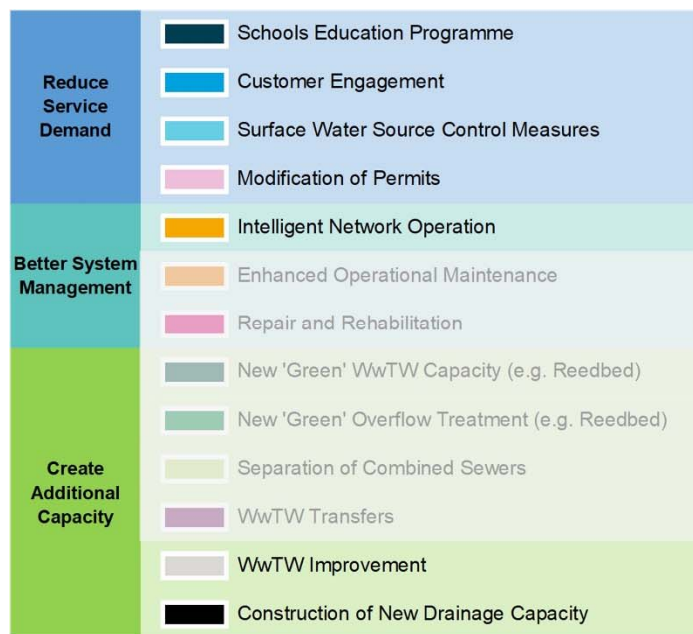
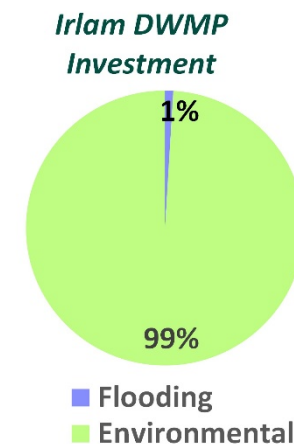
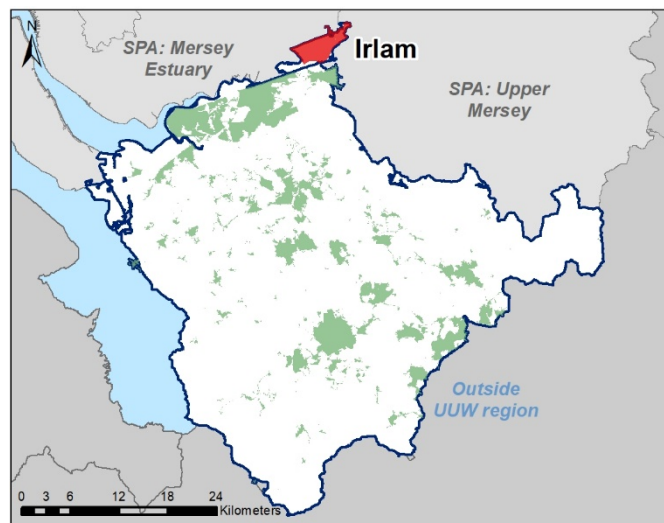
5.2.3.8 Irlam

Figure 33 Details of the DWMP investment plan for Irlam

The data on this page gives details of the investment plan for Irlam TPU. The plan shows the geographic location of Irlam within the Weaver Gowy catchment.

The pie chart to the right of the plan indicates the percentage split of proposed flooding and environmental investment. Environmental investment includes work to address storm overflows, wastewater treatment works and pollution of watercourses.

The bar charts below show a more detailed breakdown of the potential option types that make up the flooding and environmental investment. The key to the left of the bar charts show the colours used for the 13 different option types. Additionally, the charts indicate whether investments are proposed in the short, medium or long term.



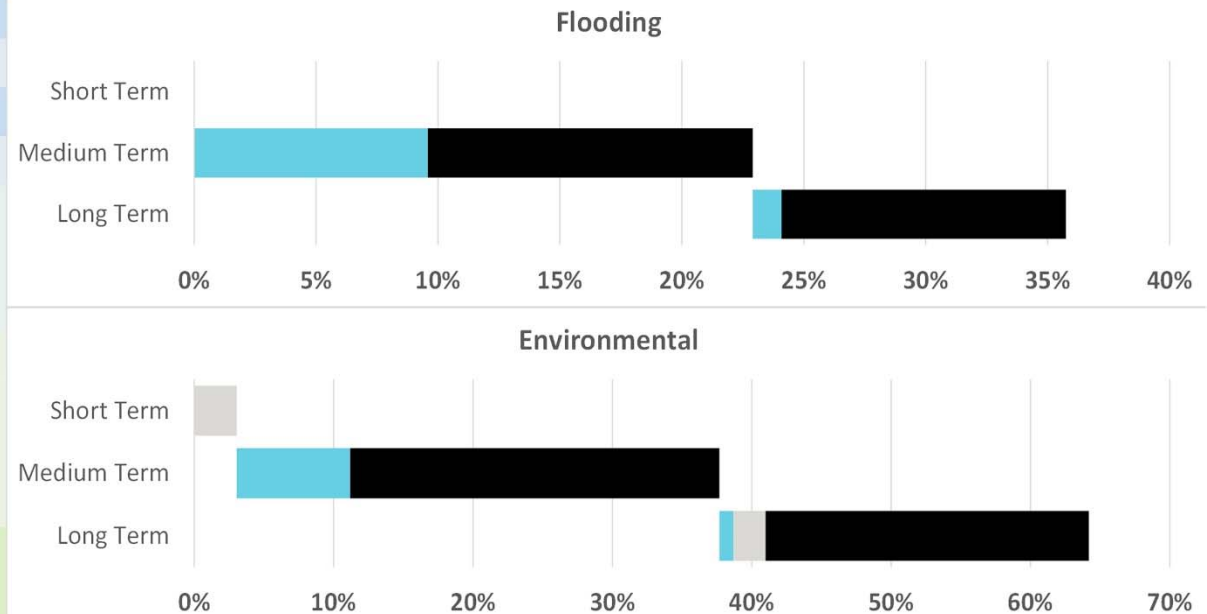
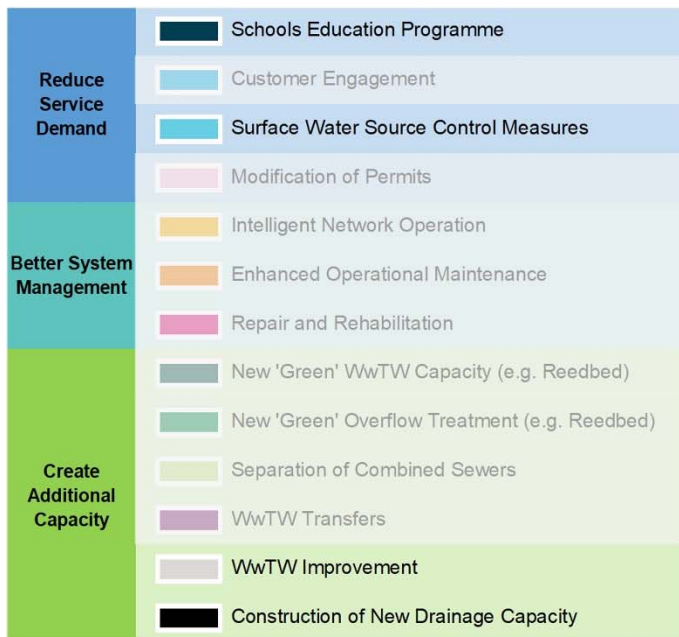
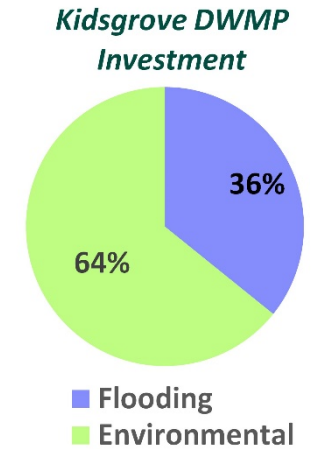
5.2.3.9 Kidsgrove

Figure 34 Details of the DWMP investment plan for Kidsgrove

The data on this page gives details of the investment plan for Kidsgrove TPU. The plan shows the geographic location of Kidsgrove within the Weaver Gowy catchment.

The pie chart to the right of the plan indicates the percentage split of proposed flooding and environmental investment. Environmental investment includes work to address storm overflows, wastewater treatment works and pollution of watercourses.

The bar charts below show a more detailed breakdown of the potential option types that make up the flooding and environmental investment. The key to the left of the bar charts show the colours used for the 13 different option types. Additionally, the charts indicate whether investments are proposed in the short, medium or long term.



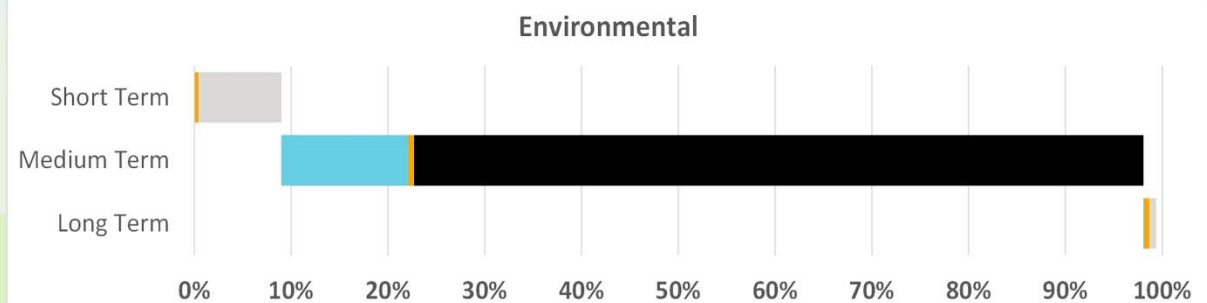
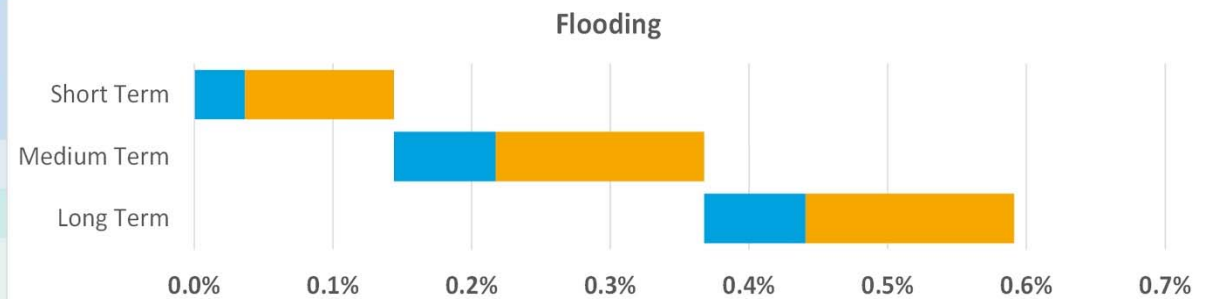
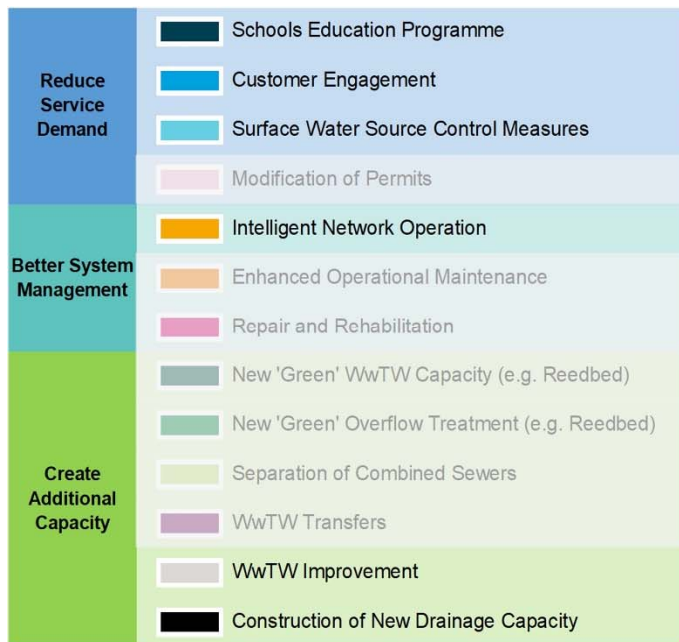
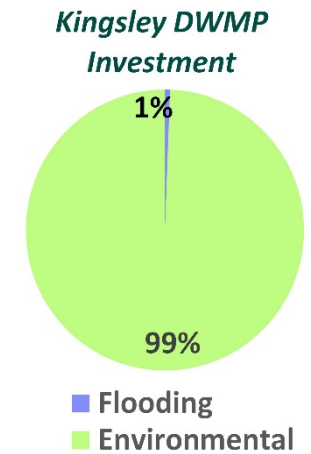
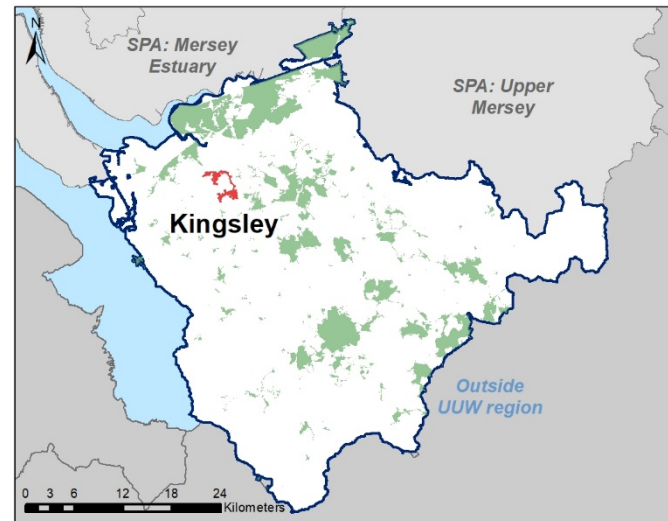
5.2.3.10 Kingsley

Figure 35 Details of the DWMP investment plan for Kingsley

The data on this page gives details of the investment plan for Kingsley TPU. The plan shows the geographic location of Kingsley within the Weaver Gowy catchment.

The pie chart to the right of the plan indicates the percentage split of proposed flooding and environmental investment. Environmental investment includes work to address storm overflows, wastewater treatment works and pollution of watercourses.

The bar charts below show a more detailed breakdown of the potential option types that make up the flooding and environmental investment. The key to the left of the bar charts show the colours used for the 13 different option types. Additionally, the charts indicate whether investments are proposed in the short, medium or long term.



