

DRAINAGE AND WASTEWATER MANAGEMENT PLANS (DWMP)



LEVEL 2 STRATEGIC PLANNING AREA SUMMARY – WEAR SIDE

7Contents

Overview.....	2
Drainage Areas within Wearside L2 SPA.....	3
Key Stakeholders	3
Catchment Needs.....	5
Storm Overflow Discharge Reduction Plan	5
Storm Overflow Screening	5
Wastewater Treatment Works Compliance	11
Long-Term Delivery Strategy for Flooding and Pollution	11
Water Industry National Environment Programme (WINEP).....	12
Planning Objective Assessment.....	12
Planning Objective Risk Scoring.....	12
Climate Change Sensitivity	15
Option Development.....	17
Our Plan for the Wearside L2 SPA	17
Planning Objective Risk Scoring.....	21
Concluding comments.....	23
Contacting us	23
AMP8 WINEP Schemes In Wearside L2 Drainage Areas.....	23

OVERVIEW

The Drainage and Wastewater Management Plan (DWMP) covers seven Strategic Planning Areas (SPA). The seven areas align broadly with the river basin catchments within the region and the main urban areas.

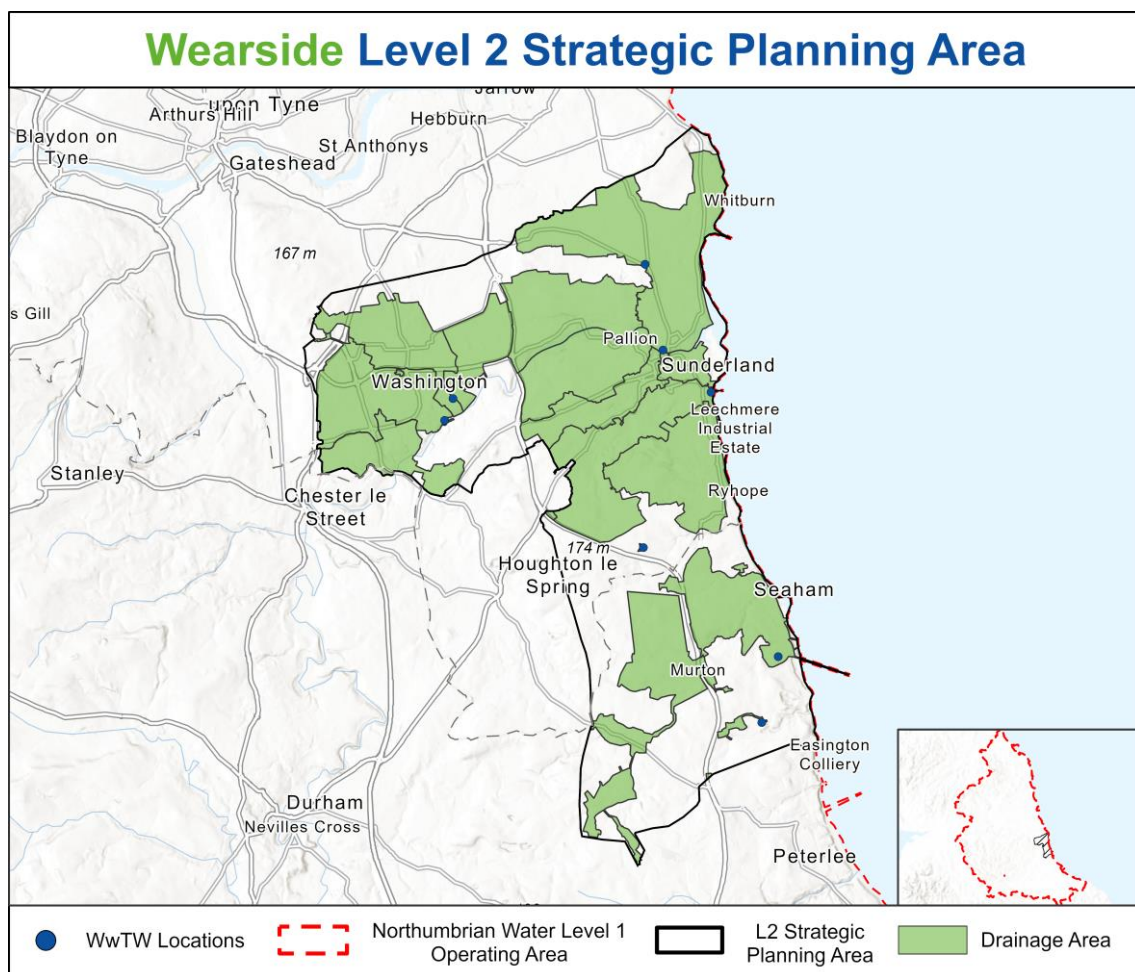
This document provides an overview of the DWMP for the **Wearside Level 2 SPA**.

Within the Wearside Level 2 SPA, there are:

- 6 Wastewater Treatment Works (WwTW)
- 6 Level 3 Tactical Planning Unit (TPU) areas
- 16 Wastewater Drainage Areas

The total estimated population of the Wearside Level 2 SPA is 301,000.

WEARSIDE LEVEL 2 STRATEGIC PLANNING AREA



DRAINAGE AREAS WITHIN WEARSIDE L2 SPA

The following table outlines all of the drainage areas within the Wearside Level 2 SPA. The table also outlines whether the drainage area triggered during the Risk Based Catchment Screening (RBCS) stage of the DWMP for detailed analysis as part of the Baseline Risk and Vulnerability Assessment (BRAVA) stage.

Drainage Area Reference	Drainage Area Name	WwTW Name	Triggered BRAVA?
08-D01	Seaham	Seaham WwTW	Yes
08-D02	Murton	Seaham WwTW	Yes
08-D04	Hawthorn	Hawthorn WwTW	Yes
08-D06	Seaburn & Roker	Hendon WwTW	Yes
08-D07	Hylton Castle	Hendon WwTW	Yes
08-D08	Wearmouth	Hendon WwTW	Yes
08-D09	Barnes Burn	Hendon WwTW	Yes
08-D10	Hendon Burn	Hendon WwTW	Yes
08-D11	Pallion	Hendon WwTW	Yes
08-D12	Ryhope & Silksworth	Hendon WwTW	Yes
08-D13	Nissan	Washington WwTW	Yes
08-D14	Washington North	Washington WwTW	Yes
08-D15	Washington Central	Washington WwTW	Yes
08-D16	Fatfield	Washington WwTW	Yes
08-D17	Burdon Village	Burdon Village WwTW	No
08-D18	Sheepfolds	Sheepfolds WwTW	No

KEY STAKEHOLDERS

It is widely recognised and acknowledged that drainage systems are complex and have numerous interactions, both known and unknown. It was therefore important that the DWMP was not created solely by Northumbrian Water. While NWL have been tasked with the delivery of the DWMP, it was critical that the public and relevant stakeholders actively participated and offered support in its creation. We have worked with a range of relevant stakeholders in the production of the DWMP, including the Environment Agency (EA), Lead Local Flood Authorities, Local Planning Authorities, housing developers and environmental partners.

