

DRAINAGE AND WASTEWATER MANAGEMENT PLANS (DWMP)



LEVEL 2 STRATEGIC PLANNING AREA SUMMARY – TYNESIDE

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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.

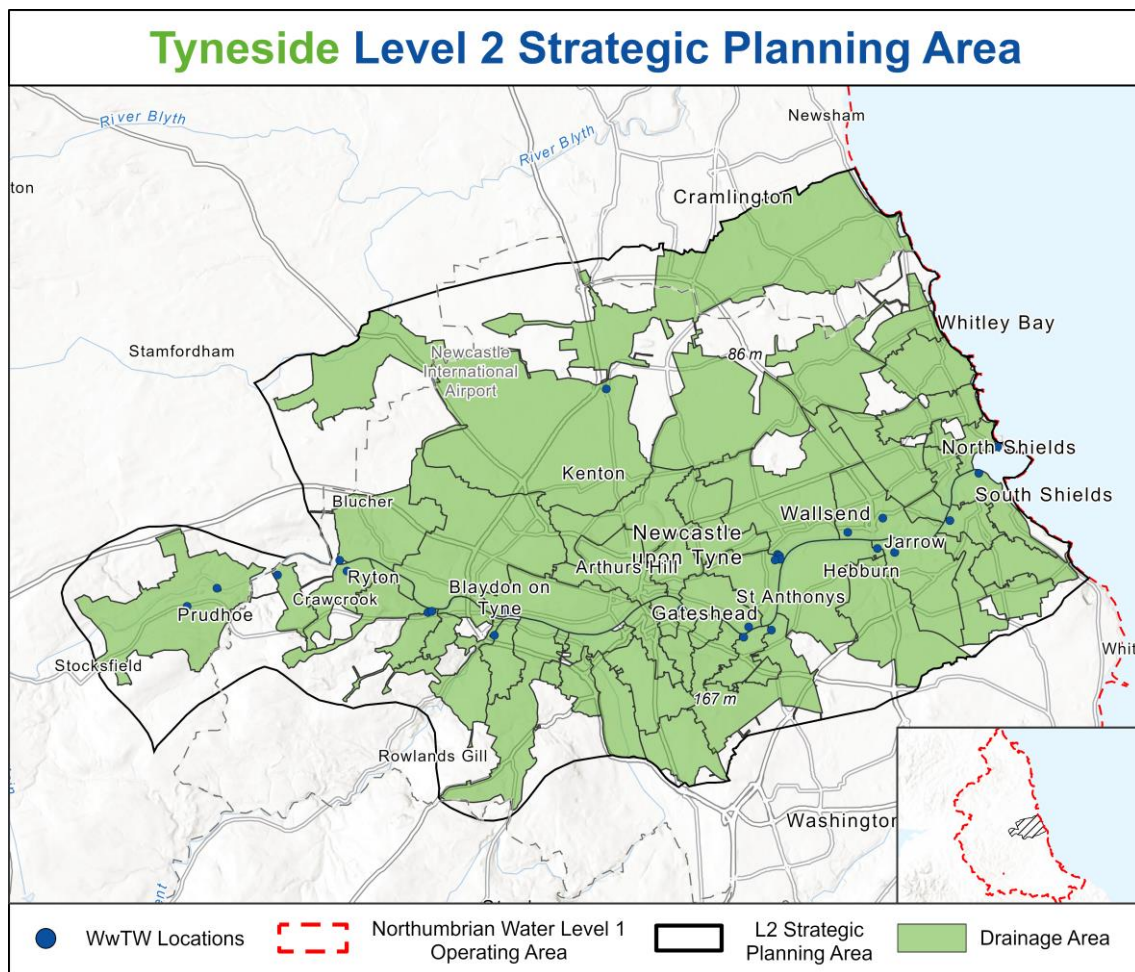
This document provides an overview of the DWMP for the **Tyneside Level 2 SPA**.

Within the Tyneside Level 2 SPA, there are:

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

The total estimated population of the Tyneside Level 2 SPA is 870,000.