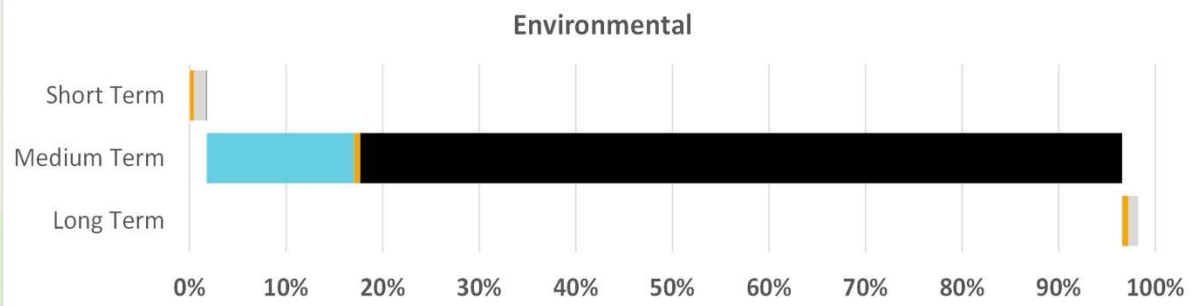
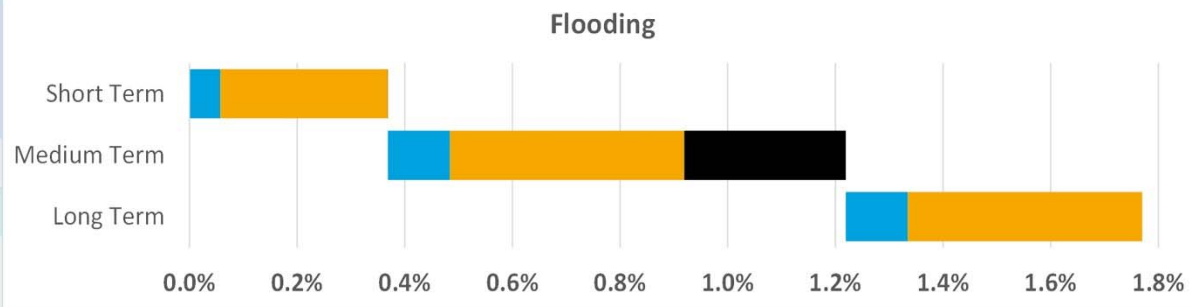
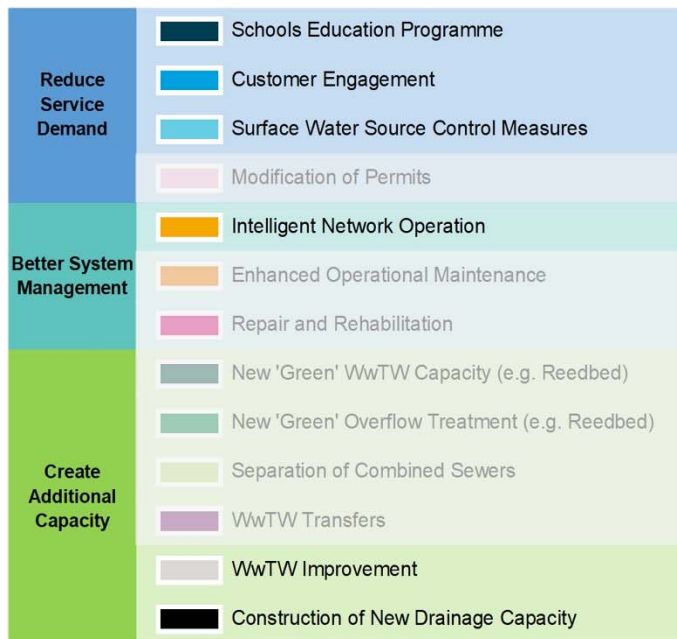
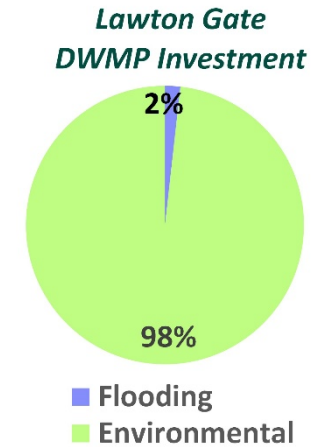
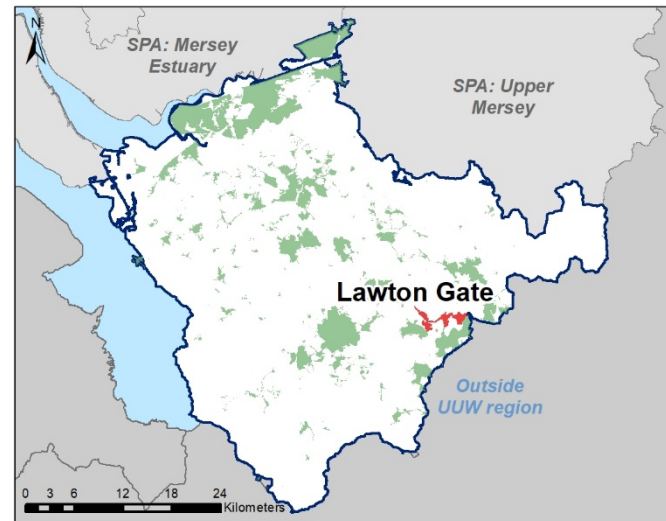
5.2.3.11 Lawton Gate

Figure 36 Details of the DWMP investment plan for Lawton Gate

The data on this page gives details of the investment plan for Lawton Gate TPU. The plan shows the geographic location of Lawton Gate within the Weaver Gowy catchment.

The pie chart to the right of the plan indicates the percentage split of proposed flooding and environmental investment. Environmental investment includes work to address storm overflows, wastewater treatment works and pollution of watercourses.

The bar charts below show a more detailed breakdown of the potential option types that make up the flooding and environmental investment. The key to the left of the bar charts show the colours used for the 13 different option types. Additionally, the charts indicate whether investments are proposed in the short, medium or long term.



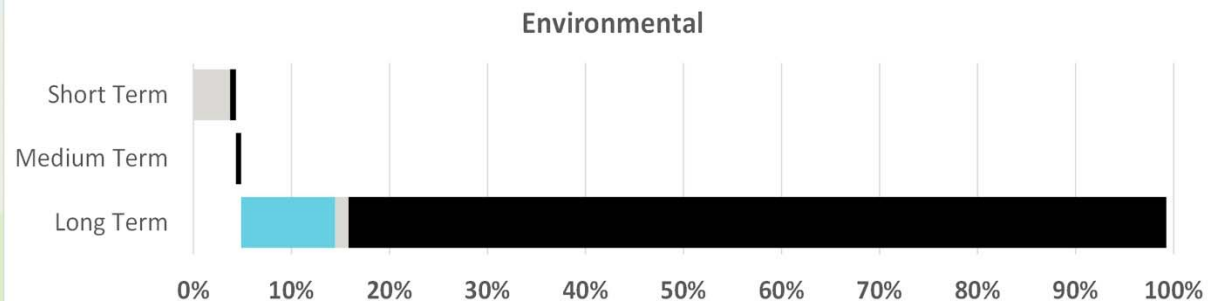
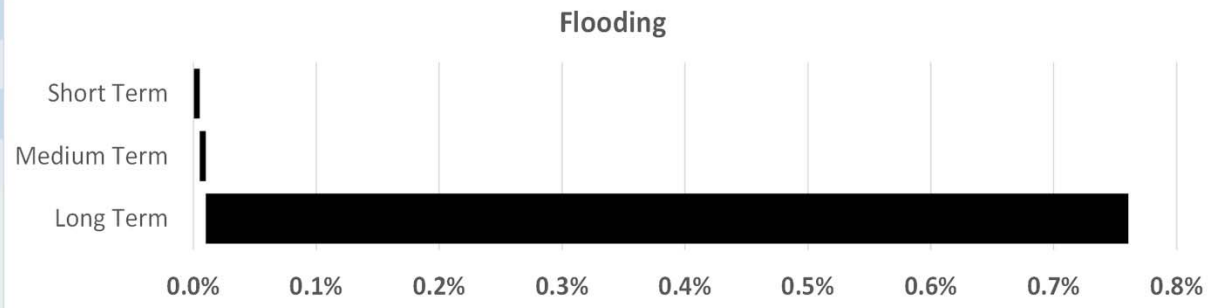
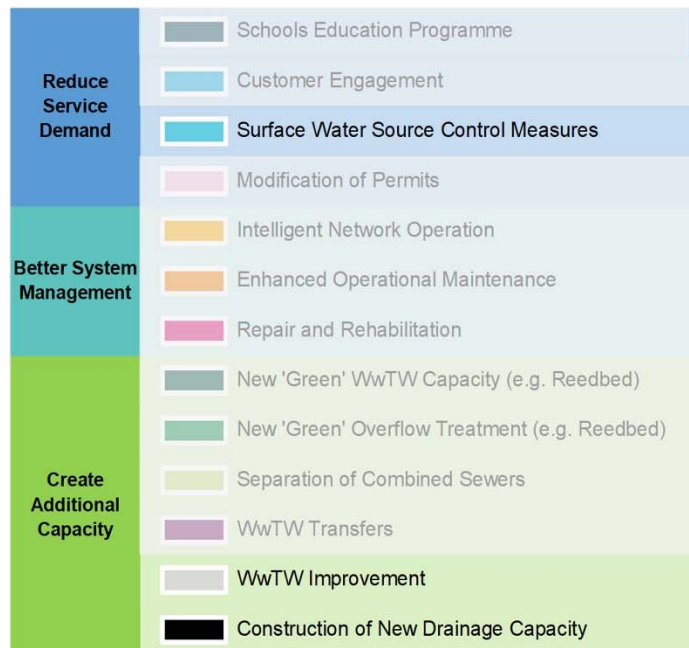
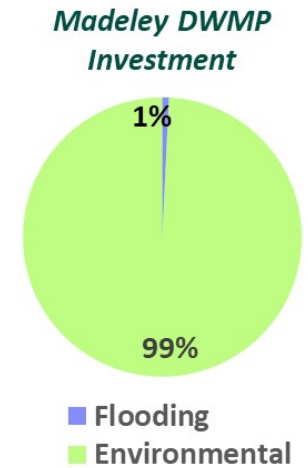
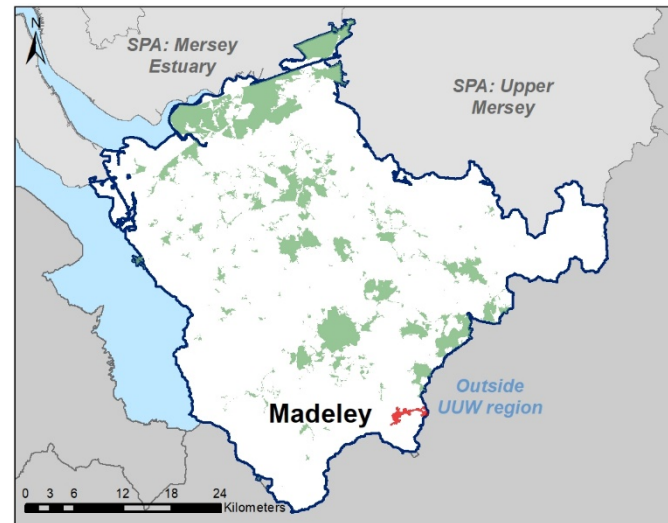
5.2.3.12 Madeley

Figure 37 Details of the DWMP investment plan for Madeley

The data on this page gives details of the investment plan for Madeley TPU. The plan shows the geographic location of Madeley within the Weaver Gowy catchment.

The pie chart to the right of the plan indicates the percentage split of proposed flooding and environmental investment. Environmental investment includes work to address storm overflows, wastewater treatment works and pollution of watercourses.

The bar charts below show a more detailed breakdown of the potential option types that make up the flooding and environmental investment. The key to the left of the bar charts show the colours used for the 13 different option types. Additionally, the charts indicate whether investments are proposed in the short, medium or long term.



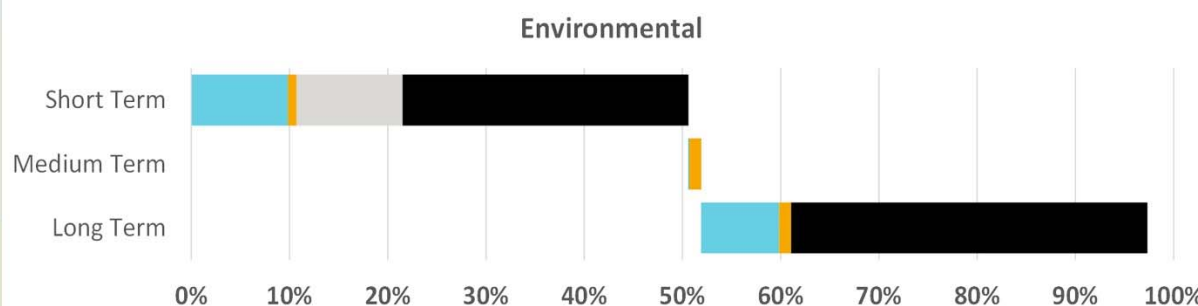
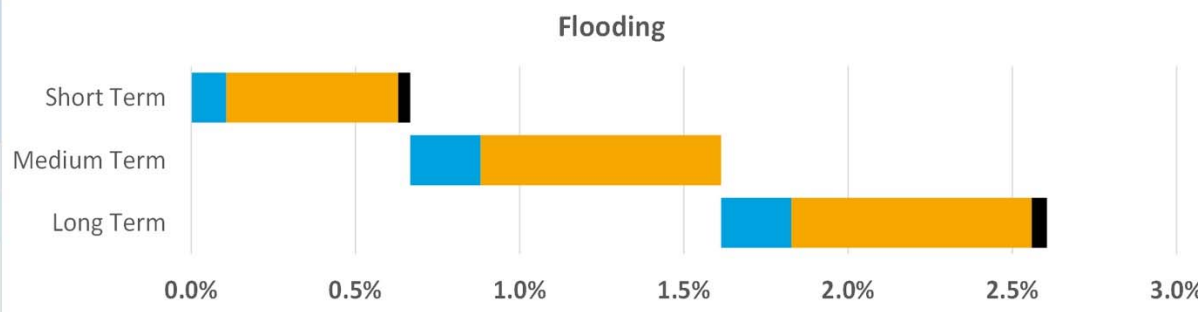
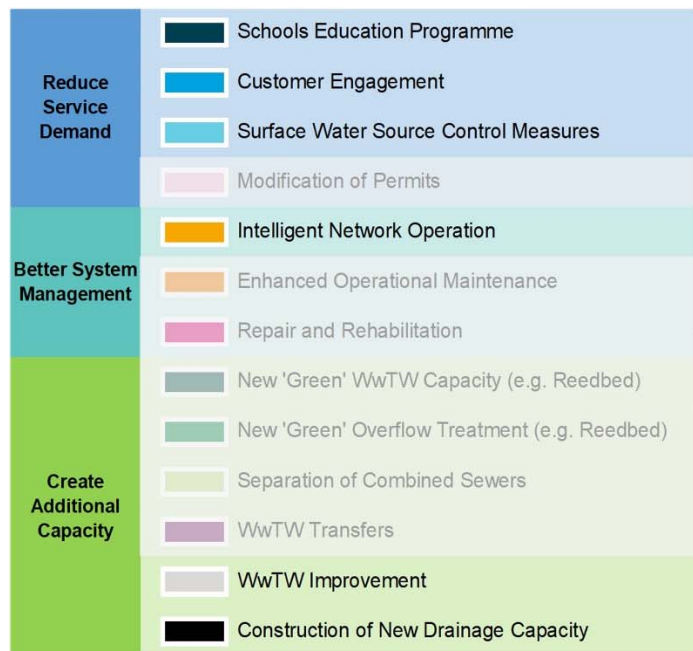
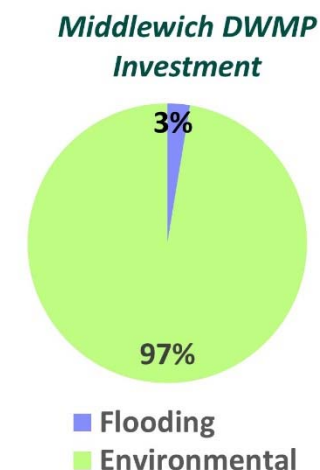
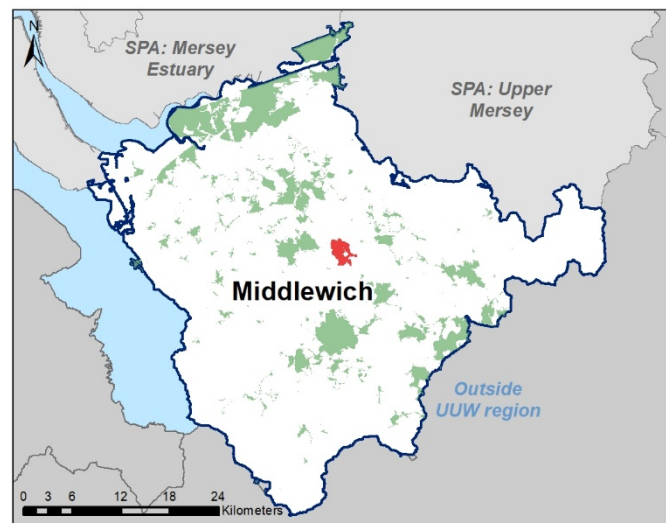
5.2.3.13 Middlewich

Figure 38 Details of the DWMP investment plan for Middlewich

The data on this page gives details of the investment plan for Middlewich TPU. The plan shows the geographic location of Middlewich within the Weaver Gowy catchment.

The pie chart to the right of the plan indicates the percentage split of proposed flooding and environmental investment. Environmental investment includes work to address storm overflows, wastewater treatment works and pollution of watercourses.

The bar charts below show a more detailed breakdown of the potential option types that make up the flooding and environmental investment. The key to the left of the bar charts show the colours used for the 13 different option types. Additionally, the charts indicate whether investments are proposed in the short, medium or long term.