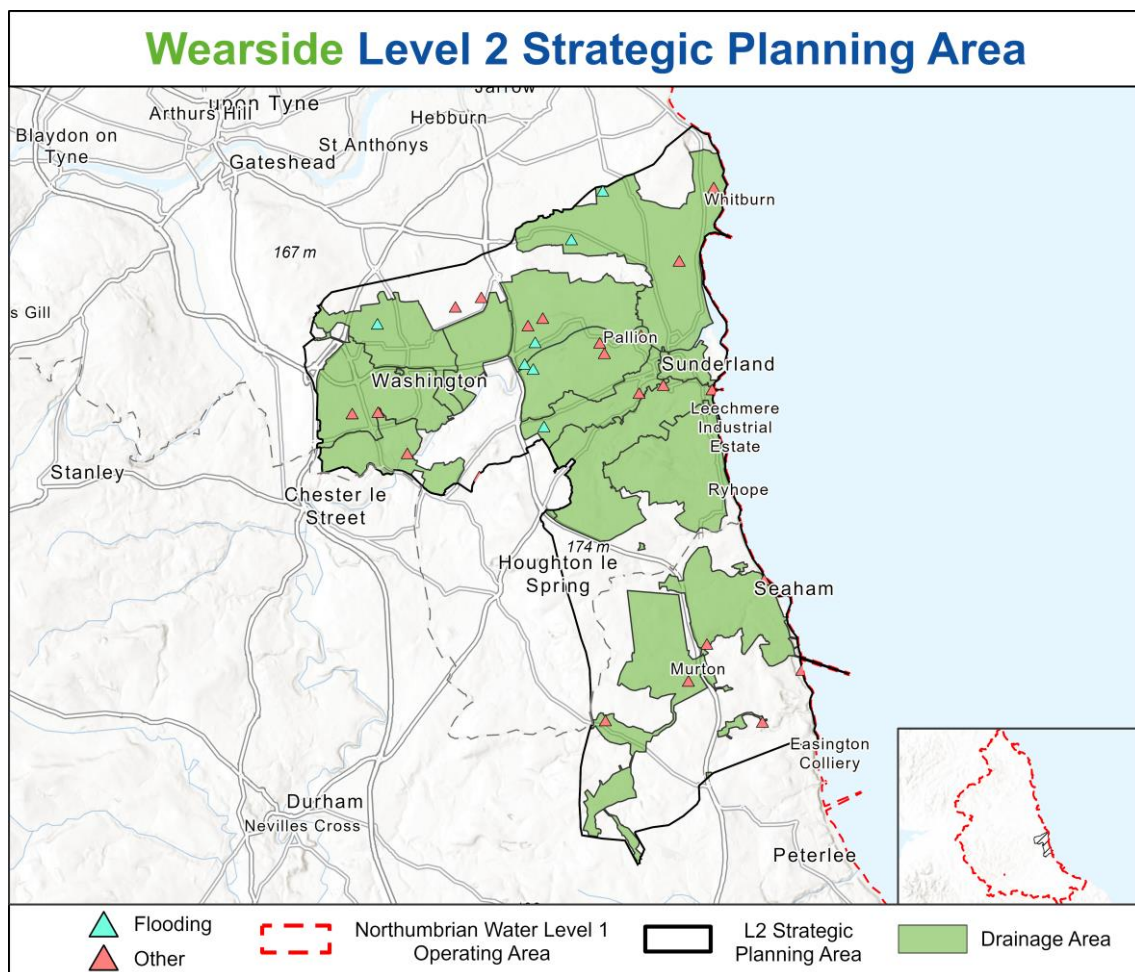
Through different partnerships and strategies, we play an active role within the region, working collaboratively with stakeholders on several projects. The DWMP builds on the strong foundation of the Northumbria Integrated Drainage Partnership (NIDP), which consists of 14 Lead Local Flood Authorities, the EA and Northumbrian Water. One of the aims of the NIDP is to identify opportunities to deliver surface water management schemes within catchments to reduce the risk and impact of flooding. Catchments are taken from the investigation stages where opportunity areas are identified,

through to the outline business case stage to determine funding sources, and ultimately through to scheme delivery. The award-winning partnership approach, which is based around collaboration to identify priority investment areas where benefits can be delivered for multiple stakeholders, provides an excellent platform for the DWMP.

To ensure that existing and future opportunities for working collaboratively with stakeholders were included in the production of the DWMP, engagement sessions were held in March 2023. During these sessions, all the geographical areas covered by the DWMP were reviewed to identify, record and map ongoing and future opportunities.

Key Stakeholders	
Environment Agency	
Local Authorities	
National Farmers Union	
Rivers Trusts	
Natural England	
Developers	
National Parks	

Collaborative Working Opportunities



Significant Collaborative Working Opportunities

Drainage Area Reference	Organisation	Opportunity Type
08-D05	Northumbria Integrated Drainage Partnership (NIDP)	Blackhall Colliery is an area of Nutrient Neutrality Zone. Northumbria Integrated Drainage Partnership scheme planned for 2024.
08-D06	Environment Agency	Environment Programme Pipeline Projects 2023-2028
08-D14	Northumbria Integrated Drainage Partnership (NIDP)	Washington North: Scheme planned for 2025-2026.

CATCHMENT NEEDS

Through the Baseline Risk and Vulnerability Assessment (BRAVA) and Problem Characterisation stages of the DWMP, the requirements for investment within catchments were identified.

The following summaries provide the detail of the 'Catchment Needs' that have been identified within the Wearside Level 2 SPA.

Storm Overflow Discharge Reduction Plan

The following table summarises the number of storm overflows within the Wearside Level 2 SPA and how many have been included in the DWMP for improvement in line with the Storm Overflow Discharge Reduction Plan (SODRP).

Storm Overflow Categorisation	Count	Storm Overflows Requiring Improvement
Inland – High Priority	14	11
Inland – Not High Priority	47	31
Bathing Water	11	5
Coastal / Estuarine (not linked to Bathing Water)	9	8
Total	81	55

Storm Overflow Screening

Under the SODRP, all storm overflows are required to include 6mm screening provision on any discharges that are made.

The following table summarises the number of storm overflows within the Wearside Level 2 SPA that have been included in the DWMP for the provision of 6mm screening.

Storm Overflow Categorisation	Count	Storm Overflows Requiring Screening
Inland – High Priority	14	10
Inland – Not High Priority	47	24
Bathing Water	11	8
Coastal / Estuarine (not linked to Bathing Water)	9	2
Total	81	44

The full list of storm overflows within the Northumberland Level 2 SPA is included in the following table.

Storm Overflow Site Name	Drainage Area Code	Drainage Area Name	Storm Overflow Spill Frequency Reduction Scheme - Delivery Period
CSO AT WARKWORTH CRESCENT	08-D01	Seaham	2030 - 2035
MILL INN A SSO SEAHAM PARK	08-D01	Seaham	2030 - 2035
CSO NEW DRIVE RECREATION GROUND	08-D01	Seaham	2030 - 2035
DALTON-LE-DALE CSO	08-D01	Seaham	2030 - 2035
GLEBE ESTATE CSO	08-D01	Seaham	2040 - 2045
SEAHAM CSO NO 8	08-D01	Seaham	2040 - 2045
SHOTTON LANE CSO	08-D01	Seaham	2040 - 2045
SEAHAM SEWAGE TREATMENT WORKS	08-D01	Seaham	2040 - 2045
SEAHAM URBAN DISTRICT COUNCIL SSO SEATON CSO 1	08-D01	Seaham	No Improvement Required
DAPHNE CRESCENT CSO	08-D01	Seaham	No Improvement Required
DURHAM STREET CSO	08-D01	Seaham	No Improvement Required
SEAHAM SOUTH DOCK CSO 1302	08-D01	Seaham	No Improvement Required
FERGUSON MOTOR REPAIRS CSO 2008	08-D01	Seaham	No Improvement Required
BARWICK STREET CSO	08-D02	Murton	2030 - 2035
COOP HOUSE WOOD CSO	08-D02	Murton	2030 - 2035
DALTON RETAIL PARK CSO	08-D02	Murton	2030 - 2035
HASWELL SSO	08-D02	Murton	2040 - 2045
CONISHEAD TERRACEM SOUTH HETTON CSO	08-D02	Murton	2040 - 2045
MURTON CSO 15	08-D02	Murton	2040 - 2045
BURNIP ROAD CSO	08-D02	Murton	2040 - 2045
PESSPOOL LANE CSO	08-D02	Murton	2040 - 2045
COLDWELL BURN SSO	08-D02	Murton	No Improvement Required
Little Coop House Farm - NWL name	08-D02	Murton	No Improvement Required
MURTON COMBINED SEWER OVERFLOW	08-D02	Murton	No Improvement Required
B1285 STORAGE TANK	08-D02	Murton	No Improvement Required