TYNESIDE LEVEL 2 STRATEGIC PLANNING AREA



DRAINAGE AREAS WITHIN TYNESIDE L2 SPA

The following table outlines all of the drainage areas within the Tyneside 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?
05-D01	Seaton Valley	Howdon WwTW	Yes
05-D02	Crawcrook	Howdon WwTW	Yes
05-D03	Ryton West	Howdon WwTW	Yes
05-D04	Ryton East	Howdon WwTW	Yes
05-D05	Ryton Haugh	Howdon WwTW	Yes
05-D06	Blaydon West	Howdon WwTW	Yes
05-D07	Blaydon East	Howdon WwTW	Yes
05-D08	Blaydon Haughs	Howdon WwTW	Yes
05-D09	Derwenthaugh	Howdon WwTW	Yes
05-D10	Whickham North	Howdon WwTW	Yes
05-D11	Whickham South & Sunnyside	Howdon WwTW	Yes
05-D12	Dunston Hill	Howdon WwTW	Yes
05-D13	Dunston, Teams	Howdon WwTW	Yes
05-D14	Dunston & Lobley Hill	Howdon WwTW	Yes
05-D15	Team Valley	Howdon WwTW	Yes
05-D16	Chowdene	Howdon WwTW	Yes
05-D17	Bensham	Howdon WwTW	Yes
05-D18	Gateshead Central	Howdon WwTW	Yes
05-D19	Gateshead West	Howdon WwTW	Yes
05-D20	Gateshead Stadium, Mount Pleasant	Howdon WwTW	Yes
05-D21	Friars Goose	Howdon WwTW	Yes
05-D22	Felling & Felling Shore	Howdon WwTW	Yes
05-D23	Heworth	Howdon WwTW	Yes
05-D24	Leam Lane, Wardley, Bill Quay	Howdon WwTW	Yes
05-D25	Newburn	Howdon WwTW	Yes
05-D26	Denton Valley	Howdon WwTW	Yes
05-D27	Benwell	Howdon WwTW	Yes
05-D28	Newcastle City	Howdon WwTW	Yes
05-D29	Ponteland	Howdon WwTW	Yes
05-D30	Benton	Howdon WwTW	Yes
05-D31	Gosforth	Howdon WwTW	Yes
05-D32	Jesmond	Howdon WwTW	Yes
05-D33	Lower Ouseburn	Howdon WwTW	Yes
05-D34	Byker	Howdon WwTW	Yes

Drainage Area Reference	Drainage Area Name	WwTW Name	Triggered BRAVA?
05-D35	Walker	Howdon WwTW	Yes
05-D36	Heaton	Howdon WwTW	Yes
05-D37	Wallsend	Howdon WwTW	Yes
05-D38	Chirton	Howdon WwTW	Yes
05-D39	Brierdene	Howdon WwTW	Yes
05-D40	Whitley Bay	Howdon WwTW	Yes
05-D41	Cullercoats	Howdon WwTW	Yes
05-D42	Whitley Lodge	Howdon WwTW	Yes
05-D43	Willington Quay	Howdon WwTW	Yes
05-D44	Tynemouth	Howdon WwTW	Yes
05-D45	North Shields	Howdon WwTW	Yes
05-D46	Royal Quays	Howdon WwTW	Yes
05-D47	Westoe	Howdon WwTW	Yes
05-D48	High Shields	Howdon WwTW	Yes
05-D49	Tyne Dock, Whiteleas	Howdon WwTW	Yes
05-D50	Harton	Howdon WwTW	Yes
05-D51	Cleadon Park	Howdon WwTW	Yes
05-D52	Simonside	Howdon WwTW	Yes
05-D53	Jarrow, Hedworth	Howdon WwTW	Yes
05-D56	Hagg Bank	Hagg Bank WwTW	No
05-D54	Hebburn	Howdon WwTW	Yes
05-D59	Moore Croft, Newburn	Moore Croft, Newburn WwTW	No
05-D55	Prudhoe	Howdon WwTW	Yes
05-D58	Marquis of Granby	Howdon WwTW	Yes

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.