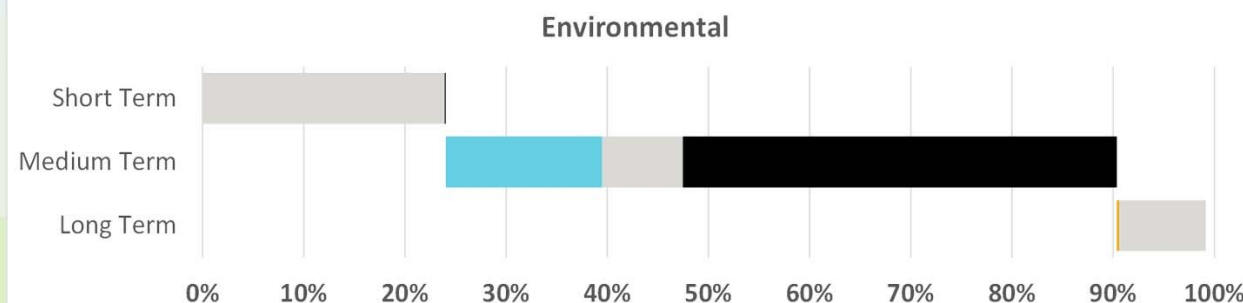
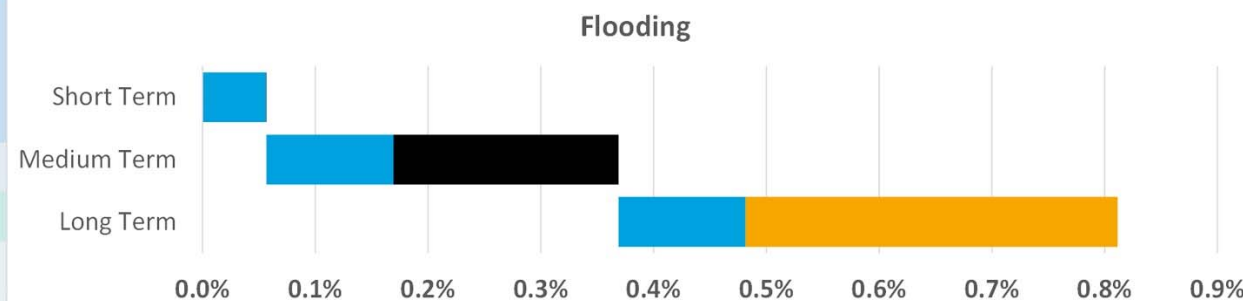
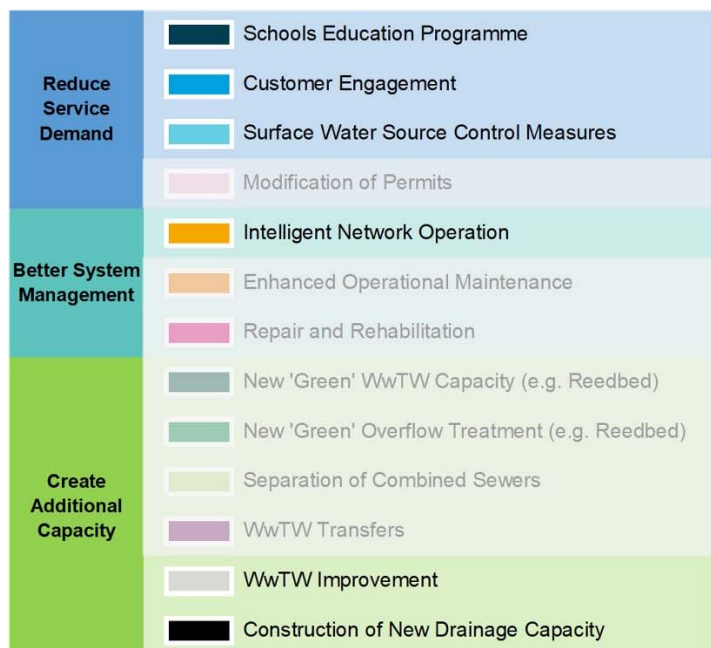
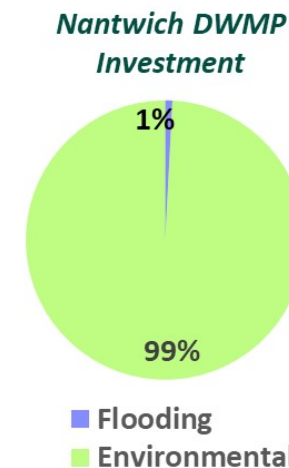
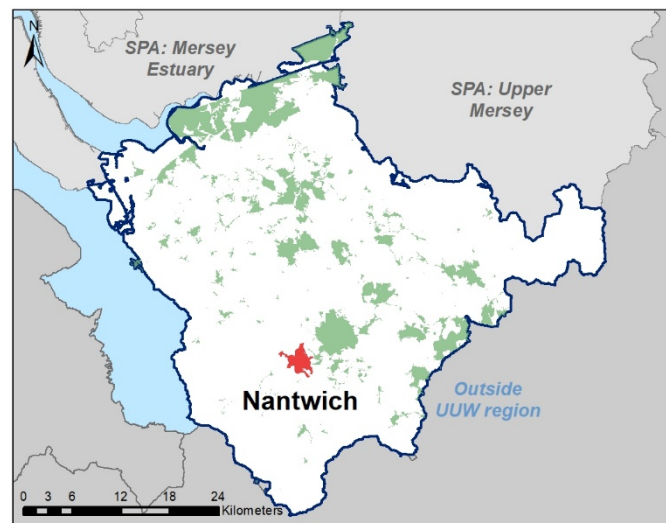
5.2.3.14 Nantwich

Figure 39 Details of the DWMP investment plan for Nantwich

The data on this page gives details of the investment plan for Nantwich TPU. The plan shows the geographic location of Nantwich within the Weaver Gowy catchment.

The pie chart to the right of the plan indicates the percentage split of proposed flooding and environmental investment. Environmental investment includes work to address storm overflows, wastewater treatment works and pollution of watercourses.

The bar charts below show a more detailed breakdown of the potential option types that make up the flooding and environmental investment. The key to the left of the bar charts show the colours used for the 13 different option types. Additionally, the charts indicate whether investments are proposed in the short, medium or long term.



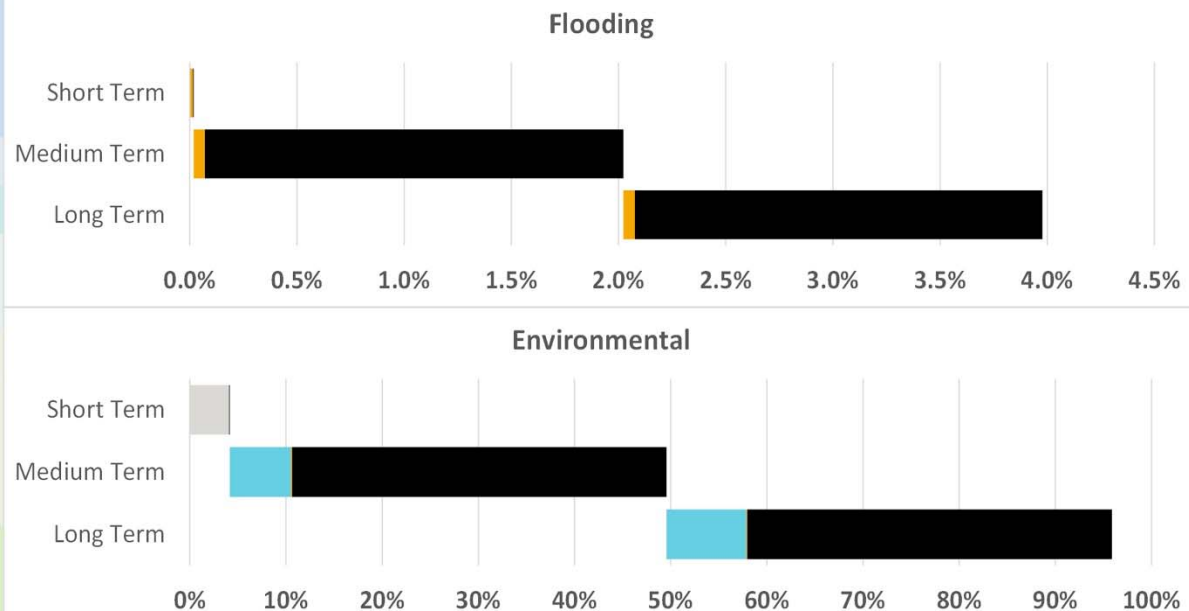
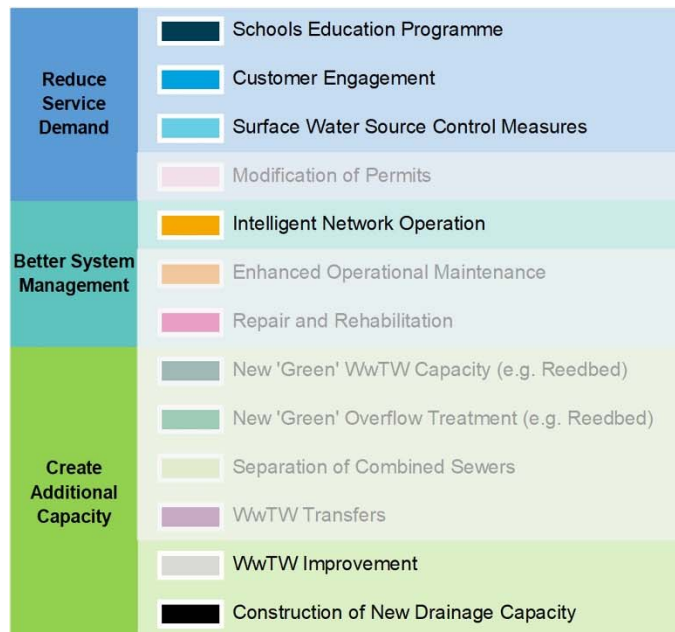
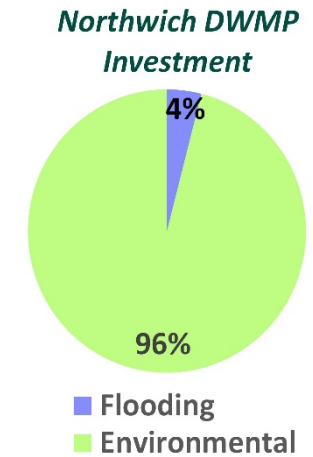
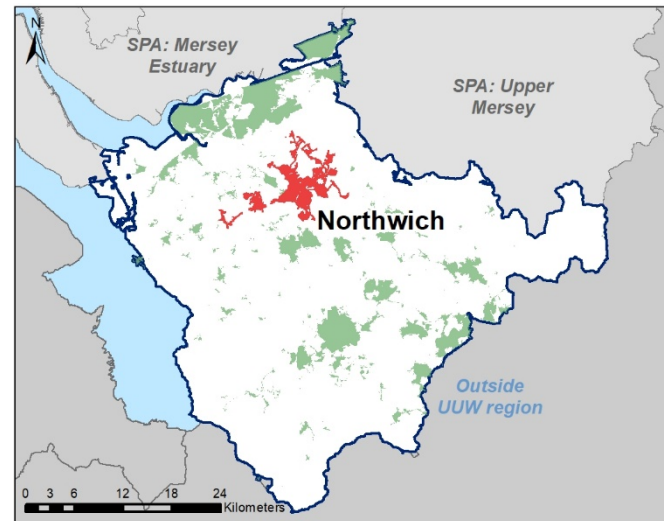
5.2.3.15 Northwich

Figure 40 Details of the DWMP investment plan for Northwich

The data on this page gives details of the investment plan for Northwich TPU. The plan shows the geographic location of Northwich within the Weaver Gowy catchment.

The pie chart to the right of the plan indicates the percentage split of proposed flooding and environmental investment. Environmental investment includes work to address storm overflows, wastewater treatment works and pollution of watercourses.

The bar charts below show a more detailed breakdown of the potential option types that make up the flooding and environmental investment. The key to the left of the bar charts show the colours used for the 13 different option types. Additionally, the charts indicate whether investments are proposed in the short, medium or long term.



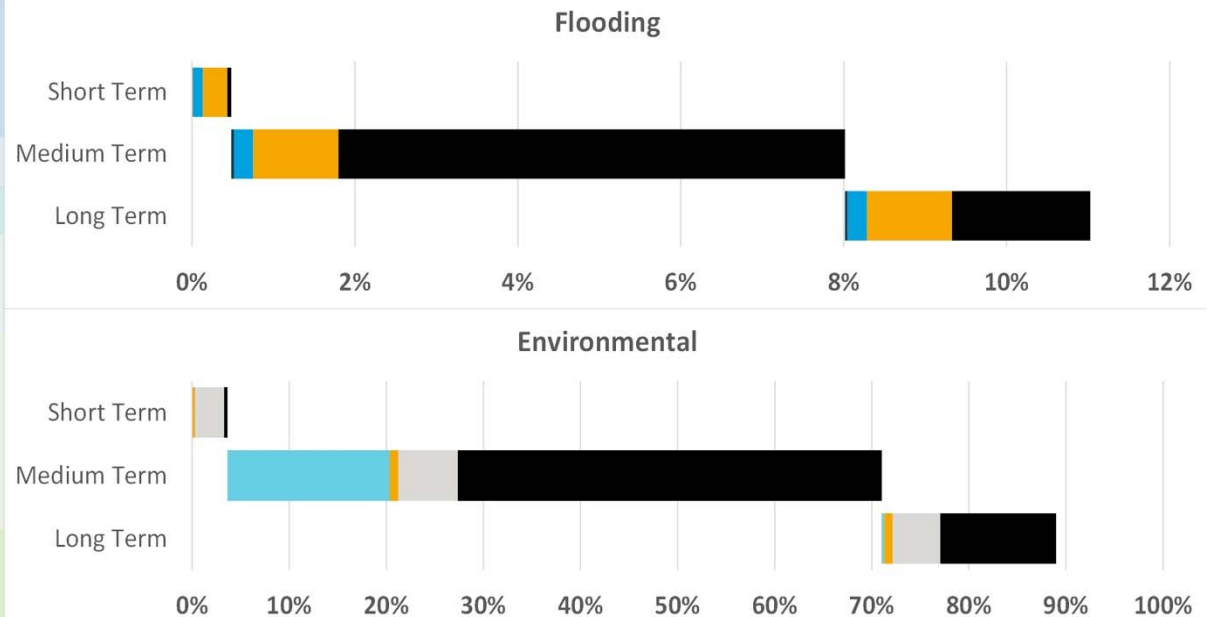
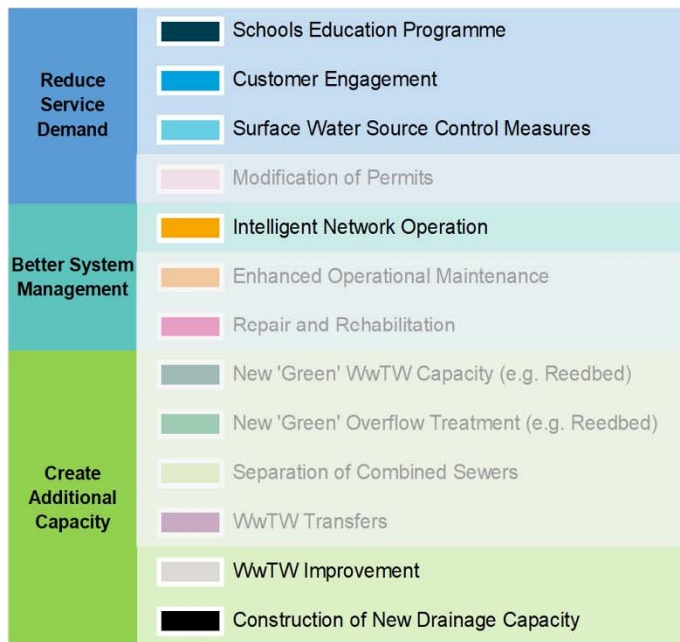
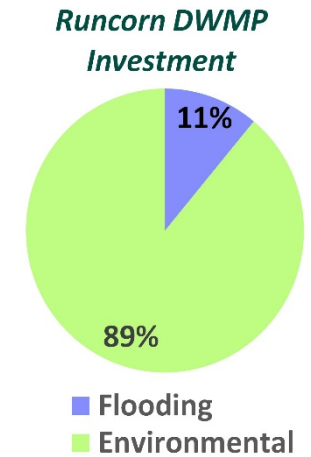
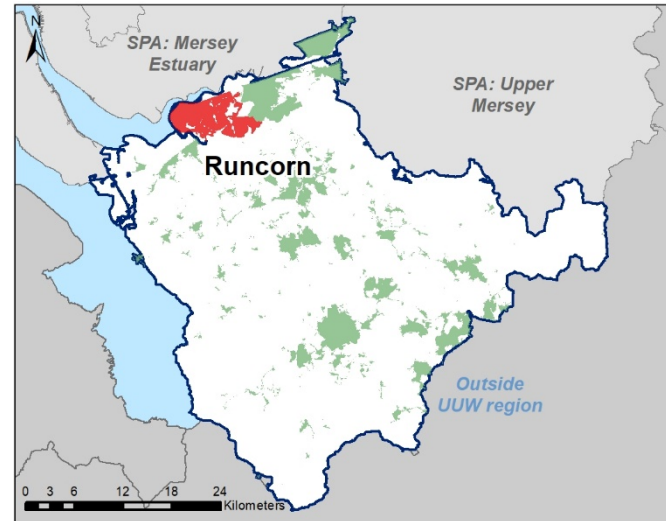
5.2.3.16 Runcorn

Figure 41 Details of the DWMP investment plan for Runcorn

The data on this page gives details of the investment plan for Runcorn TPU. The plan shows the geographic location of Runcorn within the Weaver Gowy catchment.

The pie chart to the right of the plan indicates the percentage split of proposed flooding and environmental investment. Environmental investment includes work to address storm overflows, wastewater treatment works and pollution of watercourses.

The bar charts below show a more detailed breakdown of the potential option types that make up the flooding and environmental investment. The key to the left of the bar charts show the colours used for the 13 different option types. Additionally, the charts indicate whether investments are proposed in the short, medium or long term.