Storm Overflow Site Name	Drainage Area Code	Drainage Area Name	Storm Overflow Spill Frequency Reduction Scheme - Delivery Period
HAWTHORNE CLOSE STORAGE TANK	08-D02	Murton	No Improvement Required
SEA VIEW STORAGE TANK	08-D02	Murton	No Improvement Required
HAWTHORN CSO	08-D04	Hawthorn	2035 - 2040
HAWTHORN STW	08-D04	Hawthorn	2035 - 2040
BROOKE AVENUE (NO20) STY049 CSO	08-D06	Seaburn & Roker	2025 - 2030
WEST BOLDON CSO (NO 4)	08-D06	Seaburn & Roker	2025 - 2030
EAST BOLDON CSO NO 6	08-D06	Seaburn & Roker	2030 - 2035
BURDON ROAD CSO	08-D06	Seaburn & Roker	2030 - 2035
HAY STREET CSO SU056	08-D06	Seaburn & Roker	2035 - 2040
ST PETERS PUMPING STATION OUTFALL N	08-D06	Seaburn & Roker	2035 - 2040
WHITBURN STEEL PS	08-D06	Seaburn & Roker	2035 - 2040
KIER HARDY WAY	08-D06	Seaburn & Roker	2035 - 2040
ROKER STORM SEWAGE OVERFLOW	08-D06	Seaburn & Roker	No Improvement Required
SEABURN SOUTH CSO	08-D06	Seaburn & Roker	No Improvement Required
WHITBURN STORM SEWAGE OVERFLOW	08-D06	Seaburn & Roker	No Improvement Required
SEABURN NORTH CSO	08-D06	Seaburn & Roker	No Improvement Required
LOW SOUTHWICK PUMPING STATION	08-D07	Hylton Castle	2045 - 2050
FERRYBOAT LANE PUMPING STATION	08-D07	Hylton Castle	2045 - 2050
NORTH HYLTON SEWAGE PUMPING STATION	08-D07	Hylton Castle	2045 - 2050
CASTLETOWN WAY SPS	08-D07	Hylton Castle	2045 - 2050
QUEEN ALEXANDRA PS	08-D07	Hylton Castle	2045 - 2050
BODLEWELL LANE CSO	08-D08	Wearmouth	2045 - 2050
GILL CEMETERY CSO (SU061) M2	08-D09	Barnes Burn	2035 - 2040
GILL CEMETERY CSO (SU061) M2	08-D09	Barnes Burn	2035 - 2040
MAINSFORTH TERRACE CSO SU63	08-D10	Hendon Burn	2035 - 2040

Storm Overflow Site Name	Drainage Area Code	Drainage Area Name	Storm Overflow Spill Frequency Reduction Scheme - Delivery Period
BACK LODGE TERRACE CSO	08-D10	Hendon Burn	2035 - 2040
HENDON PRELIMINARY TREATMENT WORKS	08-D10	Hendon Burn	2035 - 2040
BARLEY MOW PARK CSO	08-D10	Hendon Burn	No Improvement Required
EAST HENDON ROAD CSO	08-D10	Hendon Burn	No Improvement Required
GOLDEN LION SPS	08-D11	Pallion	2035 - 2040
POTTERY LANE PS	08-D11	Pallion	2035 - 2040
PALLION PUMPING STATION	08-D11	Pallion	2035 - 2040
PRIESTLEY CRESCENT CSO	08-D11	Pallion	2035 - 2040
DEPTFORD PUMPING STATION	08-D11	Pallion	2035 - 2040
PALLION CSO 4	08-D11	Pallion	2035 - 2040
WELLINGTON LANE PUMPING STATION	08-D11	Pallion	2035 - 2040
ST LUKES ROAD	08-D11	Pallion	No Improvement Required
GRANGETOWN CSO	08-D12	Ryhope & Silksworth	2035 - 2040
CSO SUNDERLANS GAS WORKS	08-D12	Ryhope & Silksworth	2035 - 2040
RYHOPE SSO	08-D12	Ryhope & Silksworth	2040 - 2045
CSO SALTERFEN SU47	08-D12	Ryhope & Silksworth	2040 - 2045
CSO 200M WEST OF WALTON ROAD	08-D13	Nissan	No Improvement Required
WASHINGTON CSO DON GARDENS - NWL name	08-D14	Washington North	2025 - 2030
MANOR ROAD CSO GLENDALE AVENUE	08-D14	Washington North	2025 - 2030
COACH ROAD EST CSO DONWELL PRIMARY SCHOOL	08-D14	Washington North	2025 - 2030
WASHINGTON STW CSO INLET	08-D14	Washington North	2040 - 2045
WASHINGTON STW Storm Tank	08-D14	Washington North	2040 - 2045
USWORTH HALL CSO	08-D14	Washington North	No Improvement Required
COX GREEN PUMPING STATION	08-D15	Washington Central	No Improvement Required
WASHINGTON VILLAGE CEMETRY CSO	08-D15	Washington Central	No Improvement Required

Storm Overflow Site Name	Drainage Area Code	Drainage Area Name	Storm Overflow Spill Frequency Reduction Scheme - Delivery Period
J F KENNEDY ESTATE CSO	08-D15	Washington Central	No Improvement Required
STONEY LANE CSO	08-D15	Washington Central	No Improvement Required
STATION ROAD CSO	08-D16	Fatfield	2035 - 2040
FATFIELD CSO 3	08-D16	Fatfield	2035 - 2040
PRINCESS ANNE PARK CSO	08-D16	Fatfield	No Improvement Required
WORMHILL TERRACE CSO	08-D16	Fatfield	No Improvement Required

Wastewater Treatment Works Compliance

Analyses have been completed to determine the interventions that are likely to be required to ensure all wastewater treatment works (WwTW) are operating in compliance with the permits for dry weather flow (DWF) treatment and treated effluent discharge quality.

The following table summarises the number of WwTWs within the Wearside Level 2 SPA that have been included in the DWMP for DWF permit compliance and treated effluent discharge quality permit compliance (phosphorous (P), biological oxygen demand (BOD) and ammonia (Amm) indicators).

WwTW Name	Intervention(s) Required
Hawthorn WwTW	This WwTW has been identified as requiring an investigation for discharge quality compliance for Biological Oxygen Demand and Ammonia between 2025 and 2030.
Washington WwTW	This WwTW has been identified as requiring an investigation for discharge quality compliance for Phosphorous and Ammonia between 2025 and 2030.

Long-Term Delivery Strategy for Flooding and Pollution

The National Infrastructure Commission's report 'Reducing the risk of surface water flooding'¹ highlighted the importance of a national approach to tackle flooding, and the costs and challenges of eliminating sewer flooding. Given this, and the greater insight we have gained from developing the DWMP, the ambition for flooding and pollution risk has been adjusted to what is considered a stretching but achievable level that would be economically beneficial to deliver.