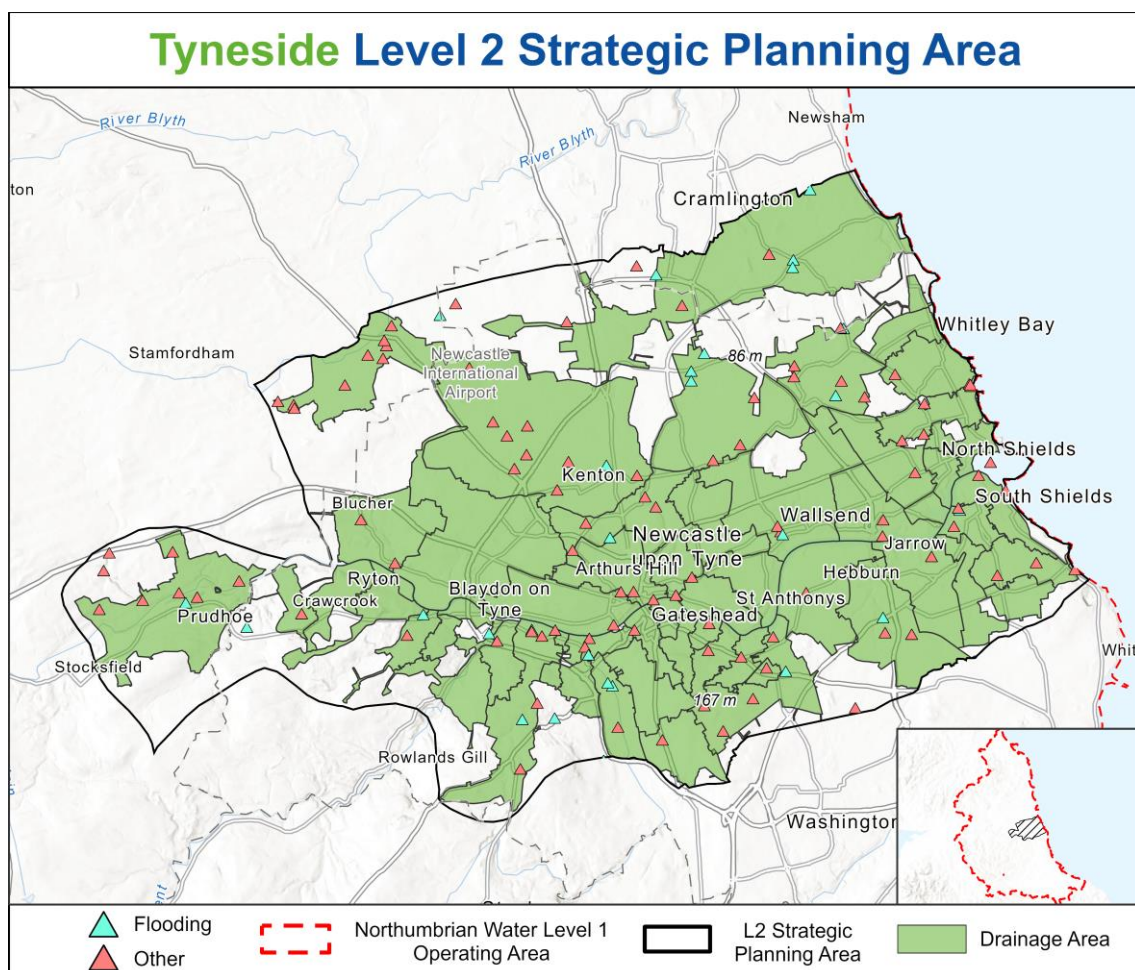
Through different partnerships and strategies, we play an active role within the region, working collaboratively with stakeholders on several projects. The DWMP builds on the strong foundation of the Northumbria Integrated Drainage Partnership (NIDP), which consists of 14 Lead Local Flood Authorities, 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
<p>Environment Agency Local Authorities National Farmers Union Rivers Trusts Natural England Developers National Parks</p>

Collaborative Working Opportunities



Significant Collaborative Working Opportunities

Drainage Area Reference	Organisation	Opportunity Type
05-D24	Environment Agency	Flood and Coastal Risk Management Programme August 2021.
05-D30	Newcastle City Council	The council are planning various studies that may reduce storage interventions.
05-D30	Environment Agency	Environment Programme Pipeline Projects 2023-2028, Flood and Coastal Risk Management Programme August 2021.
05-D53	Environment Agency	Environment Programme Pipeline Projects 2023-2028, Flood and Coastal Risk Management Programme August 2021.
05-D53	South Tyneside Metropolitan Borough Council	There is potential to work with the council on green infrastructure interventions.

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 Tyneside Level 2 SPA.

Storm Overflow Discharge Reduction Plan

The following table summarises the number of storm overflows within the Tyneside 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	61	31
Inland – Not High Priority	235	152
Bathing Water	14	11
Coastal / Estuarine (not linked to Bathing Water)	1	0
Total	311	194

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 Tyneside 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	61	40
Inland – Not High Priority	235	159
Bathing Water	14	11
Coastal / Estuarine (not linked to Bathing Water)	1	1
Total	311	211