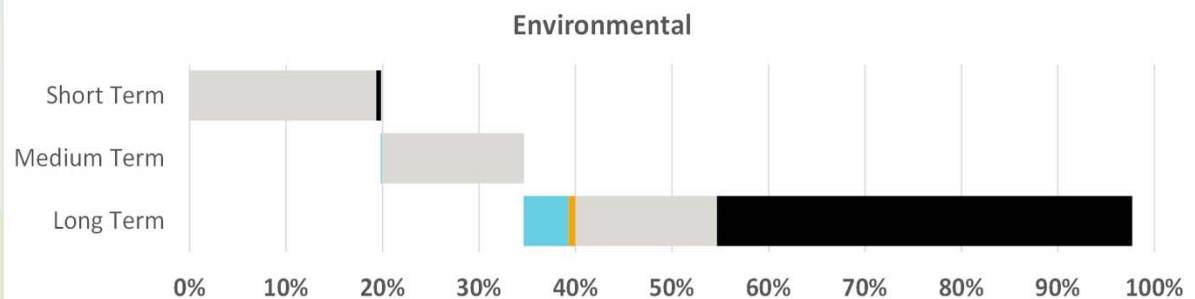
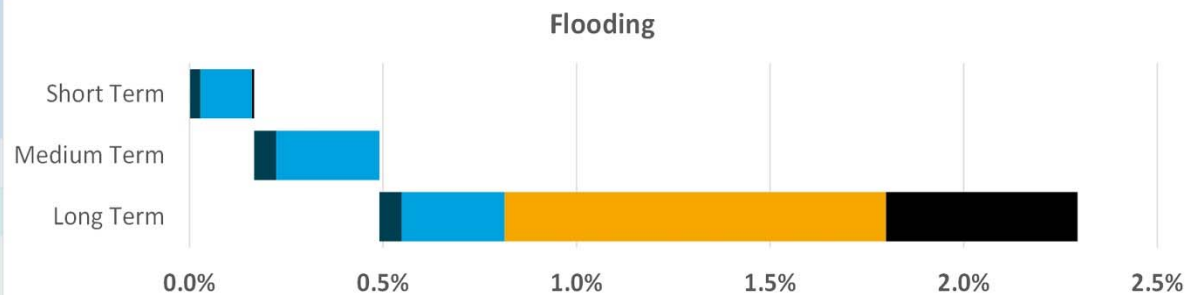
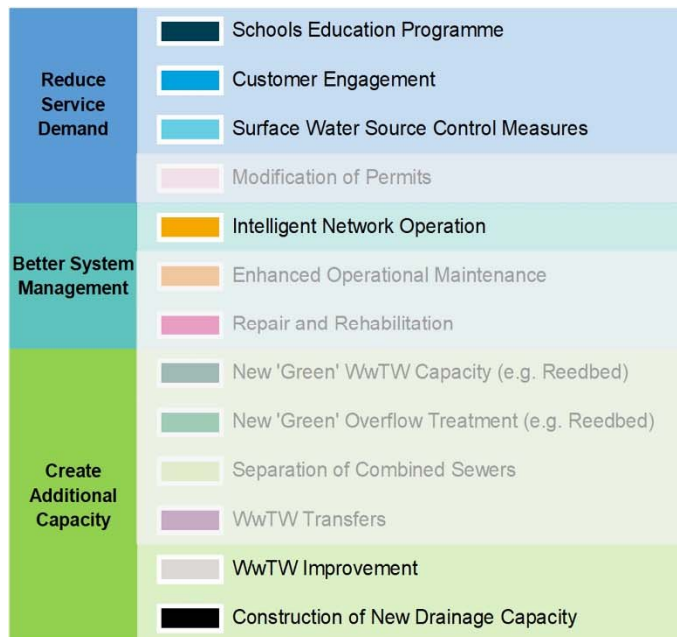
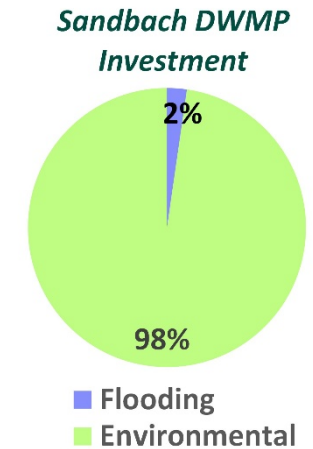
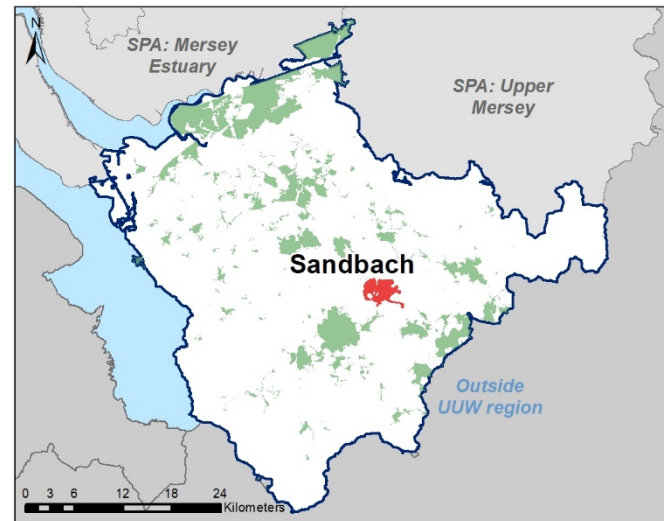
5.2.3.17 Sandbach

Figure 42 Details of the DWMP investment plan for Sandbach

The data on this page gives details of the investment plan for Sandbach. The plan shows the geographic location of Sandbach within the Weaver Gowy catchment.

The pie chart to the right of the plan indicates the percentage split of proposed flooding and environmental investment. Environmental investment includes work to address storm overflows, wastewater treatment works and pollution of watercourses.

The bar charts below show a more detailed breakdown of the potential option types that make up the flooding and environmental investment. The key to the left of the bar charts show the colours used for the 13 different option types. Additionally, the charts indicate whether investments are proposed in the short, medium or long term.



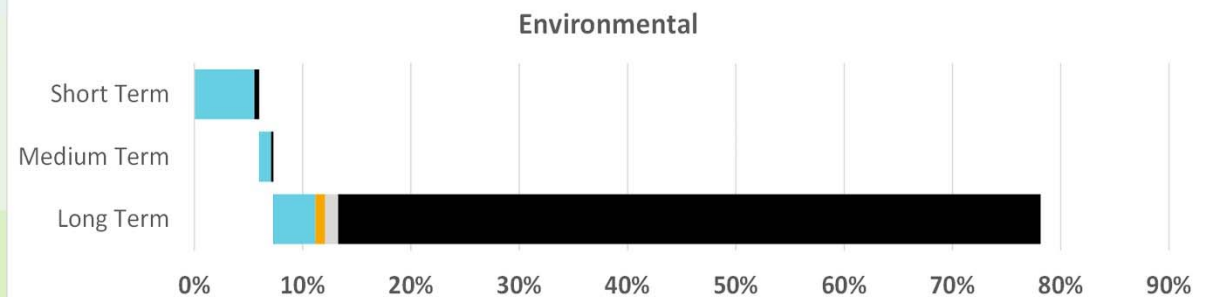
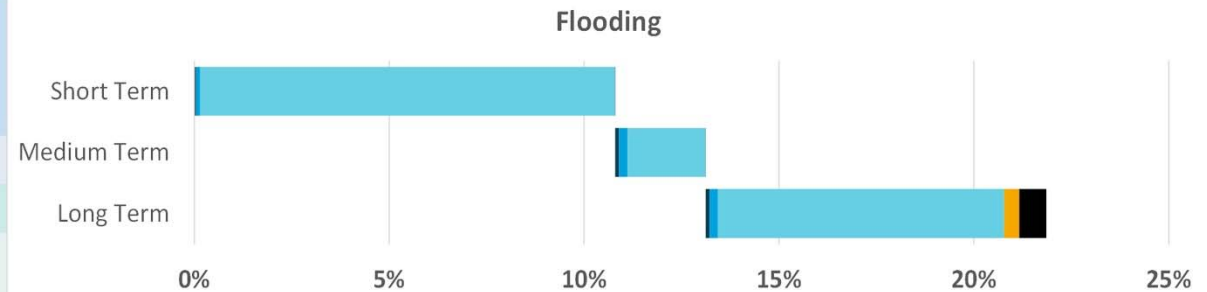
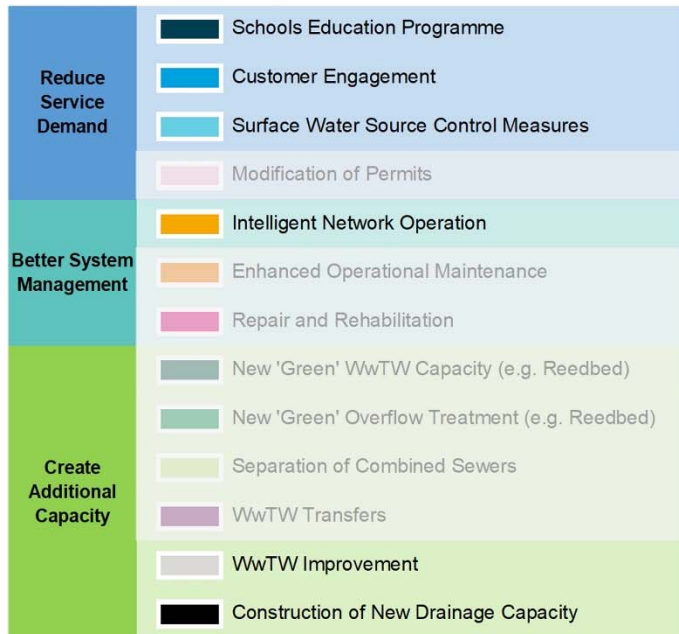
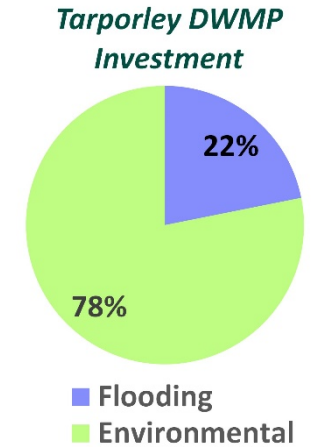
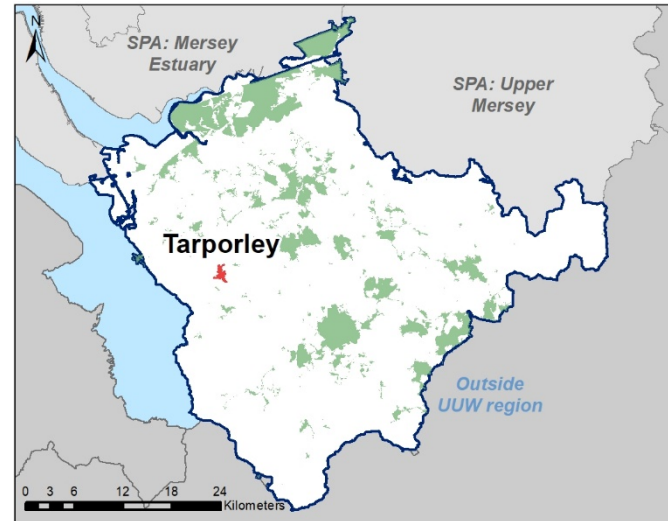
5.2.3.18 Tarporley

Figure 43 Details of the DWMP investment plan for Tarporley

The data on this page gives details of the investment plan for Tarporley TPU. The plan shows the geographic location of Tarporley within the Weaver Gowy catchment.

The pie chart to the right of the plan indicates the percentage split of proposed flooding and environmental investment. Environmental investment includes work to address storm overflows, wastewater treatment works and pollution of watercourses.

The bar charts below show a more detailed breakdown of the potential option types that make up the flooding and environmental investment. The key to the left of the bar charts show the colours used for the 13 different option types. Additionally, the charts indicate whether investments are proposed in the short, medium or long term.



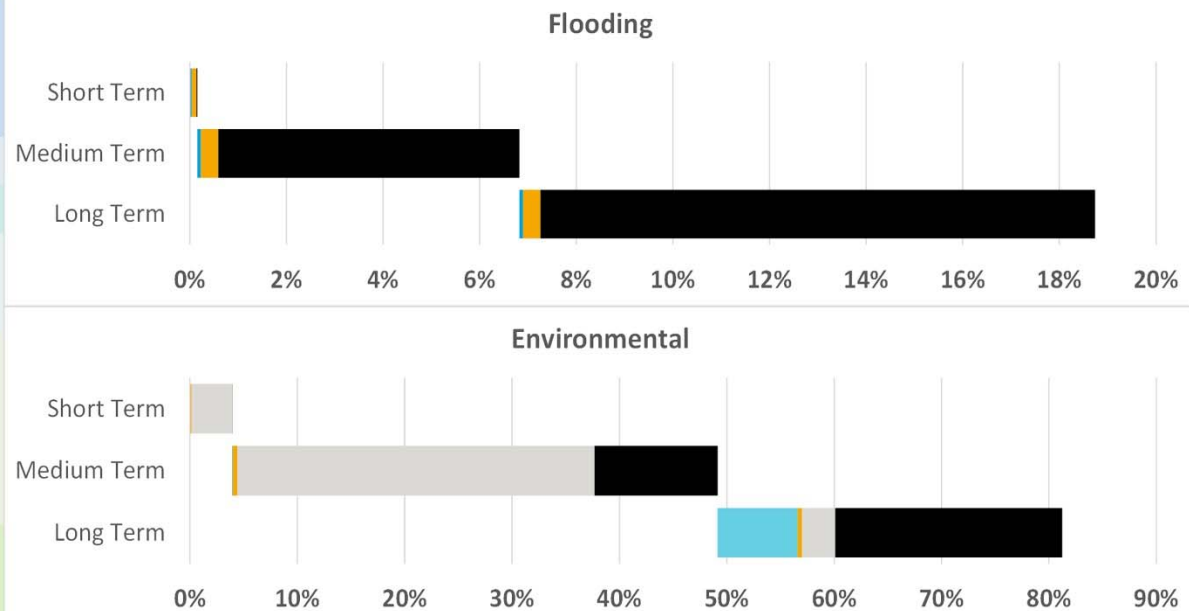
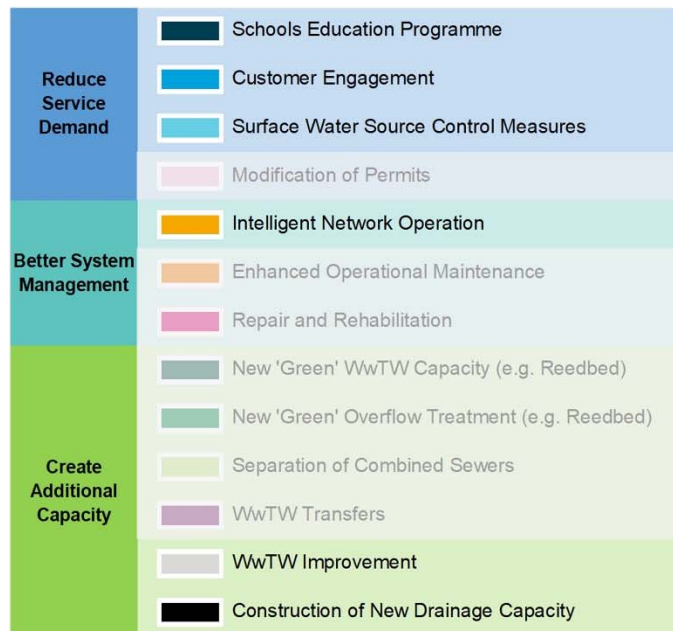
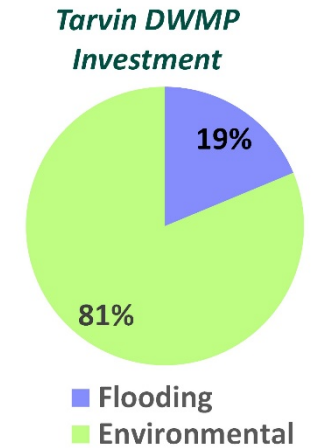
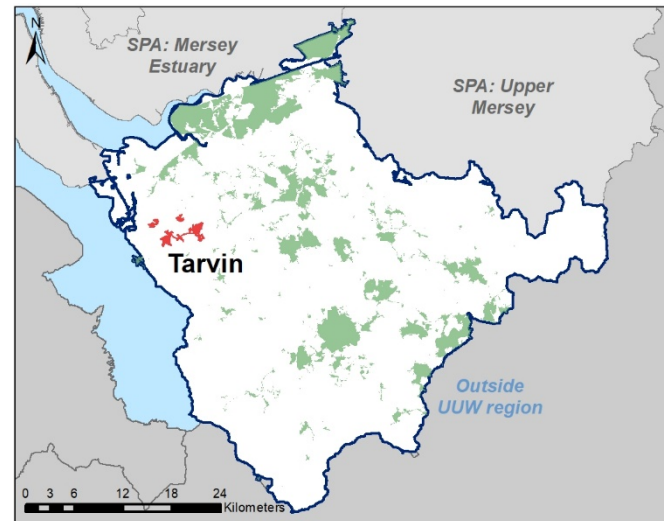
5.2.3.19 Tarvin

Figure 44 Details of the DWMP investment plan for Tarvin

The data on this page gives details of the investment plan for Tarvin TPU. The plan shows the geographic location of Tarvin within the Weaver Gowy catchment.