Our Long-Term Delivery Strategy identifies a target of reducing sewer flooding by 60% from our 2025 position. To achieve this, we will plan to reduce hydraulic flood risk regionally in the period between 2030 and 2050 by a total of:

- 17,999 internal flood risk properties
- 216,074 external flood risk properties

This approach deals with the impact of climate change, growth and urban creep.

The following table summarises the level of risk within the Wearside L2 SPA against the flooding and pollution planning objectives.

¹ <https://nic.org.uk/studies-reports/reducing-the-risks-of-surface-water-flooding/surface-water-flooding-final-report/>

Planning Objective	Measure	Count				
		2020	2025	2030	2045	2060
PO1 – Internal Flood Risk	Count of properties at risk of flooding internally during a 1 in 20 year return period rainfall event	1,179	1,182	1,194	1,935	2,135
PO2 – External Flood Risk	Count of properties at risk of flooding externally during a 1 in 20 year return period rainfall event	20,874	21,002	21,286	29,054	31,192
PO3 – 1 in 50 Year Population at Risk	Population at risk of flooding during a 1 in 50 year return period rainfall event	43,522	43,725	44,305	60,160	64,534
PO6 – Pollution	Count of manholes near watercourses at risk of flooding during a 1 in 5 year return period rainfall event	117	117	117	160	168

Water Industry National Environment Programme (WINEP)

The Water Industry National Environment Programme (WINEP) is the programme of actions water companies need to take to meet statutory environmental obligations, non-statutory environmental requirements or delivery against a water company's statutory functions.

Statutory obligations (S) arise from legislative requirements and the need to comply with obligations imposed directly by statute or by permits, licences and authorisations granted by the Secretary of State, the Environment Agency or other body of competent jurisdiction. Other statutory obligations include ministerial directions and meeting specific planning requirements. While it is important to understand the costs and benefits of actions needed, water companies must complete WINEP actions to fulfil statutory obligations.

Further information can be found at [Water industry national environment programme \(WINEP\) methodology - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/collections/water-industry-national-environment-programme-winep).

PLANNING OBJECTIVE ASSESSMENT

Planning Objective Risk Scoring

The DWMP planning objectives have been assessed in line with the common scoring approach followed by all water companies.

Risk scores have been calculated at drainage area level, following the approach outlined below. Further detail on how the scores have been calculated for each of the planning objectives is within the Problem Characterisation methodology.

Risk Score	Description
0	Low Risk – Levels of planning objective risk within the drainage area are in the bottom quartile and/or there are no assets identified as higher priority requiring interventions throughout the planning periods.
1	Medium Risk – Levels of planning objective risk within the drainage area are in the middle two quartiles and/or there are assets identified as lower priority requiring interventions throughout the planning periods.
2	High Risk – Levels of planning objective risk within the drainage area are in the top quartile and/or there are assets identified as higher priority requiring interventions throughout the planning periods.

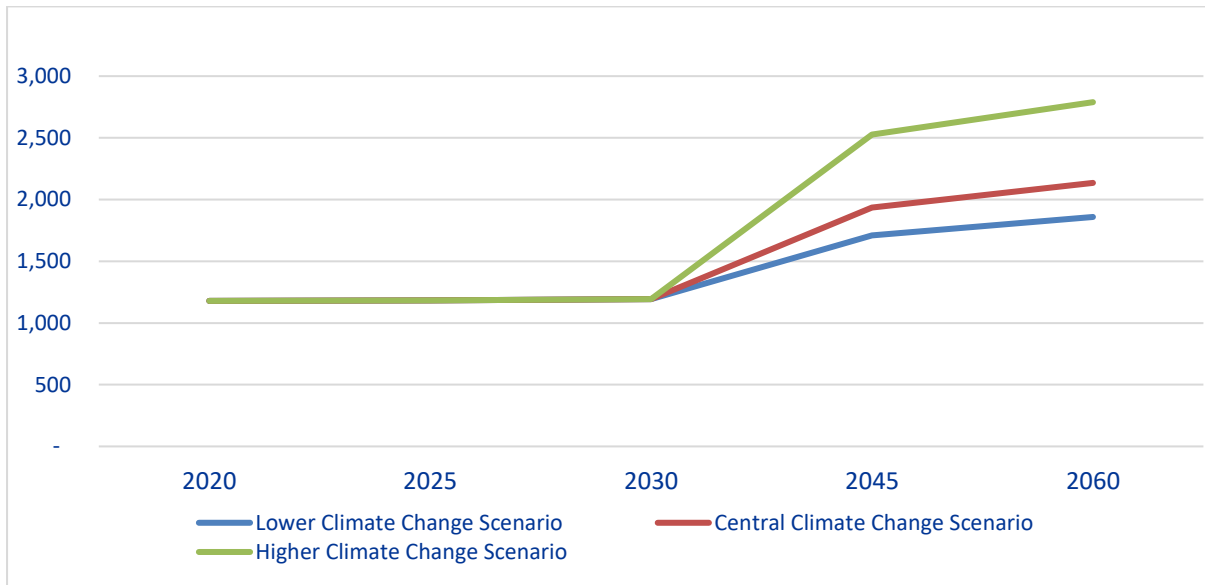
Drainage Area		PO1 – Internal Flood Risk			PO2 – External Flood Risk			PO3 – 1 in 50 Year Population at Risk			PO4 – Bathing Water			PO5 – River Water			PO6 - Pollution			PO8 – WwTW DWF Compliance		
		2020	2045	2060	2020	2045	2060	2020	2045	2060	2020	2045	2060	2020	2045	2060	2020	2045	2060	2020	2045	2060
08-D01	Seaham	0	1	1	1	1	1	1	1	1	2	2	2	2	2	2	1	1	1	0	0	0
08-D02	Murton	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	1	1	1	0	0	0
08-D04	Hawthorn	0	0	0	0	0	0	0	1	1	0	0	0	2	2	2	2	2	2	0	0	0
08-D06	Seaburn & Roker	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	0	0	0	0	0	0
08-D07	Hylton Castle	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	0	0	0	0	0	0
08-D08	Wearmouth	1	1	1	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
08-D09	Barnes Burn	0	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	1	0	0	0
08-D10	Hendon Burn	1	1	1	0	1	1	0	1	1	0	0	0	1	1	1	1	1	1	0	0	0
08-D11	Pallion	1	1	1	0	1	1	0	0	1	0	0	0	1	1	1	0	0	0	0	0	0
08-D12	Ryhope & Silksworth	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	0	0	0	0	0	0
08-D13	Nissan	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08-D14	Washington North	1	1	1	1	1	1	1	1	1	0	0	0	2	2	2	0	0	0	0	0	0
08-D15	Washington Central	1	1	1	1	1	1	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0
08-D16	Fatfield	1	1	1	0	1	1	0	1	1	0	0	0	1	1	1	0	0	0	0	0	0
08-D17	Burdon Village	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08-D18	Sheepfolds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Climate Change Sensitivity