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
NEW MARE CLOSE FARM CSO	05-D01	Seaton Valley	2030 - 2035
FIRST SCHOOL CSO NTY002	05-D01	Seaton Valley	2030 - 2035
LINKS ROAD CSO	05-D01	Seaton Valley	2030 - 2035
SEATON SLUICE PS	05-D01	Seaton Valley	2030 - 2035
SEGHILL CSO	05-D01	Seaton Valley	2045 - 2050
WESTBOURNE ESTATE SSO ASHKIRK WAY	05-D01	Seaton Valley	2045 - 2050
DINNINGTON WEST SPS	05-D01	Seaton Valley	2045 - 2050
MOUNTFORD ROAD CSO	05-D01	Seaton Valley	2045 - 2050
LYSNDON FARM CSO	05-D01	Seaton Valley	2045 - 2050
DINNINGTON EAST SPS	05-D01	Seaton Valley	2045 - 2050
NORTH GOSFORTH CSO	05-D01	Seaton Valley	2045 - 2050
HOLYWELL P.S.	05-D01	Seaton Valley	No Improvement Required
GREEN CRESCENT CSO (NTY 006)	05-D01	Seaton Valley	No Improvement Required
WANSBECK ROAD CSO (NTY 007)	05-D01	Seaton Valley	No Improvement Required
LOVE AVENUE COTTAGES CSO (NTY 009)	05-D01	Seaton Valley	No Improvement Required
ANNITSFORD BRIDGE CSO	05-D01	Seaton Valley	No Improvement Required
ANNITSFORD BRIDGE CSO FERN DRIVE	05-D01	Seaton Valley	No Improvement Required
SIMONSIDE CSO	05-D01	Seaton Valley	No Improvement Required
SIMONSIDE CSO WEST END	05-D01	Seaton Valley	No Improvement Required
HARTLEY CARAVAN PARK PS	05-D01	Seaton Valley	No Improvement Required
DUDLEY FIRST SCHOOL CSO	05-D01	Seaton Valley	No Improvement Required
DUDLEY MIDDLE SCHOOL CSO	05-D01	Seaton Valley	No Improvement Required
OWEN BRANNIGAN DRIVE CSO	05-D01	Seaton Valley	No Improvement Required
FERN DRIVE CSO	05-D01	Seaton Valley	No Improvement Required
NORTHSIDE PLACE CSO	05-D01	Seaton Valley	No Improvement Required

Storm Overflow Site Name	Drainage Area Code	Drainage Area Name	Storm Overflow Spill Frequency Reduction Scheme - Delivery Period
DRYSDALE CRESENT CSO	05-D01	Seaton Valley	No Improvement Required
CLARA VALE SPS	05-D02	Crawcrook	2045 - 2050
CRAWCROOK LANE CSO	05-D02	Crawcrook	No Improvement Required
STATION BANK CSO	05-D03	Ryton West	2045 - 2050
GREENSIDE CSO	05-D03	Ryton West	No Improvement Required
Holburn Lane CSO, Ryton - NWL name	05-D03	Ryton West	No Improvement Required
CSO AT CHURCH DENE	05-D03	Ryton West	No Improvement Required
BLAYDON BURN WAGONWAY CSO	05-D04	Ryton East	No Improvement Required
STELLA ROAD CSO	05-D04	Ryton East	No Improvement Required
SUMMERHILL CSO	05-D04	Ryton East	No Improvement Required
HAUGH LANE CSO	05-D04	Ryton East	No Improvement Required
ADDISON VILLAGE CSO UNIT 3	05-D04	Ryton East	No Improvement Required
CSO 28 BEWESHILL CRESCENT	05-D06	Blaydon West	2030 - 2035
BLAYDON BANK CSO	05-D06	Blaydon West	2035 - 2040
CROFTDALE ROAD CSO	05-D06	Blaydon West	2035 - 2040
COCHRANE STREET CSO	05-D06	Blaydon West	No Improvement Required
EAST FARM CSO	05-D06	Blaydon West	No Improvement Required
BLAYDON METALS NO 1 CSO	05-D08	Blaydon Haughs	2045 - 2050
BLAYDON METALS NO 2 CSO	05-D08	Blaydon Haughs	2045 - 2050
FACTORY ROAD CSO	05-D08	Blaydon Haughs	2045 - 2050
GAS LANE CSO	05-D08	Blaydon Haughs	No Improvement Required
RIVERSIDEWAY CSO	05-D09	Derwenthaugh	2045 - 2050
PARKGATE FARM CSO	05-D09	Derwenthaugh	2045 - 2050
SHIBDON ROAD CSO	05-D09	Derwenthaugh	2045 - 2050
OLD DERWENT BRIDGE CSO	05-D09	Derwenthaugh	No Improvement Required