The pie chart to the right of the plan indicates the percentage split of proposed flooding and environmental investment. Environmental investment includes work to address storm overflows, wastewater treatment works and pollution of watercourses.

The bar charts below show a more detailed breakdown of the potential option types that make up the flooding and environmental investment. The key to the left of the bar charts show the colours used for the 13 different option types. Additionally, the charts indicate whether investments are proposed in the short, medium or long term.



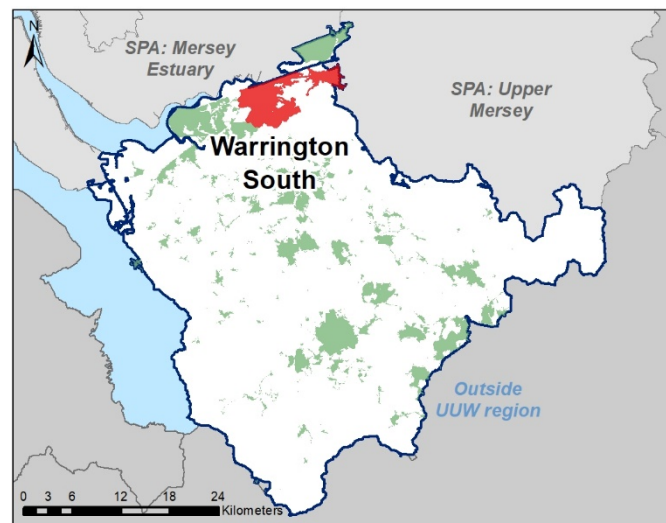
5.2.3.20 Warrington South

Figure 45 Details of the DWMP investment plan for Warrington South

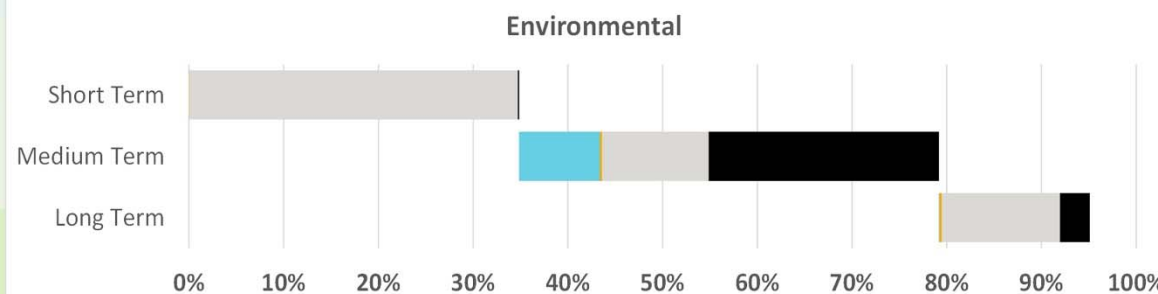
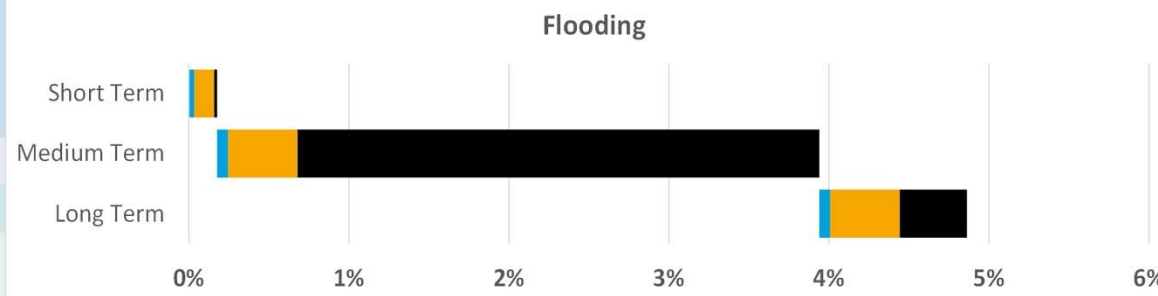
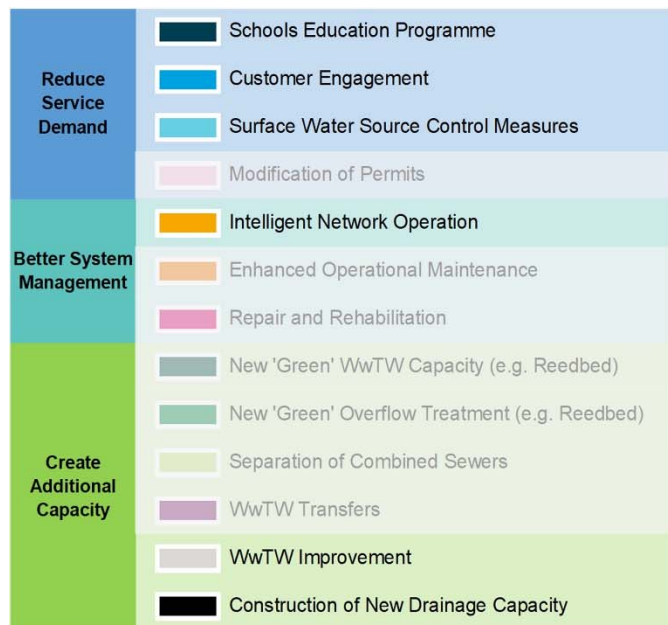
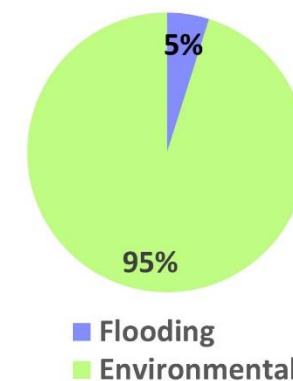
The data on this page gives details of the investment plan for Warrington South TPU. The plan shows the geographic location of Warrington South within the Weaver Gowy catchment.

The pie chart to the right of the plan indicates the percentage split of proposed flooding and environmental investment. Environmental investment includes work to address storm overflows, wastewater treatment works and pollution of watercourses.

The bar charts below show a more detailed breakdown of the potential option types that make up the flooding and environmental investment. The key to the left of the bar charts show the colours used for the 13 different option types. Additionally, the charts indicate whether investments are proposed in the short, medium or long term.



Warrington South DWMP Investment



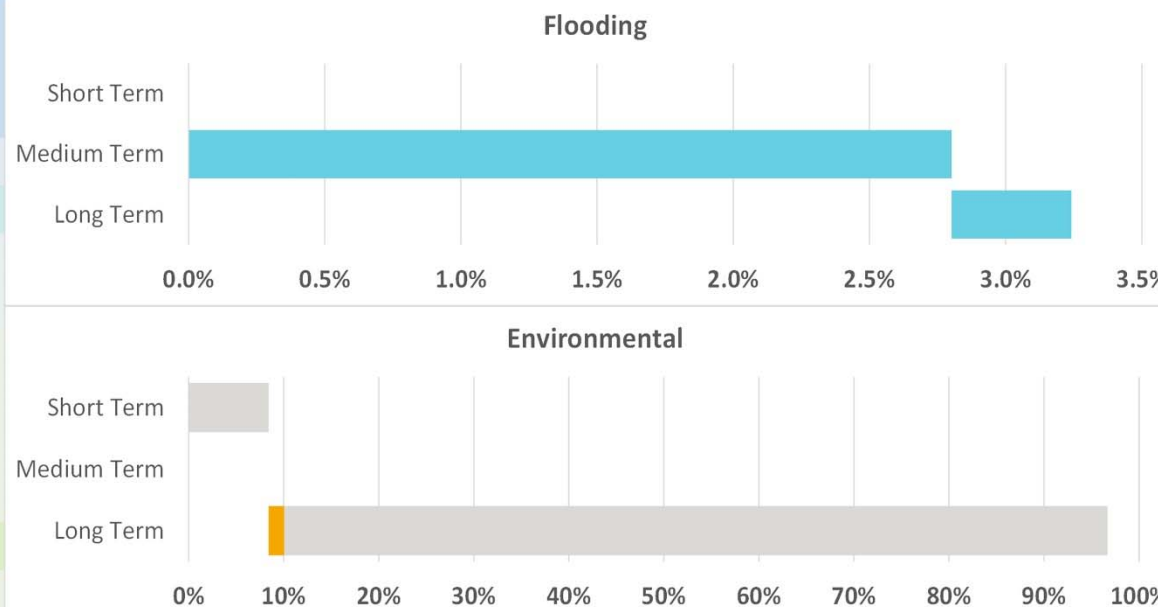
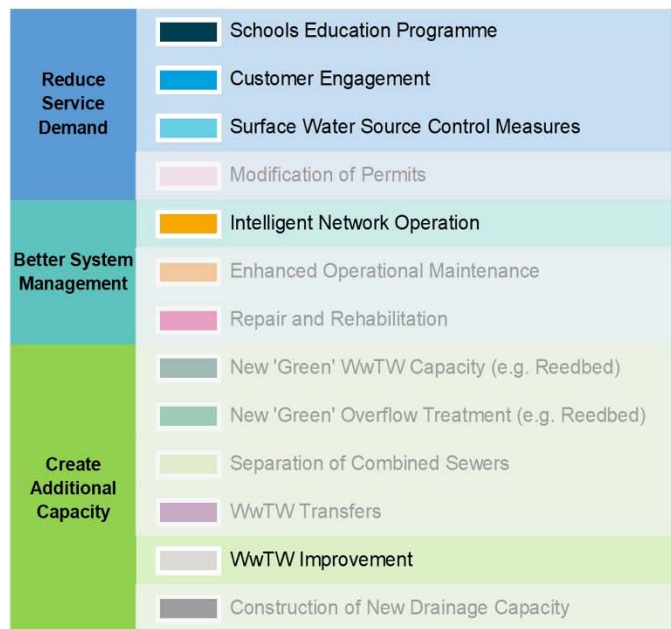
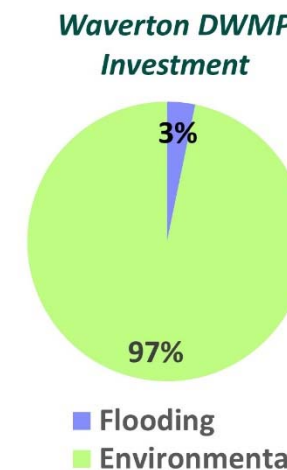
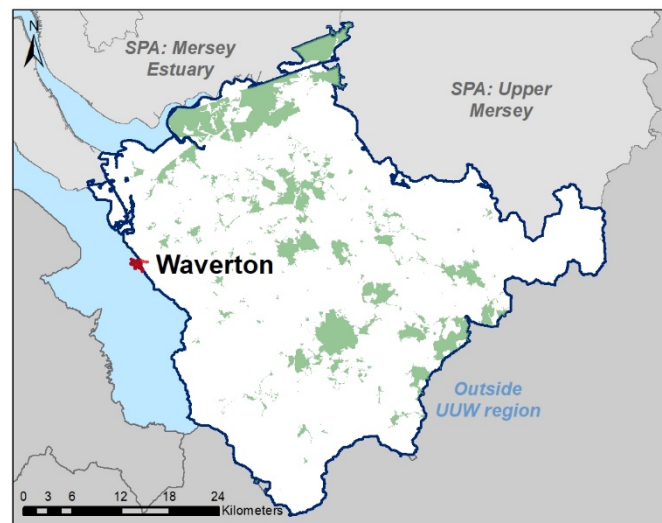
5.2.3.21 Waverton

Figure 46 Details of the DWMP investment plan for Waverton

The data on this page gives details of the investment plan for Waverton TPU. The plan shows the geographic location of Waverton within the Weaver Gowy catchment.

The pie chart to the right of the plan indicates the percentage split of proposed flooding and environmental investment. Environmental investment includes work to address storm overflows, wastewater treatment works and pollution of watercourses.

The bar charts below show a more detailed breakdown of the potential option types that make up the flooding and environmental investment. The key to the left of the bar charts show the colours used for the 13 different option types. Additionally, the charts indicate whether investments are proposed in the short, medium or long term.



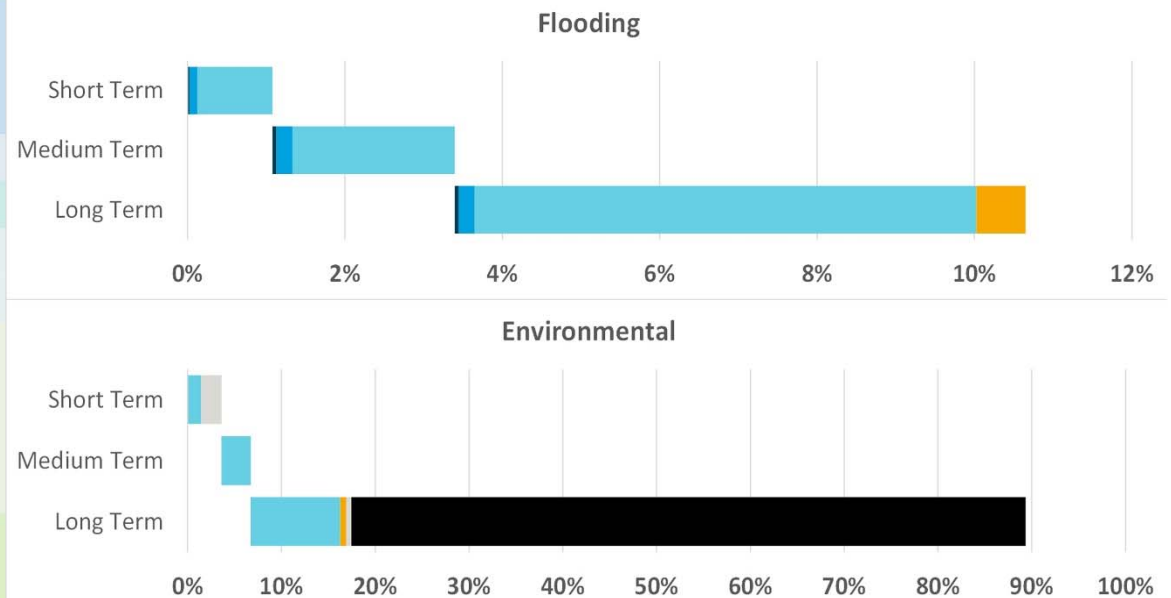
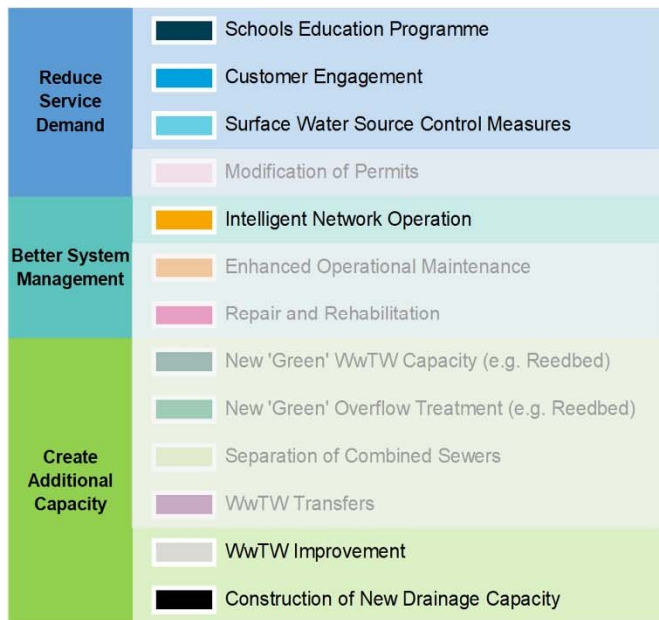
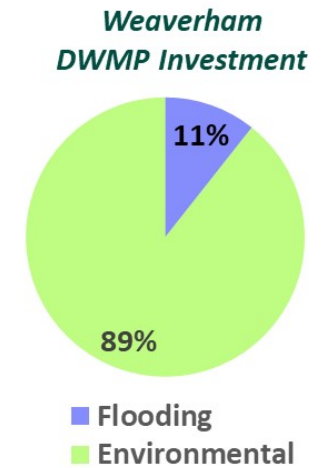
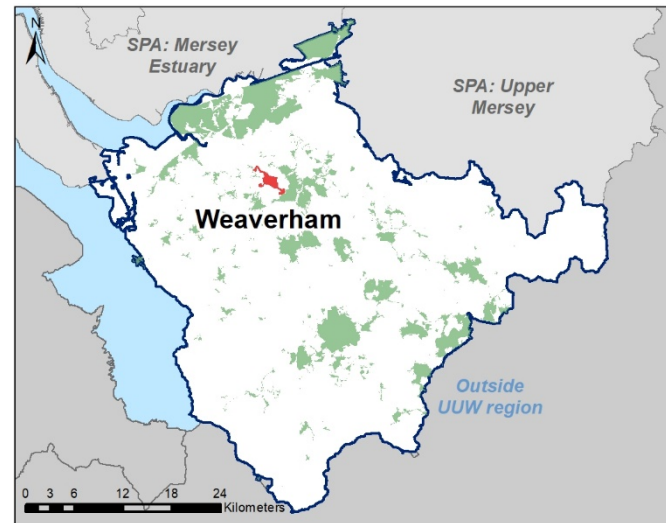
5.2.3.22 Weaverham

Figure 47 Details of the DWMP investment plan for Weaverham

The data on this page gives details of the investment plan for Weaverham TPU. The plan shows the geographic location of Weaverham within the Weaver Gowy catchment.