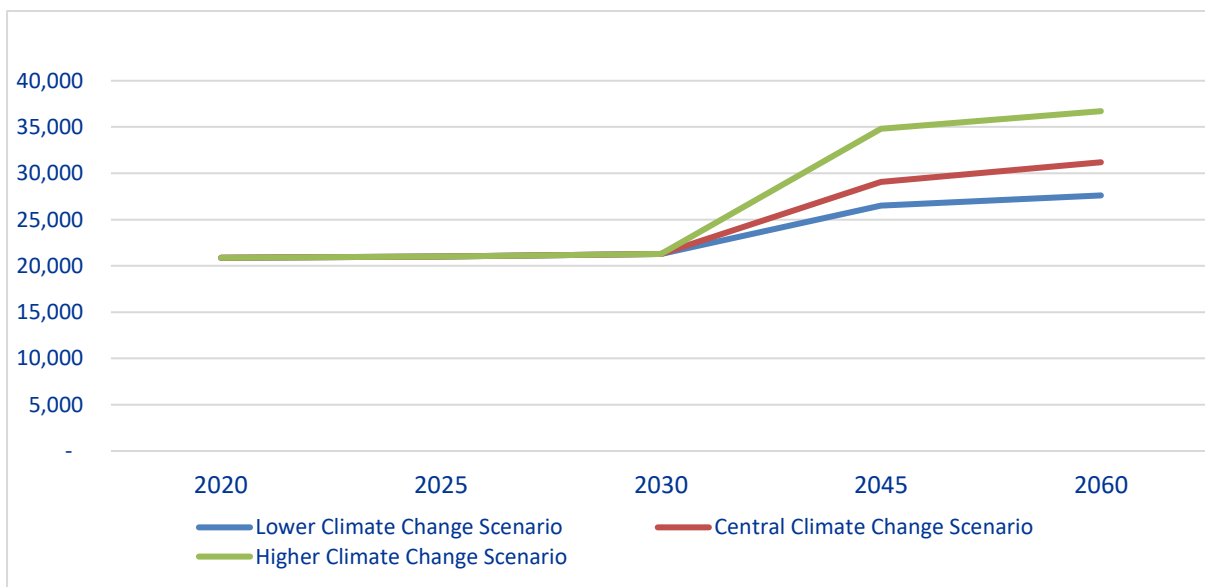
As outlined in the BRAVA methodology, two additional climate scenarios were analysed to evaluate the impact on the planning objectives of Lower Emissions and Higher Emissions climate scenarios.

The following graphics outline the impact on the planning objective risk numbers for the flooding and pollution planning objectives within the Wearside Level 2 SPA in the different climate scenarios that have been modelled.

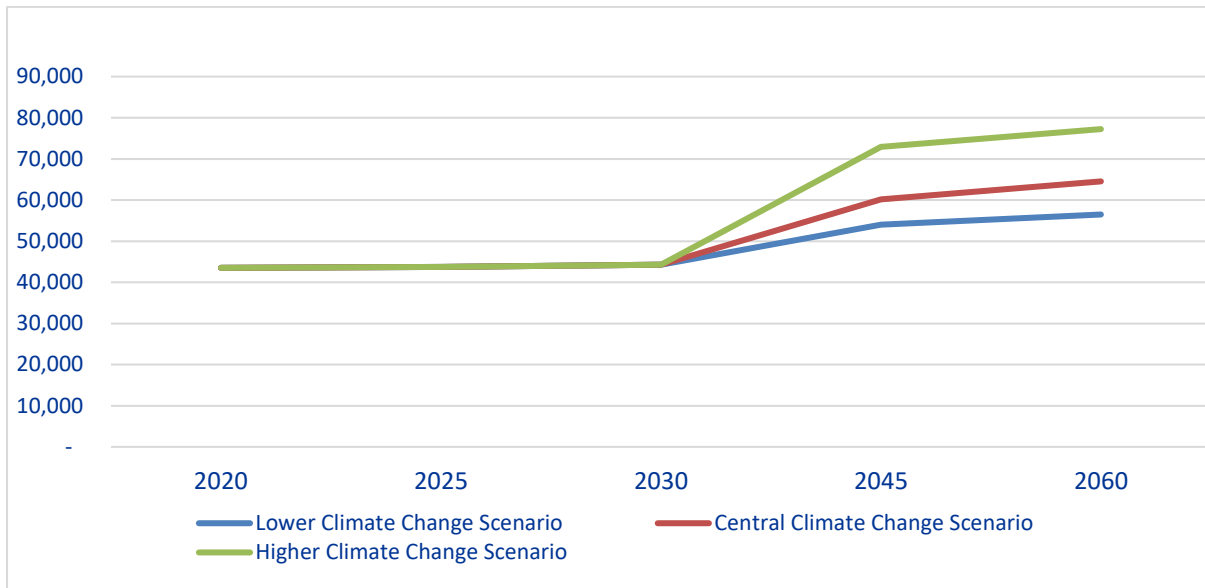
PO1 – Internal Flood Risk – Wearside L2 SPA



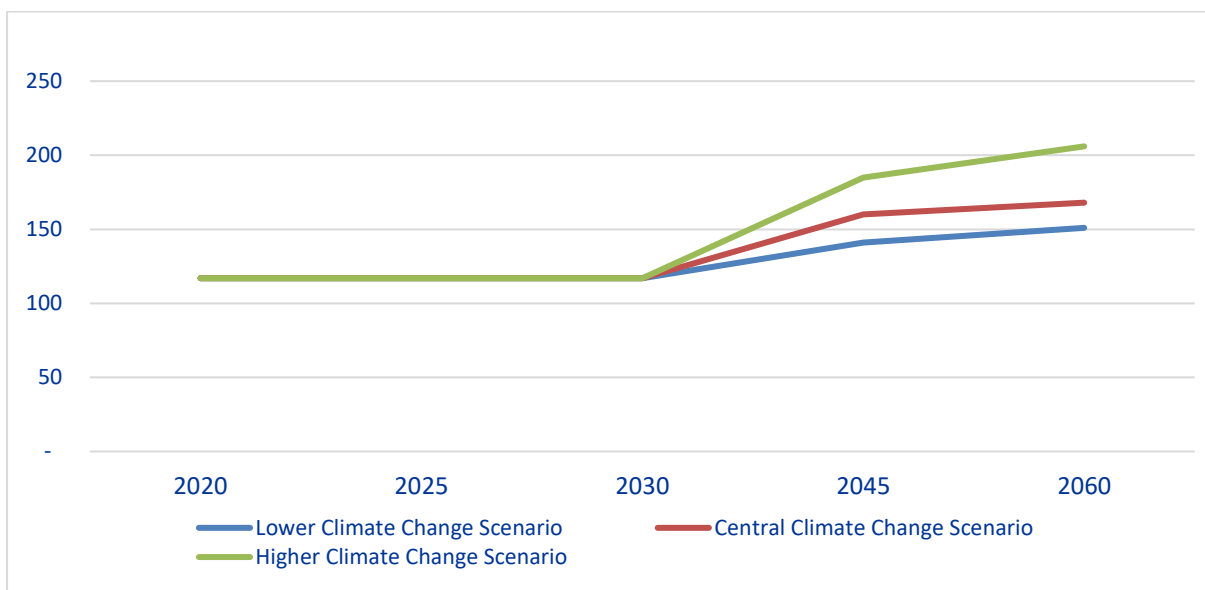
PO2 – External Flood Risk – Wearside L2 SPA



PO3 – 1 in 50 Year Population at Risk – Wearside L2 SPA



PO6 – Pollution – Wearside L2 SPA



Our business plan is based on adaptive planning principles. We begin to use this more and more to think about an uncertain future. This long-term strategy is being developed alongside the long-term planning frameworks – in particular, the well-established Water Resources Management Plan process and the new Drainage and Wastewater Management Plan process.

OPTION DEVELOPMENT

Our Plan for the Wearside L2 SPA

What Are We Doing?