Storm Overflow Site Name	Drainage Area Code	Drainage Area Name	Storm Overflow Spill Frequency Reduction Scheme - Delivery Period
JUNCTION OF HEXHAM RD & MARKET LANE CSO	05-D10	Whickham North	2035 - 2040
CLAVERING RD & RUSKIN RD	05-D10	Whickham North	No Improvement Required
JUNC OF CLAVERING RD & SWALWEL BANK	05-D10	Whickham North	No Improvement Required
MARKET LANE CSO	05-D11	Whickham South & Sunnyside	2030 - 2035
GELLESFIELD CSO	05-D11	Whickham South & Sunnyside	2030 - 2035
METROCENTRE GREEN CAR PARK PS (E7)	05-D11	Whickham South & Sunnyside	2045 - 2050
WELLINGTON ROAD CSO (E9-102)	05-D11	Whickham South & Sunnyside	2045 - 2050
NAPIER COURT CSO	05-D11	Whickham South & Sunnyside	2045 - 2050
WHICKHAM SOUTH & SUNNYSIDE CSO	05-D11	Whickham South & Sunnyside	2045 - 2050
WASHINGWELL SCHOOL CSO	05-D11	Whickham South & Sunnyside	2045 - 2050
BEECH STREET CSO	05-D11	Whickham South & Sunnyside	2045 - 2050
SOUTHFIELD ROAD CSO	05-D11	Whickham South & Sunnyside	No Improvement Required
SUNNYSIDE CSO	05-D11	Whickham South & Sunnyside	No Improvement Required
KINGSWAY/PRINCESS STREET CSO	05-D11	Whickham South & Sunnyside	No Improvement Required
MARLEY HILL SPS	05-D11	Whickham South & Sunnyside	No Improvement Required
DUNSTON FLOUR MILL (WEST) CSO	05-D12	Dunston Hill	2040 - 2045
NEWTON STREET CSO	05-D13	Dunston, Teams	2040 - 2045
STAITHES ROAD CSO	05-D13	Dunston, Teams	2040 - 2045
CORMORANT DRIVE CSO	05-D13	Dunston, Teams	2040 - 2045
CSO AT TEAM STREET	05-D13	Dunston, Teams	2040 - 2045
TEAMS CSO JOHNSON STREET E17-105	05-D13	Dunston, Teams	2040 - 2045
ROSE STREET CSO	05-D13	Dunston, Teams	2040 - 2045
RIVERSDALE ROAD CSO	05-D13	Dunston, Teams	No Improvement Required
CSO ON WHICKHAM AND GATESHEAD SEWER	05-D14	Dunston & Lobley Hill	2040 - 2045

Storm Overflow Site Name	Drainage Area Code	Drainage Area Name	Storm Overflow Spill Frequency Reduction Scheme - Delivery Period
BENSHAM SIDINGS CSO	05-D15	Team Valley	2040 - 2045
EASTERN AVENUE CSO	05-D15	Team Valley	2040 - 2045
THE GREEN MARKET CSO	05-D15	Team Valley	2040 - 2045
BENSHAM CSO	05-D15	Team Valley	2040 - 2045
ELMWOOD GARDENS	05-D15	Team Valley	2040 - 2045
PINEWOOD GARDENS CSO	05-D15	Team Valley	2040 - 2045
VICTORIA RD AT SANDOWN GARDENS CSO	05-D15	Team Valley	2040 - 2045
BENSHAM HOSPITAL CSO	05-D15	Team Valley	No Improvement Required
SEVENTH AVENUE CSO	05-D15	Team Valley	No Improvement Required
LOW FELL CSO	05-D15	Team Valley	No Improvement Required
BLACK LANE CSO	05-D16	Chowdene	2040 - 2045
CHOWDENE CSO	05-D16	Chowdene	2040 - 2045
WOODFORD NO 22 STORM OVERFLOW	05-D16	Chowdene	2040 - 2045
NO2 ESKDALE GARDENS CSO	05-D16	Chowdene	2040 - 2045
CSO REAR 11 ST AUSTELL GARDENS	05-D16	Chowdene	No Improvement Required
SMITHY LANE CSO	05-D16	Chowdene	No Improvement Required
HIGH WEST STREET CSO (G066)	05-D18	Gateshead Central	2045 - 2050
QUAYSIDE (HILLGATE STREET CSO)	05-D18	Gateshead Central	2045 - 2050
SWINBURNE STREET CSO	05-D18	Gateshead Central	2045 - 2050
EAST STREET WAS SWINBURN ST END CSO	05-D18	Gateshead Central	2045 - 2050
PIPEWELLGATE PUMPING STATION	05-D18	Gateshead Central	No Improvement Required
SOUTH SHORE ROAD CSO	05-D19	Gateshead West	2045 - 2050
ALBANY ROAD/SALTMEADOWS ROAD CSO	05-D19	Gateshead West	2045 - 2050
SALTMEADOWS PUMPING STATION	05-D19	Gateshead West	No Improvement Required