The pie chart to the right of the plan indicates the percentage split of proposed flooding and environmental investment. Environmental investment includes work to address storm overflows, wastewater treatment works and pollution of watercourses.

The bar charts below show a more detailed breakdown of the potential option types that make up the flooding and environmental investment. The key to the left of the bar charts show the colours used for the 13 different option types. Additionally, the charts indicate whether investments are proposed in the short, medium or long term.



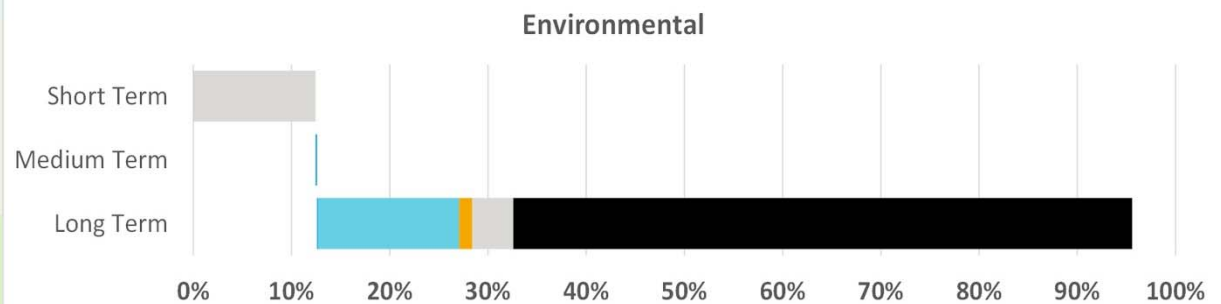
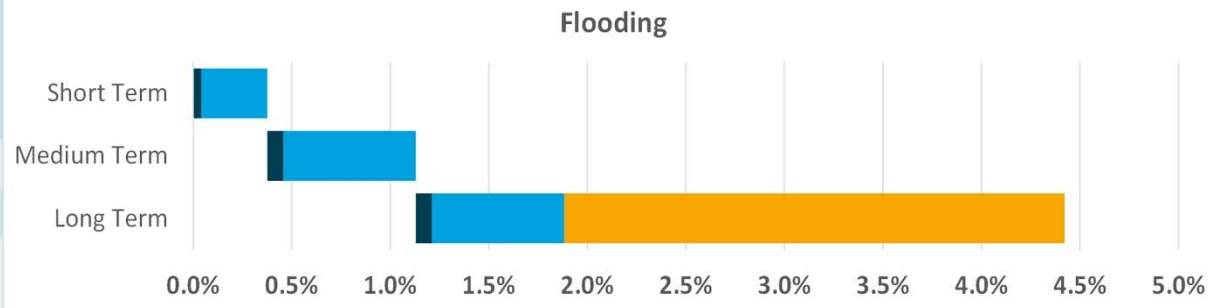
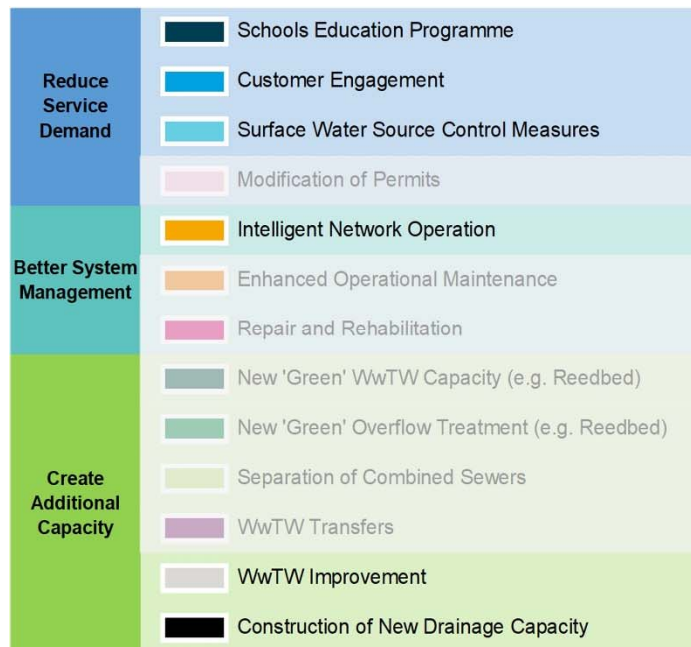
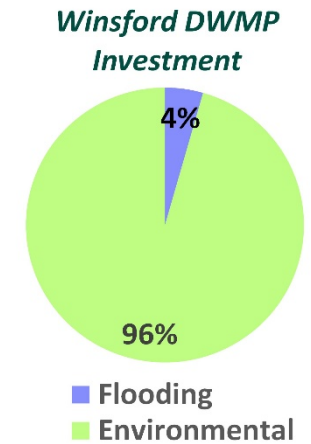
5.2.3.23 Winsford

Figure 48 Details of the DWMP investment plan for Winsford

The data on this page gives details of the investment plan for Winsford TPU. The plan shows the geographic location of Winsford within the Weaver Gowy catchment.

The pie chart to the right of the plan indicates the percentage split of proposed flooding and environmental investment. Environmental investment includes work to address storm overflows, wastewater treatment works and pollution of watercourses.

The bar charts below show a more detailed breakdown of the potential option types that make up the flooding and environmental investment. The key to the left of the bar charts show the colours used for the 13 different option types. Additionally, the charts indicate whether investments are proposed in the short, medium or long term.



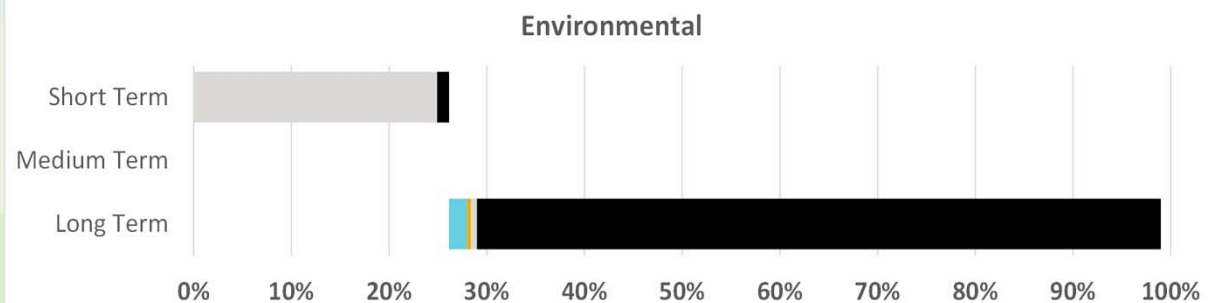
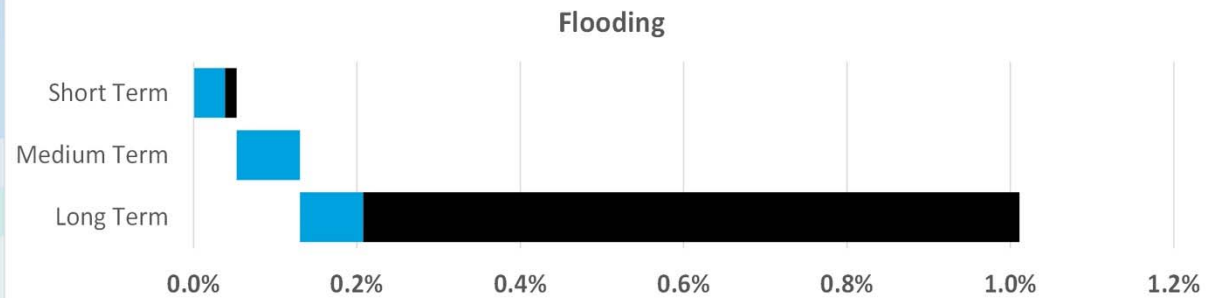
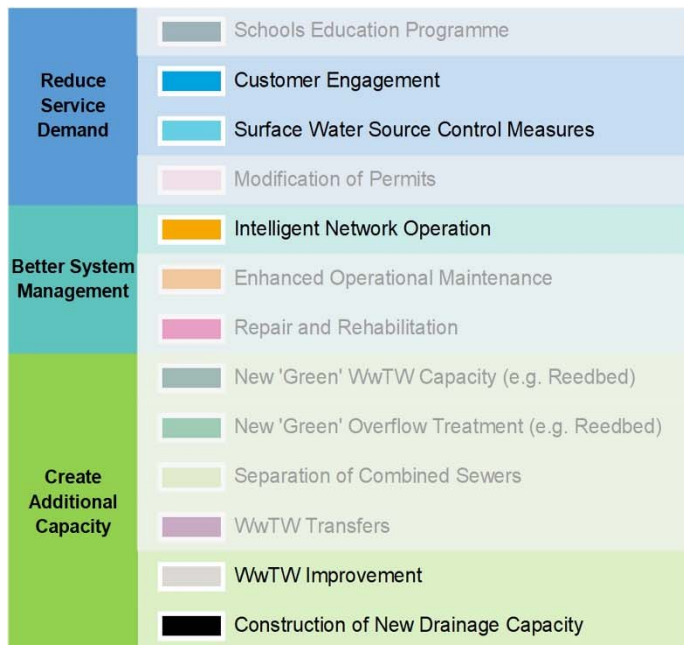
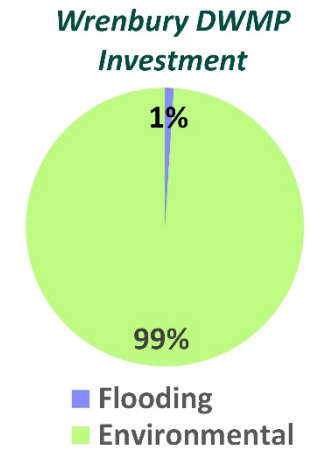
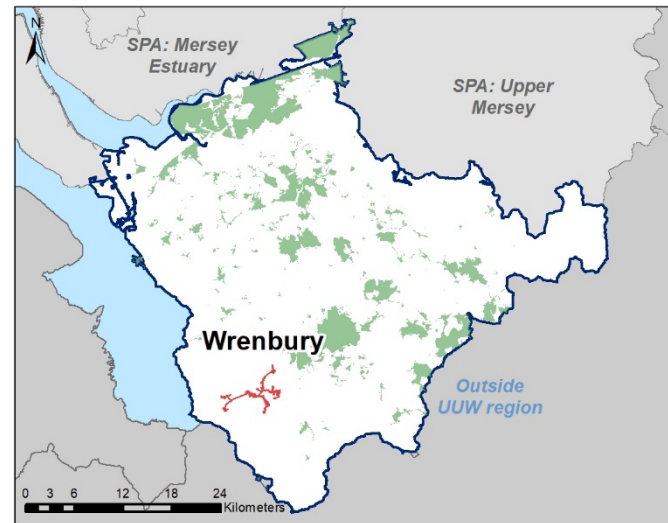
5.2.3.24 Wrenbury

Figure 49 Details of the DWMP investment plan for Wrenbury

The data on this page gives details of the investment plan for Wrenbury TPU. The plan shows the geographic location of Wrenbury within the Weaver Gowy catchment.

The pie chart to the right of the plan indicates the percentage split of proposed flooding and environmental investment. Environmental investment includes work to address storm overflows, wastewater treatment works and pollution of watercourses.

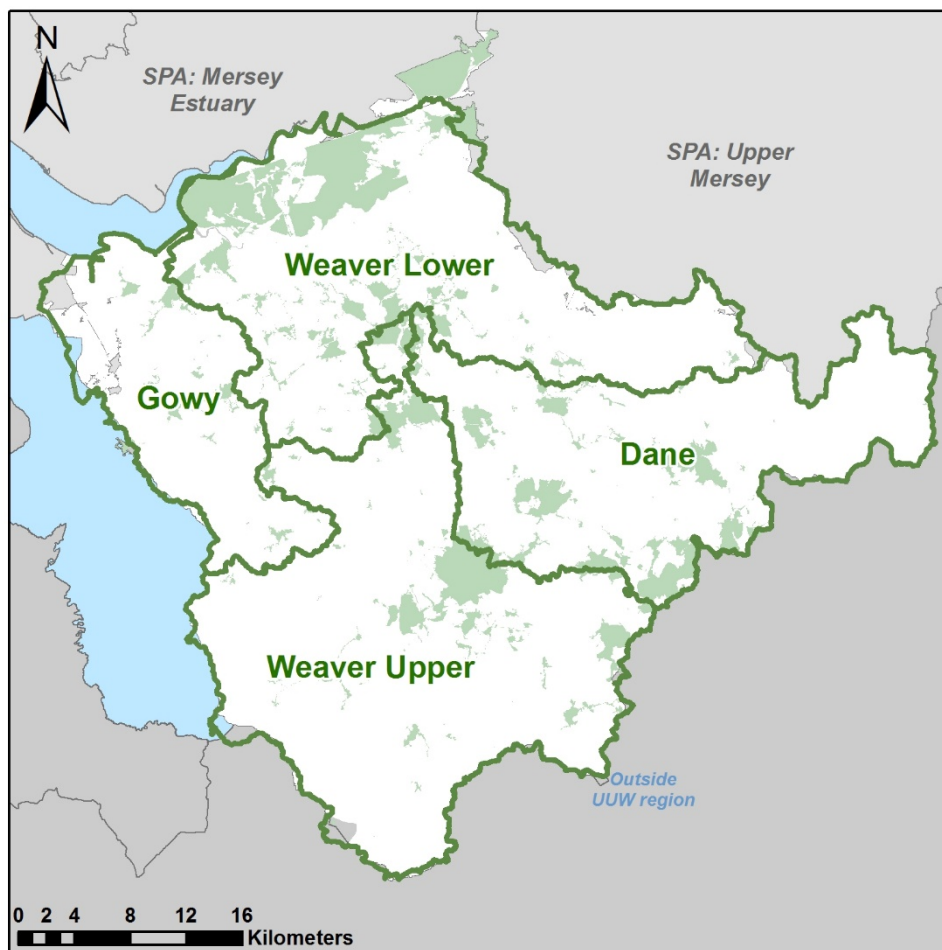
The bar charts below show a more detailed breakdown of the potential option types that make up the flooding and environmental investment. The key to the left of the bar charts show the colours used for the 13 different option types. Additionally, the charts indicate whether investments are proposed in the short, medium or long term.



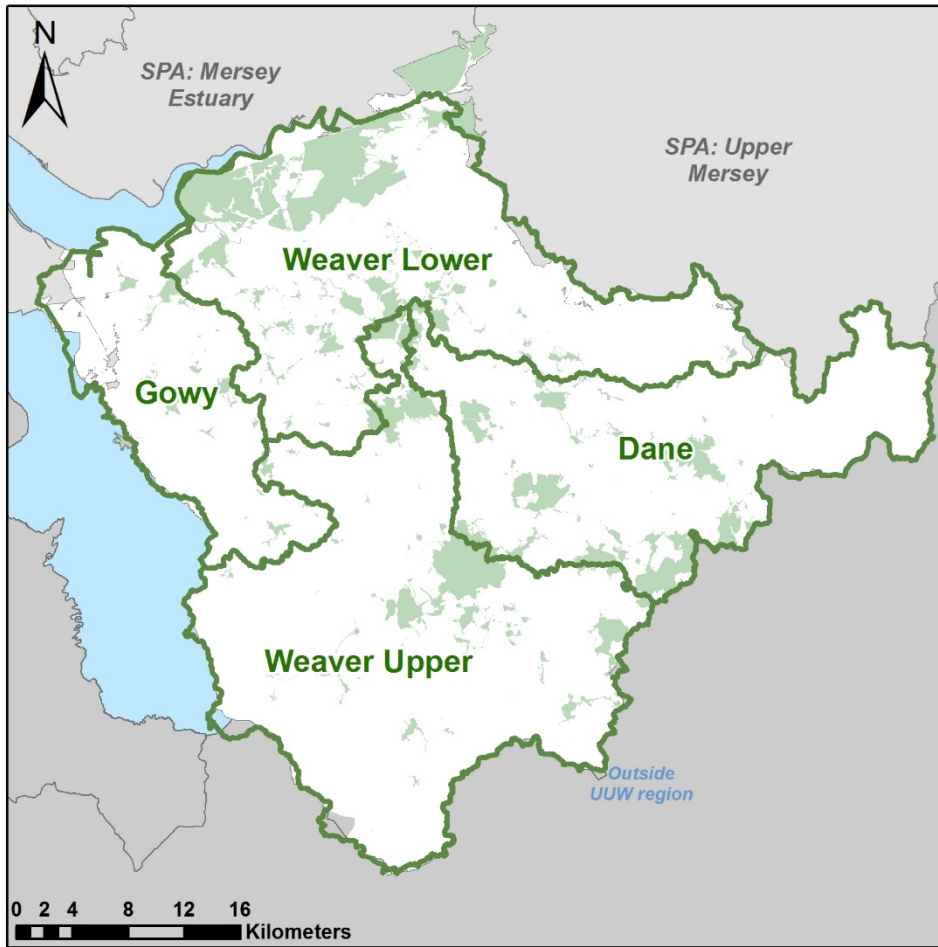
5.2.4 TPUs with population less than 2,000

Within the Weaver Gowy catchments, there are a number of small TPUs, each with a population of less than 2,000. For the purpose of reporting, these have been grouped together within Environment Agency operational catchment (OC) boundaries, which are sub-divisions of the overall SPA, aligned to local river systems. Within the Weaver Gowy, there are two Environment Agency operational catchment areas, which can be seen in Figure 46.