The DWMP has been prepared taking the Best Value options within catchments and also including sustainable options that were not identified as Best Value but did reduce the volume of below-ground storage required within a catchment.

A summary of the interventions that have been included within the DWMP within the Wearside L2 SPA are included within the following tables.

Storm Overflow Discharge Reduction Plan

Intervention Type	2025 to 2030	2030 to 2035	2035 to 2040	2040 to 2045	2045 to 2050
Storm Overflows addressed by Spill Frequency Reduction Schemes	5	9	22	13	6
Storm Overflows requiring Screening Provision Schemes	3	7	15	16	3

Wastewater Treatment Works Compliance

Intervention Type	2025 to 2030	2030 to 2035	2035 to 2040	2040 to 2045	2045 to 2050	2050 to 2055	2055 to 2060
WwTW DWF Compliance – Investigations / Schemes	-	-	-	-	-	-	-
WwTW Quality Compliance – Investigations	1 (P) 1 (BOD) 2 (Amm)	- (P) - (BOD) - (Amm)	- (P) - (BOD) - (Amm)	- (P) - (BOD) - (Amm)	- (P) - (BOD) - (Amm)	- (P) - (BOD) - (Amm)	- (P) - (BOD) - (Amm)
WwTW Quality Compliance - Schemes	- (P) 1 (BOD) 1 (Amm)	1 (P) - (BOD) 1 (Amm)	- (P) - (BOD) - (Amm)	- (P) - (BOD) - (Amm)	- (P) - (BOD) - (Amm)	- (P) - (BOD) - (Amm)	- (P) - (BOD) - (Amm)

Long-Term Delivery Strategy – Flooding and Pollution

The Government's 25 Year Environment Plan (25YEP) requires us to invest to:

- Reduce nitrogen and phosphorus pollution, through catchment and nature-based solutions where possible.
- Improve drainage and environmental water quality, and reduce surface water flooding risk, through our Drainage and Wastewater Management Plan (DWMP).

Our long term delivery strategy sets out our ambition to continue to reduce sewer flooding over the next 25 years. Our plan sets out how we will match the 25YEP by reducing internal and external sewer flooding by 60% by 2050.

Water Industry National Environment Programme (WINEP)

We have included proposals in our Business Plan for a number of schemes to be delivered between 2025 and 2030 to meet our statutory and non-statutory obligations and functions. The schemes that are proposed will deliver improvements against the drivers that are included in the following table.

WINEP Driver Code	Description
25YEP_IMP	Locally significant environmental measures not eligible under any other driver, but with clear evidence of customer support.
BW_IMP3	Actions to improve waters to Good or Excellent where there is evidence of customer support.
BW_INV3	Investigations to lead to improving waters to Good or Excellent where there is evidence of customer support.
BW_INV5	Investigations at non-designated waters where there is evidence of customer support.
BW_NDINV	Investigations for waters failing their Baseline class.
EnvAct_IMP1	Actions to Reduce phosphorus loading from treated wastewater by 80% by 2037 against a 2020 baseline.
EnvAct_IMP3	Improvements to reduce storm overflows that spill to designated bathing waters to protect public health.
EnvAct_IMP4	Improvements to reduce storm overflows spills so that they do not discharge above an average of 10 rainfall events per year by 2050.
EnvAct_IMP5	Improvements to reduce storm overflow aesthetic impacts by installation of screens.
EnvAct_INV4	Investigations to reduce storm overflow spills to protect the environment so that they have no local adverse ecological impact.
EPR_MON1	MCERTS certified WTW Total daily volume flow/max flow rate monitor
HD_IMP	Action to contribute to restoration of a European site or Ramsar site to move towards meeting the conservation objectives.
HD_IMP_NN	Actions to reduce total phosphorus and/or total nitrogen levels to the Technically Achievable Limit (TAL) from discharges which drain to catchments where Nutrient Neutrality is advised.
HD_INV	Investigation and/or options appraisal to determine impacts of Water Company activities, or permit/licence conditions/standards on a European Site or Ramsar site or to determine the costs and technical feasibility of meeting targets.
MCZ_INV	Investigation and/or options appraisal to determine impacts of water company activities, or permit or licence conditions/standards on a MCZ or to determine the costs and technical feasibility of meeting targets.

SSSI_INV	Investigation and/or options appraisal to determine impacts of water company activities, or permit or licence conditions/standards on a SSSI or to determine the costs and technical feasibility of meeting targets.
SW_INV	Shellfish waters improvement or prevent deterioration investigation.
U_IMP1	Actions to improve discharges from agglomerations that, through population growth, have crossed the population thresholds in the UWWTR and therefore must achieve more stringent UWWTR requirements. This includes newly qualifying discharges (from agglomerations >10,000pe) within existing sensitive areas. This includes discharges of >2,000 pe to fresh waters and estuaries and discharges >10,000 pe to coastal waters, as well as discharges >10,000 pe and 100,000 pe to Sensitive Areas.
U_IMP2	Actions to reduce total phosphorus and/or total nitrogen levels in qualifying discharges (from agglomerations >10,000pe) associated with the next review of freshwater Sensitive Areas (Eutrophic).
U_IMP7	Providing secondary treatment capable of achieving 40:60 BOD:suspended solids where a septic tank discharges to surface water.
U_MON3	MCERTS certified FPF overflow operation monitoring at WwTW or last in line SPS overflows.
U_MON4	MCERTS certified FPF flow monitoring at WwTW or last in line SPS overflows.
WFD_IMP_CHEM	To meet either good ecological status or good chemical status. Needed where an EQS is exceeded downstream of a wastewater treatment works discharge. Measures that fail economic tests will receive standstill limits under WFD_NDLS_CHEM1.
WFD_INV	Investigations of actions to improve water quality in terms of relevant WFD status objectives.
WFD_IMPg	Achieve improvement objectives for WQ or prevent deterioration
WFD_INV_CHEM	Investigations.
WFD_INV_PHYSHAB	Actions to address barriers to passage of fish or impacted physical habitat in WFD failing waterbodies not designated artificial or heavily modified for water resources uses.
WFD_ND	Actions to meet requirements to prevent deterioration.
WFD_ND_CHEM3	Actions to meet requirements to prevent deterioration in chemical status because of growth.
WFD_ND_CHEM4	Actions to meet requirements to prevent deterioration to maintain existing standstill limits for chemicals if there is growth in the sewage works' catchment.
WFD_NDLS_Chem1	Measures related to load standstill requirements for chemicals (where EQS exceedance is predicted, but measures fail economic assessment associated with EQS).
WFD_NDLS_Chem2	Measures related to load standstill requirements for chemicals (below EQS). These are set where a wastewater treatment works is discharging significant concentrations of a chemical, but the EQS is not threatened immediately downstream. Targets are set to ensure that current effluent quality does not deteriorate and to contribute to broader aims to cease and phase out emissions, discharges and losses of priority hazardous substances and prevent pollution swapping. This driver would be used where there is no risk that growth between 2015 and 2021 would cause an actual failure of the EQS.

How Much Does Our Plan Cost?

The following table summarises the costs that are included within the DWMP for the delivery of the identified interventions. The costs shown in the table are £million.