Storm Overflow Site Name	Drainage Area Code	Drainage Area Name	Storm Overflow Spill Frequency Reduction Scheme - Delivery Period
SOUTH SHORE ROAD EAST PUMPING STN	05-D20	Gateshead Stadium, Mount Pleasant	2045 - 2050
CSO AT REAR OF ORCHID CRESCENT	05-D21	Friars Goose	2035 - 2040
INTERNATIONAL PAINTS PUMPING STN.	05-D22	Felling & Felling Shore	2035 - 2040
NEST ROAD CSO	05-D22	Felling & Felling Shore	No Improvement Required
HEWORTH SHORE CSO	05-D23	Heworth	2035 - 2040
LOW HEWORTH LANE PUMPING STATION	05-D23	Heworth	2035 - 2040
JANADAB CSO	05-D23	Heworth	2035 - 2040
WOODGATE GDNS/MARCONI 2 CSO	05-D23	Heworth	No Improvement Required
CSO AT STONEYGATE LANE	05-D23	Heworth	No Improvement Required
FAIRFIELD INDUSTRIAL PARK SPS	05-D23	Heworth	No Improvement Required
4 AYCLIFFE AVENUE CSO	05-D24	Leam Lane, Wardley, Bill Quay	2025 - 2030
LANCHESTER AVENUE CSO	05-D24	Leam Lane, Wardley, Bill Quay	2030 - 2035
MANOR GARDENS CSO	05-D24	Leam Lane, Wardley, Bill Quay	2040 - 2045
CSO AT CROMWELL ROAD	05-D24	Leam Lane, Wardley, Bill Quay	2040 - 2045
WOODWYND CSO	05-D24	Leam Lane, Wardley, Bill Quay	No Improvement Required
GRASSBANKS CSO	05-D24	Leam Lane, Wardley, Bill Quay	No Improvement Required
SHERATON CSO	05-D24	Leam Lane, Wardley, Bill Quay	No Improvement Required
CSO 32 WALBOTTLE ROAD	05-D25	Newburn	2035 - 2040
MAYFIELD AVE CSO NC034	05-D25	Newburn	2035 - 2040
NEWBURN PUMPING STATION	05-D25	Newburn	2045 - 2050
BLANEY ROW PUMPING STATION	05-D25	Newburn	No Improvement Required
THE BOATHOUSE SPS	05-D25	Newburn	No Improvement Required
SCOTSWOOD ROAD/DENTON BURN PS	05-D26	Denton Valley	2045 - 2050
NEWBURN INDUSTRIAL ESTATE P STN	05-D26	Denton Valley	2045 - 2050

Storm Overflow Site Name	Drainage Area Code	Drainage Area Name	Storm Overflow Spill Frequency Reduction Scheme - Delivery Period
NEWBURN HAUGH/RIVERSDALE WAY P STN	05-D26	Denton Valley	2045 - 2050
TYNE VIEW CSO	05-D26	Denton Valley	2045 - 2050
BROADWAY JUNCTION NORWOOD ROAD CSO	05-D26	Denton Valley	2045 - 2050
SCOTSWOOD ROAD PUMPING STATION NO 4	05-D26	Denton Valley	2045 - 2050
DENTON ROAD CSO NC027	05-D26	Denton Valley	2045 - 2050
WOOD GROVE CSO (NC029)	05-D26	Denton Valley	2045 - 2050
BURWELL AVENUE CSO	05-D26	Denton Valley	2045 - 2050
DENTON DENE NORTH OF WEST ROAD CSO	05-D26	Denton Valley	2045 - 2050
SILVER LONNEN CSO (NC030)	05-D26	Denton Valley	2045 - 2050
DENE AVENUE CSO NC051	05-D26	Denton Valley	2045 - 2050
BROADWAY ROAD CSO	05-D26	Denton Valley	No Improvement Required
STAMFORDHAM ROAD PUMPING STATION	05-D26	Denton Valley	No Improvement Required
BURNSIDE CSO	05-D26	Denton Valley	No Improvement Required
SOUTH BENWELL ROAD CSO	05-D27	Benwell	2035 - 2040
CSO WATER STREET	05-D27	Benwell	2035 - 2040
CSO DUNN STREET	05-D27	Benwell	2035 - 2040
ESSEX CLOSE CSO	05-D27	Benwell	2035 - 2040
CSO REDHEUGH BRIDGE	05-D27	Benwell	2035 - 2040
CSO FORTH BANKS	05-D27	Benwell	2035 - 2040
TUTHILL STAIRS CSO	05-D27	Benwell	2035 - 2040
ATKINSON ROAD CSO	05-D27	Benwell	2035 - 2040
AMELIA CLOSE CSO - C49/102	05-D27	Benwell	2035 - 2040
WEST VIEW CSO	05-D27	Benwell	2035 - 2040
SCOTSWOOD ROAD PUMPING STATION NO 2	05-D27	Benwell	No Improvement Required
CLUMBER STREET CSO	05-D27	Benwell	No Improvement Required