Figure 50 Location of Environment Agency operational catchments within Weaver Gowy



Environment Agency Operational Catchment	TPUs
Goway	Wervin Utkinton, Tiverton, Mouldsworth Motor Museum, Mouldsworth, Manley New Pale Lane, Manley, Ince, Duddon, Calveley, Bunbury Beeston, Barrow Broomhill, Alraham
Weaver Lower	Whitley Town Green No 3, Whitley Town Green No 2, Whitley Town Green No 1, Whitegate, Tabley, Rushton Eaton Lane, Runcorn Road, Plumley, Onston Lane, Olliers (Hulme Lane, Lower Peover), Newton Hollows, Nether Peover, Mowpen Brow, Marton South, Marton North, Little Leigh East, Little Leigh Central, Little Budworth South, Little Budworth North, Kennel Bank, Hoo Green, High Legh, Gawsworth, Dutton, Delamere, Crowton, Cotebrook, Aston Lane No 9, Ashton Lane No 3, Antrobus, Allostock Hulme Hall Lane, Allostock Booth Bed Lane, Acton Bridge



	<p>Dane</p> <p>Wimboldsley, Timbersbrook cloud view, Timbersbrook, Swettenham, Stanthorne, Sproston, Newbold 1-14 Brownlow Heath, Moston West, Moston South, Marton (Macclesfield), Kerminsham, Hassall, Fords Lane Mow Cop, Flash, Eaton, Byley, Brookhouse Green, Brereton, Bosley, Biddulph Park, Arclid Alsager, Crewe Road, Ackers Crossing Macclesfield Canal, Ackers Crossing Green Gables, Ackers Crossing Avondale</p>
	<p>Weaver Upper</p> <p>Wardle, Vale Royal Abbey, Rushton, Oldfields, Hilbre Bank, Gorsey Bank, Dunkirk, Darnhall, Church Minshull West, Church Minshull East, Cholmondeston, Checkley, Calverhall (Prees Road), Calver Hall South, Calver Hall North, Bulkeley, Buerton South, Buerton North, Brindley, Bickerton, Betley, Baddington, Austerson, Audlem, Adderley</p>

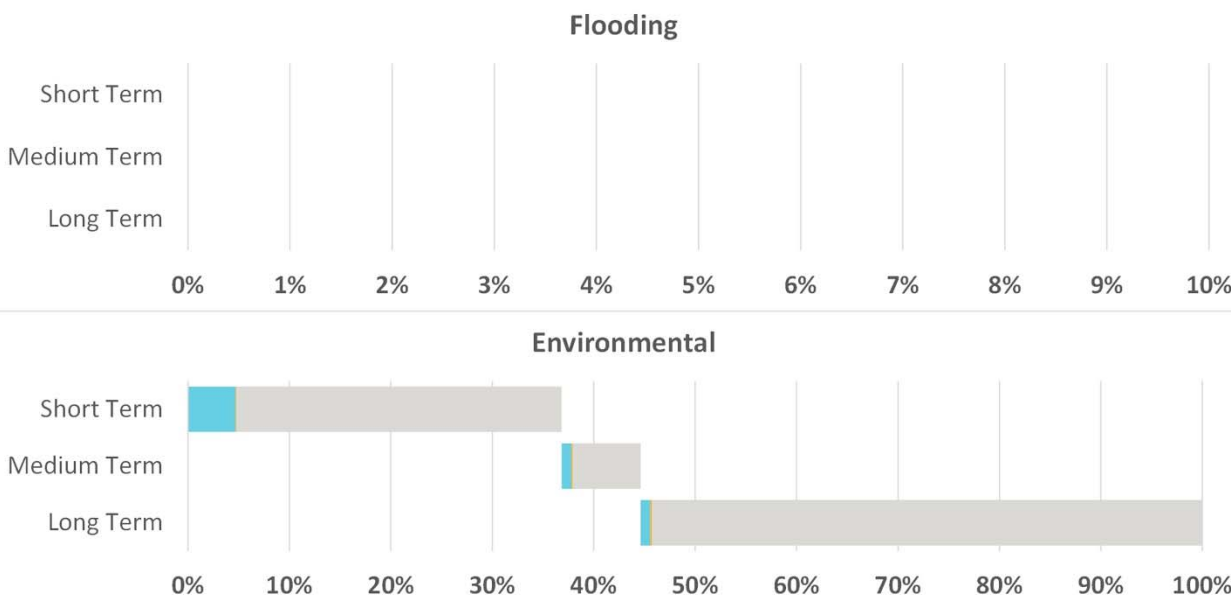
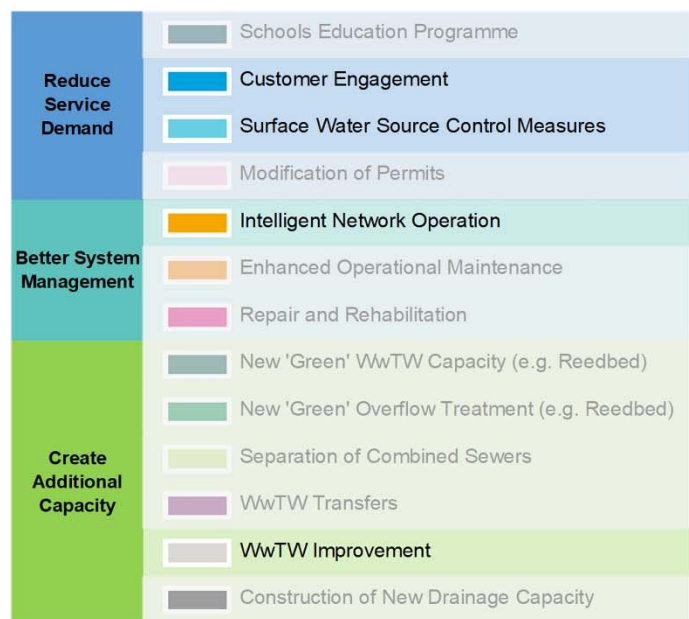
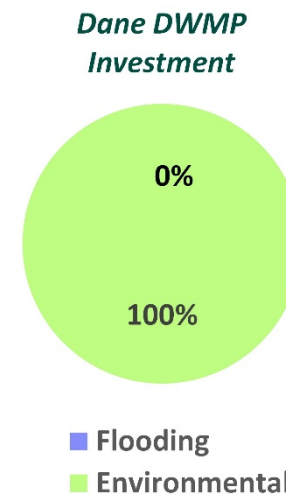
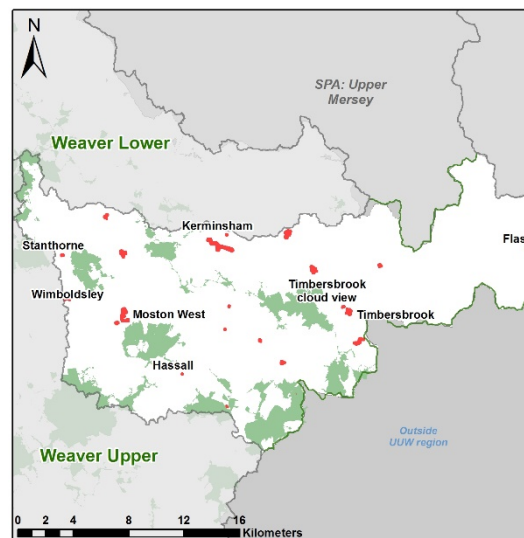
5.2.4.1 TPUs with population less than 2,000: Dane Operational Catchment (OC)

Figure 51 Details of the DWMP investment plan for the Dane OC

The data on this page gives details of the investment plan for Dane OC TPUs. The plan shows the geographic location of these TPUs within the Dane OC.

The pie chart to the right of the plan indicates the percentage split of proposed flooding and environmental investment. Environmental investment includes work to address storm overflows, wastewater treatment works and pollution of watercourses.

The bar charts below show a more detailed breakdown of the potential option types that make up the flooding and environmental investment. The key to the left of the bar charts show the colours used for the 13 different option types. Additionally, the charts indicate whether investments are proposed in the short, medium or long term.



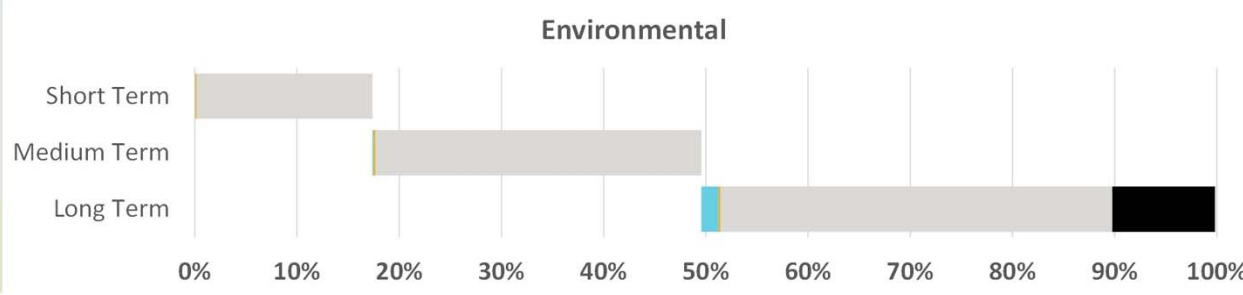
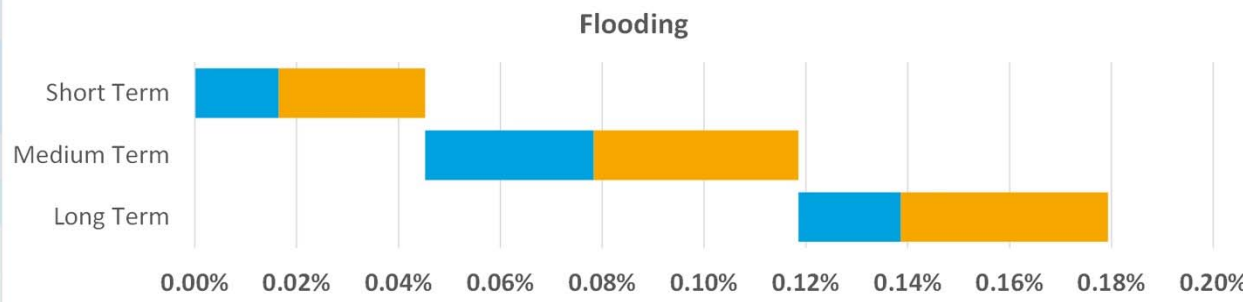
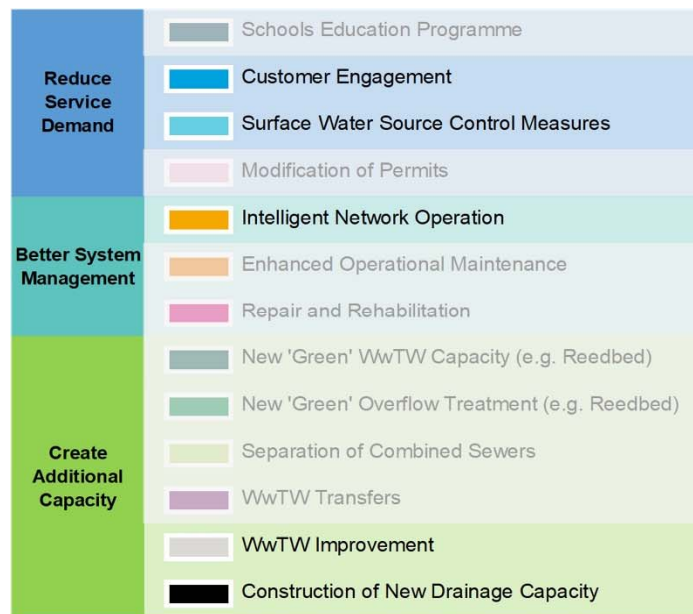
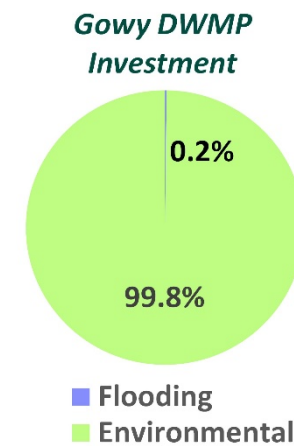
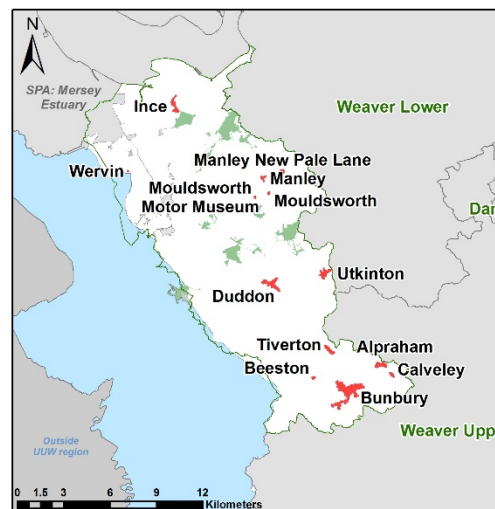
5.2.4.2 TPUs with population less than 2,000: Gowy Operational Catchment (OC)

Figure 52 Details of the DWMP investment plan for the Gowy OC

The data on this page gives details of the investment plan for the TPUs within the Gowy OC. The plan shows the geographic location of these TPUs within the Gowy OC.

The pie chart to the right of the plan indicates the percentage split of proposed flooding and environmental investment. Environmental investment includes work to address storm overflows, wastewater treatment works and pollution of watercourses.

The bar charts below show a more detailed breakdown of the potential option types that make up the flooding and environmental investment. The key to the left of the bar charts show the colours used for the 13 different option types. Additionally, the charts indicate whether investments are proposed in the short, medium or long term.