Intervention Type	2025 to 2030	2030 to 2035	2035 to 2040	2040 to 2045	2045 to 2050	2050 to 2055	2055 to 2060
Storm Overflow Spill Frequency Reduction Schemes	6.99	19.78	59.83	23.33	10.43	-	-
Screening Provision Schemes	1.50	3.77	7.14	4.25	0.52	-	-

Long-Term Delivery Strategy for Flooding

It is anticipated that we will achieve our flood risk reduction targets in a number of ways. For example,

- Working in partnership with others in the Northumbria Integrated Drainage Partnership
- Working with customers and communities for the widescale disconnection of roof drainage from the combined sewer network
- Implementing source control via sustainable drainage measures (SuDS) including wetland creation
- Implementing SMART networks throughout the region
- Disconnecting highway runoff from the combined sewer network
- Working with others to implement permeable pathing and roadways schemes.

We have estimated that the cost of achieving our ambitious targets will be £1 billion between 2030 and 2050. We will seek customer support for investment to achieve these targets.

The following table summarises the level of risk within the Wear L2 SPA for the flooding planning objectives following the implementation of the Long-Term Delivery Strategy for flooding.

Planning Objective	Measure	Count				
		2020	2025	2030	2045	2060
PO1 – Internal Flood Risk	Count of properties at risk of flooding internally during a 1 in 20 year return period rainfall event	1,179	1,182	1,194	931	801
PO2 – External Flood Risk	Count of properties at risk of flooding externally during a 1 in 20 year return period rainfall event	20,874	21,002	21,286	14,685	13,695

Long-Term Delivery Strategy for Flooding

The following table summarises the level of risk within the Wear L2 SPA for the flooding planning objectives following the implementation of the Long-Term Delivery Strategy for flooding.

Planning Objective	Measure	Count				
		2020	2025	2030	2045	2060
PO1 – Internal Flood Risk	Count of properties at risk of flooding internally during a 1 in 20 year return period rainfall event	1,467	1,470	1,486	734	439
PO2 – External Flood Risk	Count of properties at risk of flooding externally during a 1 in 20 year return period rainfall event	15,028	15,070	15,170	4,455	1,956

Planning Objective Risk Scoring

The planning objective risk scores have been evaluated with the proposed DWMP interventions delivered.

Drainage Area		PO1 – Internal Flood Risk			PO2 – External Flood Risk			PO3 – 1 in 50 Year Population at Risk			PO4 – Bathing Water			PO5 – River Water			PO6 - Pollution			PO8 – WwTW DWF Compliance		
		2020	2045	2060	2020	2045	2060	2020	2045	2060	2020	2045	2060	2020	2045	2060	2020	2045	2060	2020	2045	2060
08-D01	Seaham	0	0	0	1	1	1	1	1	1	2	0	0	2	0	0	1	1	1	0	0	0
08-D02	Murton	1	0	0	1	0	0	1	1	1	2	0	0	2	0	0	1	1	1	0	0	0
08-D04	Hawthorn	0	0	0	0	0	0	0	1	1	0	0	0	2	0	0	2	2	2	0	0	0
08-D06	Seaburn & Roker	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
08-D07	Hylton Castle	1	0	0	1	0	1	1	1	1	0	0	0	1	1	0	0	0	0	0	0	0
08-D08	Wearmouth	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08-D09	Barnes Burn	0	0	0	1	0	1	1	1	1	0	0	0	1	0	0	1	1	1	0	0	0
08-D10	Hendon Burn	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	0	0	0
08-D11	Pallion	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
08-D12	Ryhope & Silksworth	1	0	0	1	0	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0
08-D13	Nissan	2	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08-D14	Washington North	1	0	0	1	0	0	1	1	1	0	0	0	2	0	0	0	0	0	0	0	0
08-D15	Washington Central	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0
08-D16	Fatfield	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
08-D17	Burdon Village	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08-D18	Sheepfolds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

CONCLUDING COMMENTS

Our DWMP forms part of our long-term delivery strategy. As we go about this, we will need to review our progress and adapt our future plans to take into account changing circumstances. These include how customer views about priorities and affordability evolve; new technologies that emerge; how supply chain capacity develops; changes in weather patterns; and customer behaviour changes.

Setting a long-term delivery strategy allows us to seek early certainty on the investment we do not expect to change, while acknowledging these factors could mean choosing different pathways in future. We will consider those choices as and when we update our DWMP and at subsequent price reviews, which take place every five years. At each point we update our DWMP, we will look further into the future to maintain a 40-year outlook on these issues.

Our PR24 business plan, covering 2025-30, will include projects to drive better, more efficient, and nature-based solutions to tackling drainage and storm overflows in the future.

CONTACTING US

To view our DWMP, please go to our website at: www.nwl.co.uk/dwmp.

To contact us:

Go to the Contact Us page at: [Contact us \(nwl.co.uk\)](http://Contact us (nwl.co.uk))

Or you can call our Head Office switchboard on 0345 604 7468.

Our phone lines are open from 8:00am to 5:00pm, Monday to Friday.

Feel free to write to us at:

Northumbrian Water Limited

Northumbria House

Abbey Road

Pity Me

Durham

DH1 5FJ

AMP8 WINEP SCHEMES IN WEAR SIDE L2 DRAINAGE AREAS

Action Name	Primary Drive Code	Benefitting WFD Waterbody	Drainage Area Reference	Drainage Area Name
Improvement Actions				
HAWTHORN BURN CATCHMENT IMPROVEMENT (Hawthorn STW)	WFD_IMPg	Hawthorn Burn from Source to North Sea (GB103025075950)	08-D04	Hawthorn
Herbert Terrace Septic Tank	U_IMP7	WEAR (GB510302402900)	08-D06	Seaburn & Roker
WASHINGTON CSO DON GARDENS - NWL name	EnvAct_IMP4	Don from Source to Tidal Limit (GB103023075690)	08-D14	Washington North
EnvAct_IMP5: Improvements to reduce storm overflow aesthetic impacts by installation of screens WASHINGTON CSO DON GARDENS - NWL name	EnvAct_IMP5	Don from Source to Tidal Limit (GB103023075690)	08-D14	Washington North
MANOR ROAD CSO GLENDALE AVENUE	EnvAct_IMP4	Don from Source to Tidal Limit (GB103023075690)	08-D14	Washington North
CLOW BECK CATCHMENT	WFD_IMPg	Barton Beck from Source to Clow Beck (GB103025072040)	08-D14	Washington North

Action Name	Primary Drive Code	Benefitting WFD Waterbody	Drainage Area Reference	Drainage Area Name
IMPROVEMENT (MELSONBY STW)				
COACH ROAD EST CSO DONWELL PRIMARY SCHOOL	EnvAct_IMP4	Don from Source to Tidal Limit (GB103023075690)	08-D14	Washington North
Investigation Actions				
DALTON-LE-DALE CSO	EnvAct_INV4	Dalton Beck to North Sea (GB103025075970)	08-D01	Seaham
DAPHNE CRESCENT CSO	EnvAct_INV4	Dalton Beck to North Sea (GB103025075970)	08-D01	Seaham
SEAHAM CSO NO 8	EnvAct_INV4	Dalton Beck to North Sea (GB103025075970)	08-D01	Seaham
CSO AT WARKWORTH CRESCENT	EnvAct_INV4	Seaton Burn from Source to Tidal Limit Water Body (GB103022076190)	08-D01	Seaham
SHOTTON LANE CSO	EnvAct_INV4	Castle Eden Burn from Source to North Sea Water Body (GB103025075930)	08-D01	Seaham
DURHAM STREET CSO	EnvAct_INV4	Seaton Burn from Source to Tidal Limit Water Body (GB103022076190)	08-D01	Seaham
MILL INN A SSO SEAHAM PARK	EnvAct_INV4	Seaton Burn from Source to Tidal Limit Water Body (GB103022076190)	08-D01	Seaham