Storm Overflow Site Name	Drainage Area Code	Drainage Area Name	Storm Overflow Spill Frequency Reduction Scheme - Delivery Period
Scotswood Road CSO (C43-105) NWL name	05-D27	Benwell	No Improvement Required
SCOTSWOOD BRIDGE CSO	05-D27	Benwell	No Improvement Required
SCOTSWOOD NO1 SPS	05-D27	Benwell	No Improvement Required
MICHEL BEARINGS NORTH CSO	05-D27	Benwell	No Improvement Required
Scotswood Road (C49-104) NWL name	05-D27	Benwell	No Improvement Required
NEWCASTLE UPON TYNE CSO ST ANNES WHARF	05-D28	Newcastle City	2040 - 2045
THE SWIRLE CSO	05-D28	Newcastle City	2040 - 2045
BROAD CHARE CSO	05-D28	Newcastle City	2040 - 2045
MILK MARKET PUMPING STATION	05-D28	Newcastle City	No Improvement Required
DEAN STREET CSO	05-D28	Newcastle City	No Improvement Required
MEMORIAL HALL SSO	05-D29	Ponteland	2030 - 2035
ELAND LANE (NEW) PUMPING STATION	05-D29	Ponteland	2045 - 2050
JACKSON AVENUE CSO	05-D29	Ponteland	2045 - 2050
MOOR LANE SSO	05-D29	Ponteland	2045 - 2050
EASTERN WAY SSO	05-D29	Ponteland	2045 - 2050
CROSSFELL SEWAGE PUMPING STATION	05-D29	Ponteland	No Improvement Required
ELAND LANE (NEW) PUMPING STATION	05-D29	Ponteland	No Improvement Required
SALTERS LANE CSO	05-D30	Benton	2025 - 2030
GRASSHOLM PLACE CSO	05-D30	Benton	2030 - 2035
ACOMB CRESCENT (CATHEDRAL) CSO	05-D31	Gosforth	2030 - 2035
CSO AT THREE MILE INN	05-D31	Gosforth	No Improvement Required
FARNE AVENUE CSO	05-D31	Gosforth	No Improvement Required
TURNBERRY WAY CSO	05-D31	Gosforth	No Improvement Required
KENTON ROAD/ROCKERBY DRIVE CSO	05-D31	Gosforth	No Improvement Required
ST NICHOLAS HOSPITAL SSO	05-D31	Gosforth	No Improvement Required

Storm Overflow Site Name	Drainage Area Code	Drainage Area Name	Storm Overflow Spill Frequency Reduction Scheme - Delivery Period
WOOLSINGTON SEWAGE SYSTEM BULLOCKS STEADS CSO	05-D31	Gosforth	No Improvement Required
WOOLSINGTON CSO	05-D31	Gosforth	No Improvement Required
MOOR ROAD SOUTH CSO	05-D32	Jesmond	No Improvement Required
OUSEBURN WEST PS	05-D33	Lower Ouseburn	2040 - 2045
OUSEBURN EAST PS	05-D33	Lower Ouseburn	2040 - 2045
FOUNDRY LANE NO 3 CSO	05-D33	Lower Ouseburn	2040 - 2045
FOUNDRY LANE NO1 CSO	05-D33	Lower Ouseburn	2040 - 2045
LIME STREET/CUT BANK (2)	05-D33	Lower Ouseburn	2040 - 2045
BLUE BELL INN CSO	05-D33	Lower Ouseburn	2040 - 2045
QUAYSIDE/ST LAWRENCE ROAD CSO	05-D33	Lower Ouseburn	No Improvement Required
MARINER S WHARF, QUAYSIDE - NWL name	05-D33	Lower Ouseburn	No Improvement Required
OUSE BURN CSO NO 8	05-D33	Lower Ouseburn	No Improvement Required
SPILLERS PUMPING STATION	05-D34	Byker	2045 - 2050
GLASSHOUSE STREET PS	05-D34	Byker	2045 - 2050
THE OVAL PUMPING STATION	05-D34	Byker	2045 - 2050
RIVERSIDE PARK WEST CSO	05-D34	Byker	2045 - 2050
CALDBECK CL BELMONT ST ANTHONYS CSO	05-D34	Byker	2045 - 2050
CALDBECK AVE POTTERY BANK CSO	05-D34	Byker	2045 - 2050
GREENFORD ROAD C18-102	05-D34	Byker	2045 - 2050
CALDBECK AVENUE/POTTERY BANK CSO	05-D34	Byker	No Improvement Required
CSO NEPTUNE YARD NO.1 OUTFALL	05-D35	Walker	2045 - 2050
WHITE STREET STATION ROAD CSO	05-D35	Walker	2045 - 2050
WHITE STREET STATION ROAD CSO	05-D35	Walker	2045 - 2050
CSO WELBECK ROAD & BATH STREET	05-D35	Walker	2045 - 2050
WINCOMBLEE C PUMPING STATION	05-D35	Walker	2045 - 2050