5.2.4.3 TPUs with population less than 2,000: Weaver Lower Operational Catchment (OC)

Figure 49 Details of the DWMP investment plan for the Weaver Lower OC

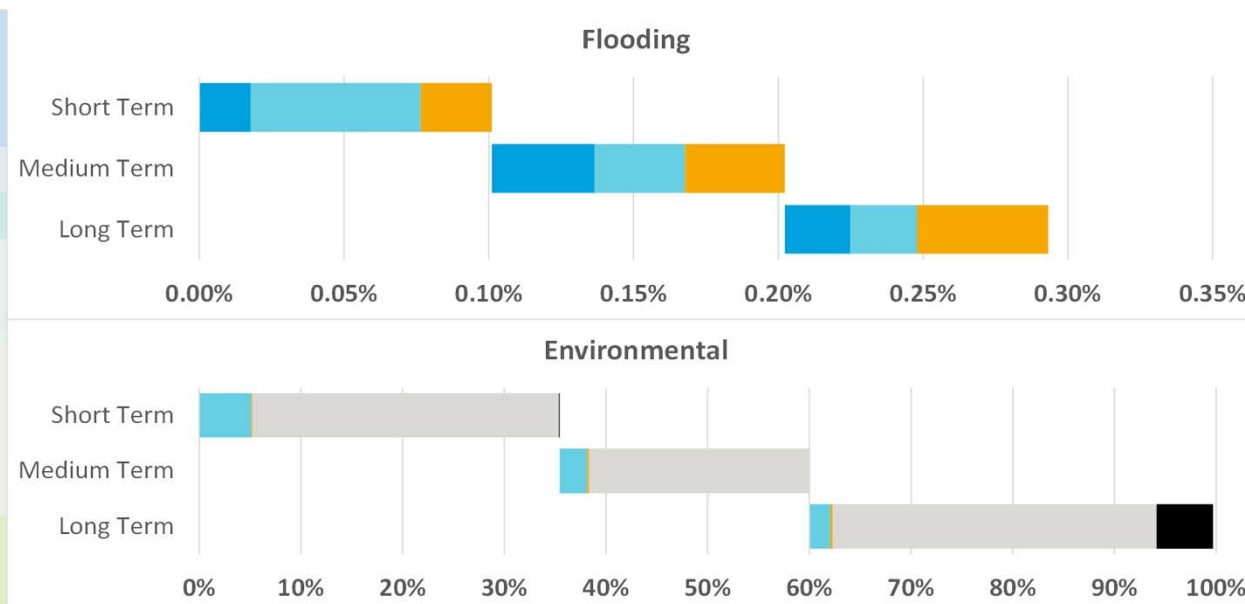
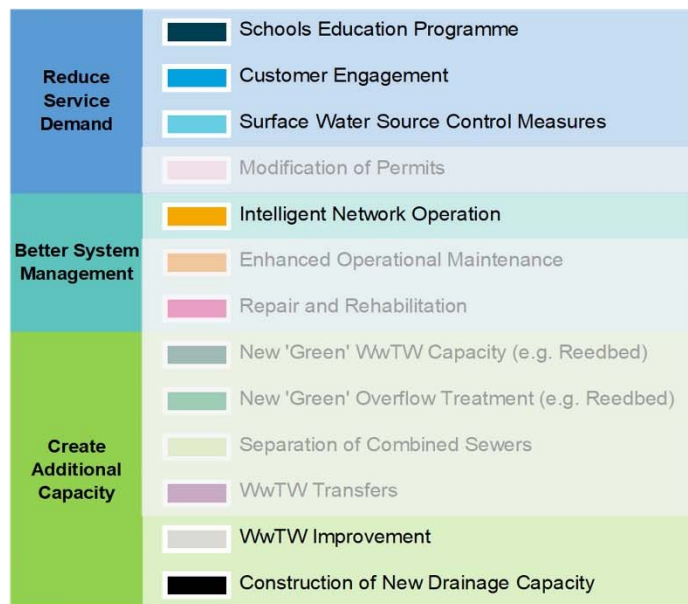
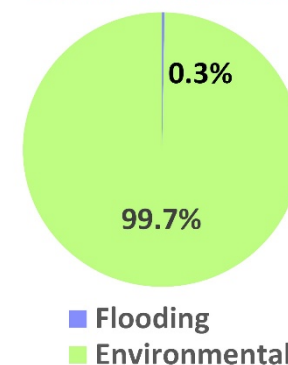
The data on this page gives details of the investment plan for the TPUs within the Weaver Lower OC. The plan shows the geographic location of these TPUs within the Weaver Lower OC.

The pie chart to the right of the plan indicates the percentage split of proposed flooding and environmental investment. Environmental investment includes work to address storm overflows, wastewater treatment works and pollution of watercourses.

The bar charts below show a more detailed breakdown of the potential option types that make up the flooding and environmental investment. The key to the left of the bar charts show the colours used for the 13 different option types. Additionally, the charts indicate whether investments are proposed in the short, medium or long term.



Weaver Lower DWMP Investment



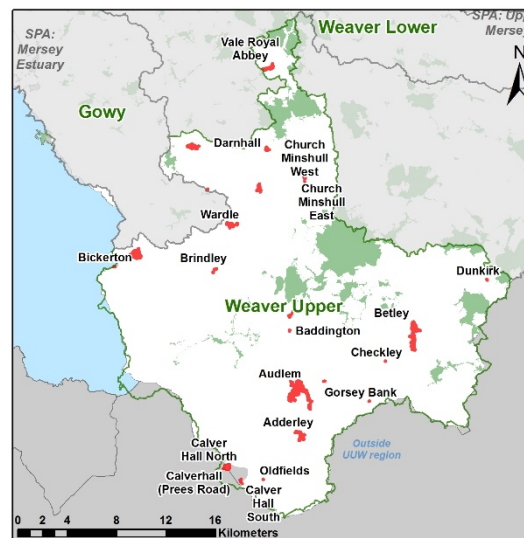
5.2.4.4 TPUs with population less than 2,000: Weaver Upper Operational Catchment (OC)

Figure 50 Details of the DWMP investment plan for the Weaver Upper OC

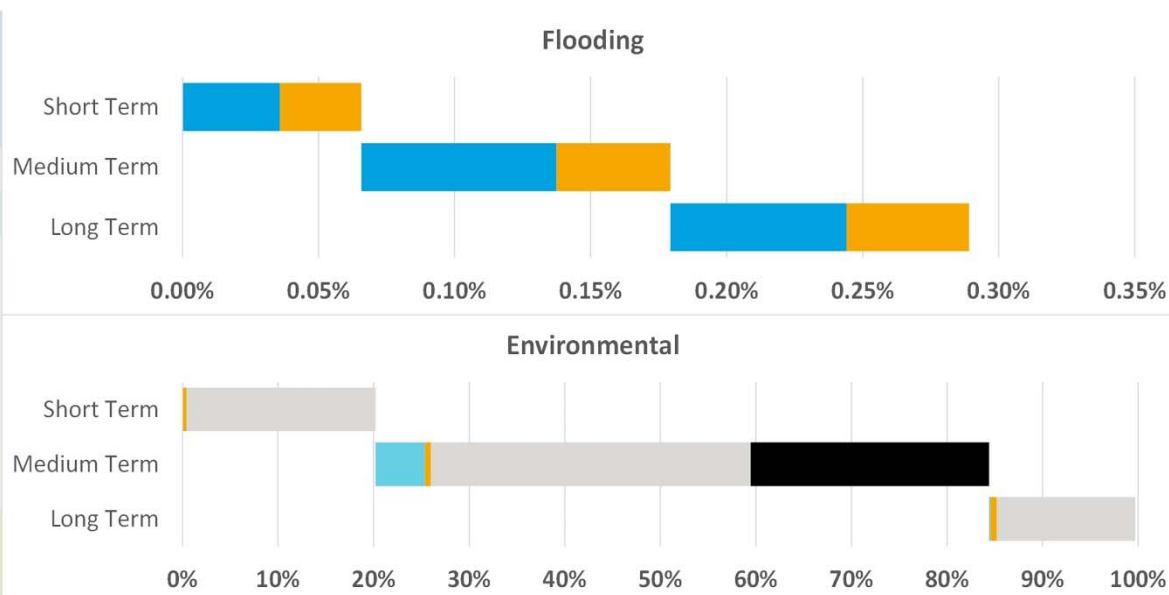
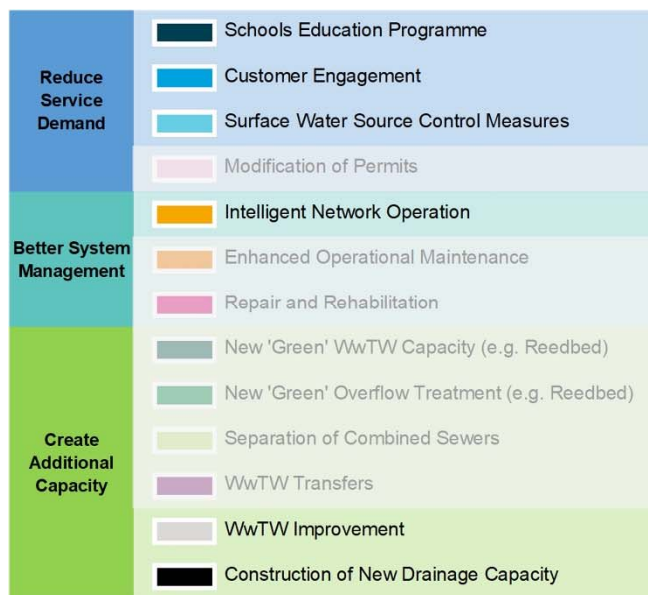
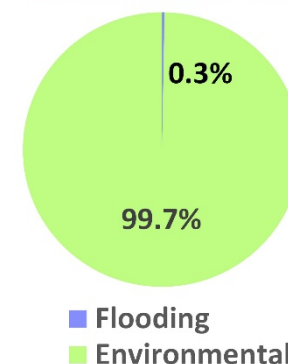
The data on this page gives details of the investment plan for the TPUs within the Weaver Upper OC. The plan shows the geographic location of these TPUs within the Weaver Upper OC.

The pie chart to the right of the plan indicates the percentage split of proposed flooding and environmental investment. Environmental investment includes work to address storm overflows, wastewater treatment works and pollution of watercourses.

The bar charts below show a more detailed breakdown of the potential option types that make up the flooding and environmental investment. The key to the left of the bar charts show the colours used for the 13 different option types. Additionally, the charts indicate whether investments are proposed in the short, medium or long term.



Weaver Upper DWMP Investment



5.3 Other projects and investment

In addition to the improvements and benefits that the WINEP and the DWMP will drive in the years to come, there are also other projects that will help to achieve our ambitions. One of which is our Better Rivers: Better North West project which aims to improve the region’s river water quality.

5.3.1 Better Rivers: Better North West

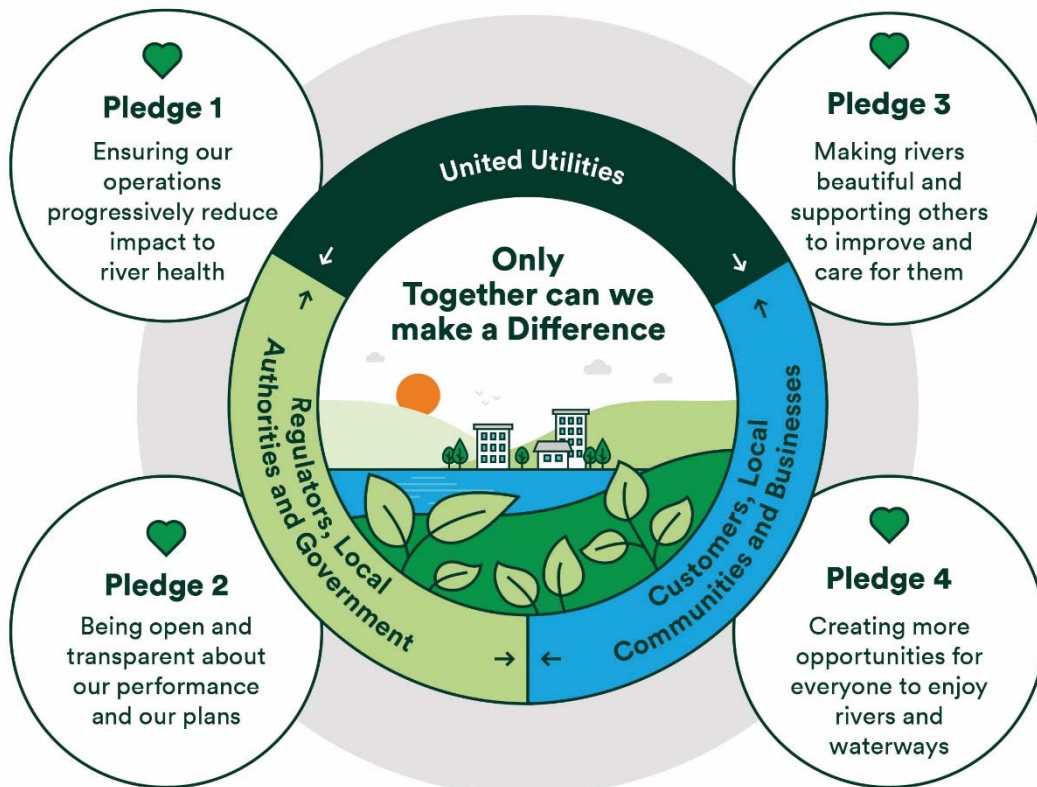
The North West is home to some of the most beautiful natural landscapes. We take our role in protecting them very seriously so they can be enjoyed by all. We are investing significantly to reduce the impact that wastewater has on the natural environment and our long-term ambition is to eliminate pollution incidents.

We want to demonstrate how we are addressing concerns regarding storm overflows and making our contribution to improving river health. Through our Better Rivers: Better North West plan, we have made four pledges which will include improving our wastewater network and treatment assets, collecting more data and sharing it, greater innovation and more use of nature-based solutions (Figure 53).

We are determined to build a coalition of the willing to improve the region’s river water quality and catalyse action from many parties. At the heart of this will be addressing surface water management at scale and securing continued investment in effective end-to-end wastewater management is necessary to improve river water quality. This programme sets out our ambitions for the next three years and beyond.

You can find out more about the Better Rivers: Better North West plan on our website (<https://www.unitedutilities.com/corporate/responsibility/environment/reducing-pollution/storm-overflows/our-commitments-to-river-health/>).

Figure 53 Overview of the Better Rivers: Better North West project



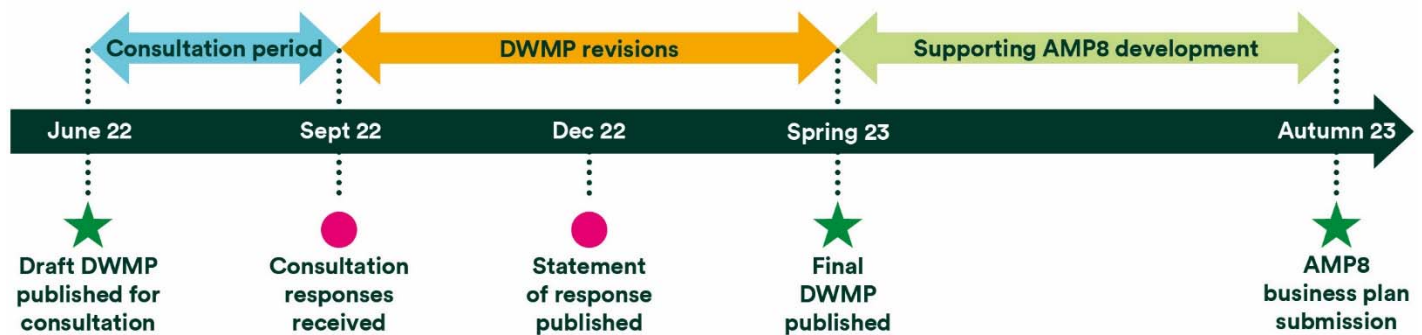
6. Embedding the DWMP

Since we began our DWMP journey when the framework was published in 2018, we have now produced our first ever plan. We have done this with the support from customers and stakeholders where we have listened to, reflected upon and made changes to different views, priorities and ambitions that we have for the North West, now and in the future.

The DWMP encompasses a host of documents covering different topic areas from assessing risks to identifying opportunities, and the SPA documents like this one for the Weaver Gowy catchment. The DWMP is not a static programme and will continue to work with stakeholders to develop partnership options and strategies, which will make a difference within the Weaver Gowy catchment.

Moving forwards, the DWMP will be a key component in the development of our business plan for investment cycle 2025 – 2030 (AMP8, Figure 54). Here, we will be able to continue to work in partnership to identify joint opportunities to mitigate risk, to improve the environment and create spaces for communities to enjoy.

Figure 54 Timeline of key milestones



7. References

- [1] <https://storymaps.arcgis.com/collections/4305167c12e044dd9cde46bee044878a?item=1>
- [2] <https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3205>
- [3] <https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3525>
- [4] <https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3524>
- [5] <https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3120>
- [6] <https://environment.data.gov.uk/catchment-planning/v/c3-plan/CatchmentPartnership/WEIF9102>
- [7] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1120229/North-West-FRMP-2021-2027.pdf

Appendix A

Table A.1 List of TPUs which did not trigger for RBCS across environment, flooding or wastewater treatment works categories

TPU name	Environment	Flooding	Wastewater Treatment Works
Ackers Crossing Avondale	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Ackers Crossing Green Gables	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Ackers Crossing Macclesfield Canal	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Allostock Booth Bed Lane	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Allostock Hulme Hall Lane	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Alsager Crewe Road	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Antrobus	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Arclid	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Aston Lane No3	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Aston Lane No9	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Austerson	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Barrow Broomhill	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Beeston	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Betton Crossing (Betton)	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Biddulph Park	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Brereton	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Brindley	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Brookhouse Green	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Buerton North	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Byley	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Calver Hall South	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Calverhall (Prees Road)	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Checkley	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Cholmondeston	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Church Minshull East	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Church Minshull West	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Crowton	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Darnhall	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Delamere	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Dunkirk	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Dutton	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Eaton	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Flash	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Fords Lane Mow Cop	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Gorse Bank	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Hassall	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Hilbre Bank	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Hoo Green	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Kennel Bank	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS

Kerminsham	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Little Budworth North	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Little Leigh Central	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Little Leigh East	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Manley	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Manley New Pale Lane	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Marton South	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Moston South	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Moston West	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Mouldsworth	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Mouldsworth Motor Museum	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Newbold 1-14 Brownlow Heath	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Newton Hollows	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Oldfields	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Olliers (Hulme Lane, Lower Peover)	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Onston Lane	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Runcorn Road	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Rushton Eaton Lane	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Sproston	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Stanthorne	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Tabley	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Timbersbrook	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Timbersbrook cloud view	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Tiverton	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Vale Royal Abbey	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Wervin	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Whitegate	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Whitley Town Green No 1	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Whitley Town Green No 2	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Whitley Town Green No 3	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS
Wimboldsley	Not triggered in RBCS	Not triggered in RBCS	Not triggered in RBCS

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Water for the North West