Action Name	Primary Drive Code	Benefitting WFD Waterbody	Drainage Area Reference	Drainage Area Name
CSO NEW DRIVE RECREATION GROUND	EnvAct_INV4	Seaton Burn from Source to Tidal Limit Water Body (GB103022076190)	08-D01	Seaham
GLEBE ESTATE CSO	EnvAct_INV4	Seaton Burn from Source to Tidal Limit Water Body (GB103022076190)	08-D01	Seaham
SEAHAM URBAN DISTRICT COUNCIL SSO SEATON CSO 1	EnvAct_INV4	Seaton Burn from Source to Tidal Limit Water Body (GB103022076190)	08-D01	Seaham
COOP HOUSE WOOD CSO	EnvAct_INV4	Dalton Beck to North Sea (GB103025075970)	08-D02	Murton
CONISHEAD TERRACEM SOUTH HETTON CSO	EnvAct_INV4	Pittington Beck from Coalford to Old Durham Beck (GB103024077540)	08-D02	Murton
Little Coop House Farm - NWL name	EnvAct_INV4	Dalton Beck to North Sea (GB103025075970)	08-D02	Murton
BARWICK STREET CSO	EnvAct_INV4	Dalton Beck to North Sea (GB103025075970)	08-D02	Murton
DALTON RETAIL PARK CSO	EnvAct_INV4	Dalton Beck to North Sea (GB103025075970)	08-D02	Murton
MURTON CSO 15	EnvAct_INV4	Dalton Beck to North Sea (GB103025075970)	08-D02	Murton

Action Name	Primary Drive Code	Benefitting WFD Waterbody	Drainage Area Reference	Drainage Area Name
HAWTHORNE CLOSE STORAGE TANK	EnvAct_INV4	Dalton Beck to North Sea (GB103025075970)	08-D02	Murton
MURTON COMBINED SEWER OVERFLOW	EnvAct_INV4	Dalton Beck to North Sea (GB103025075970)	08-D02	Murton
B1285 STORAGE TANK	EnvAct_INV4	Dalton Beck to North Sea (GB103025075970)	08-D02	Murton
BURNIP ROAD CSO	EnvAct_INV4	Dalton Beck to North Sea (GB103025075970)	08-D02	Murton
SEA VIEW STORAGE TANK	EnvAct_INV4	Dalton Beck to North Sea (GB103025075970)	08-D02	Murton
HASWELL SSO	EnvAct_INV4	Pittington Beck from Coalford to Old Durham Beck (GB103024077540)	08-D02	Murton
PESSPOOL LANE CSO	EnvAct_INV4	Pittington Beck from Coalford to Old Durham Beck (GB103024077540)	08-D02	Murton
HAWTHORN STW	EnvAct_INV4	Hawthorn Burn from Source to North Sea (GB103025075950)	08-D04	Hawthorn
HAWTHORN CSO	EnvAct_INV4	Hawthorn Burn from Source to North Sea (GB103025075950)	08-D04	Hawthorn
HAY STREET CSO SU056	EnvAct_INV4	WEAR (GB510302402900)	08-D06	Seaburn & Roker

Action Name	Primary Drive Code	Benefitting WFD Waterbody	Drainage Area Reference	Drainage Area Name
ST PETERS PUMPING STATION OUTFALL N	EnvAct_INV4	WEAR (GB510302402900)	08-D06	Seaburn & Roker
KIER HARDY WAY	EnvAct_INV4	WEAR (GB510302402900)	08-D06	Seaburn & Roker
EAST BOLDON CSO NO 6	EnvAct_INV4	Don from Source to Tidal Limit (GB103023075690)	08-D06	Seaburn & Roker
BURDON ROAD CSO	EnvAct_INV4	Don from Source to Tidal Limit (GB103023075690)	08-D06	Seaburn & Roker
FERRYBOAT LANE PUMPING STATION	EnvAct_INV4	WEAR (GB510302402900)	08-D07	Hylton Castle
NORTH HYLTON SEWAGE PUMPING STATION	EnvAct_INV4	WEAR (GB510302402900)	08-D07	Hylton Castle
QUEEN ALEXANDRA PS	EnvAct_INV4	WEAR (GB510302402900)	08-D07	Hylton Castle
CASTLETOWN WAY SPS	EnvAct_INV4	WEAR (GB510302402900)	08-D07	Hylton Castle
4 AYCLIFFE AVENUE CSO	EnvAct_INV4	Don from Source to Tidal Limit (GB103023075690)	08-D07	Hylton Castle
GILL CEMETERY CSO (SU061) M2	EnvAct_INV4	WEAR (GB510302402900)	08-D09	Barnes Burn

Action Name	Primary Drive Code	Benefitting WFD Waterbody	Drainage Area Reference	Drainage Area Name
BARLEY MOW PARK CSO	EnvAct_INV4	Hendon Coastal Area (GB103024077640)	08-D10	Hendon Burn
GOLDEN LION SPS	EnvAct_INV4	WEAR (GB510302402900)	08-D11	Pallion
POTTERY LANE PS	EnvAct_INV4	WEAR (GB510302402900)	08-D11	Pallion
ST LUKES ROAD	EnvAct_INV4	WEAR (GB510302402900)	08-D11	Pallion
PALLION CSO 4	EnvAct_INV4	WEAR (GB510302402900)	08-D11	Pallion
PRIESTLEY CRESCENT CSO	EnvAct_INV4	WEAR (GB510302402900)	08-D11	Pallion
WELLINGTON LANE PUMPING STATION	EnvAct_INV4	WEAR (GB510302402900)	08-D11	Pallion
Wear Estuary Investigation (Washington STW)	WFD_INV	WEAR (GB510302402900)	08-D14	Washington North
MANOR ROAD CSO GLENDALE AVENUE	EnvAct_INV4	Don from Source to Tidal Limit (GB103023075690)	08-D14	Washington North
WASHINGTON CSO DON GARDENS - NWL name	EnvAct_INV4	Don from Source to Tidal Limit (GB103023075690)	08-D14	Washington North

Action Name	Primary Drive Code	Benefitting WFD Waterbody	Drainage Area Reference	Drainage Area Name
COACH ROAD EST CSO DONWELL PRIMARY SCHOOL	EnvAct_INV4	Don from Source to Tidal Limit (GB103023075690)	08-D14	Washington North
USWORTH HALL CSO	EnvAct_INV4	Don from Source to Tidal Limit (GB103023075690)	08-D14	Washington North
STONEY LANE CSO	EnvAct_INV4	WEAR (GB510302402900)	08-D15	Washington Central
WORMHILL TERRACE CSO	EnvAct_INV4	WEAR (GB510302402900)	08-D16	Fatfield
PRINCESS ANNE PARK CSO	EnvAct_INV4	WEAR (GB510302402900)	08-D16	Fatfield
Monitoring Actions				
Seaham STW	U_MON4	Tyne and Wear (GB650301500002)	08-D01	Seaham
Seaham STW	U_MON3	Tyne and Wear (GB650301500002)	08-D01	Seaham
Hawthorn STW	U_MON3	Hawthorn Burn from Source to North Sea (GB103025075950)	08-D04	Hawthorn
Hawthorn STW	U_MON4	Hawthorn Burn from Source to North Sea (GB103025075950)	08-D04	Hawthorn
Hendon STW	U_MON3	Tyne and Wear (GB650301500002)	08-D10	Hendon Burn
Hendon STW	U_MON4	Tyne and Wear (GB650301500002)	08-D10	Hendon Burn