Storm Overflow Site Name	Drainage Area Code	Drainage Area Name	Storm Overflow Spill Frequency Reduction Scheme - Delivery Period
WINCOMBLEE ROAD CSO	05-D35	Walker	2045 - 2050
WINCOMBLEE B PUMPING STATION	05-D35	Walker	2045 - 2050
NEW WELBECK ROAD PUMPING STATION	05-D35	Walker	2045 - 2050
STATION ROAD/WHITE STREET CSO	05-D35	Walker	No Improvement Required
BURN CLOSES CSO	05-D37	Wallsend	2030 - 2035
NEPTUNE YARD CSO - NWL name	05-D37	Wallsend	2045 - 2050
BENTON WAY OUTFALL NO 2 CSO	05-D37	Wallsend	2045 - 2050
STATION ROAD/SWAN HUNTERS CSO	05-D37	Wallsend	2045 - 2050
DAVY BANK PUMPING STATION	05-D37	Wallsend	2045 - 2050
HEATON CSO CORNEL RD	05-D37	Wallsend	2045 - 2050
CHURCH BANK CSO	05-D37	Wallsend	2045 - 2050
KILLINGWORTH WAGONWAY CSO	05-D37	Wallsend	2045 - 2050
POINT PLEASANT PUMPING STATION	05-D37	Wallsend	No Improvement Required
WATERVILLE ROAD CSO	05-D38	Chirton	No Improvement Required
BEEHIVE CSO	05-D39	Brierdene	2030 - 2035
BRIERDENE PUMPING STATION	05-D39	Brierdene	2030 - 2035
HOLYWELL HOUSE (CSO)	05-D39	Brierdene	2040 - 2045
TEN ACRE FARM COMBINED SEWER OVERFL	05-D39	Brierdene	2040 - 2045
MINI GOLF CSO	05-D39	Brierdene	No Improvement Required
NORTH PARADE HIGH LEVEL CSO (A52)	05-D40	Whitley Bay	2030 - 2035
BROWNS POINT CSO	05-D40	Whitley Bay	2035 - 2040
PERCY ROAD HIGH LEVEL CSO	05-D40	Whitley Bay	No Improvement Required
NORTH POINT CSO	05-D41	Cullercoats	No Improvement Required
WATTS SLOPE HIGH LEVEL CSO (A56)	05-D42	Whitley Lodge	2040 - 2045
Dukes Walk CSO	05-D42	Whitley Lodge	2040 - 2045

Storm Overflow Site Name	Drainage Area Code	Drainage Area Name	Storm Overflow Spill Frequency Reduction Scheme - Delivery Period
WESTERN ROAD/ROSEHILL ROAD P ST	05-D43	Willington Quay	2045 - 2050
STEPHENSON STREET PUMPING STATION	05-D43	Willington Quay	2045 - 2050
TYNE VIEW TERRACE PS	05-D43	Willington Quay	2045 - 2050
HOWDON STW CSO INLET	05-D43	Willington Quay	2045 - 2050
HOWDON STW CSO INLET South BANK	05-D43	Willington Quay	2045 - 2050
HOWDON STW CSO INLET NORTH BANK	05-D43	Willington Quay	2045 - 2050
HOWDON STW CSO Primary treated storm	05-D43	Willington Quay	2045 - 2050
PHILLIPSON STREET ROSEHILL CSO	05-D43	Willington Quay	2045 - 2050
HOWDON (ADJACENT A19 ROUNDABOUT)CSO	05-D43	Willington Quay	No Improvement Required
POTTER STREET PUMPING STATION	05-D43	Willington Quay	No Improvement Required
FISH QUAY CSO	05-D44	Tynemouth	2030 - 2035
NORTH GROVNE PUMPING STATION	05-D44	Tynemouth	2030 - 2035
SHARPNESS POINT PS	05-D44	Tynemouth	2030 - 2035
COLLINGWOOD TERRACE CSO	05-D44	Tynemouth	2030 - 2035
SWADDLES HOLE CSO	05-D44	Tynemouth	No Improvement Required
UNION QUAY CSO	05-D44	Tynemouth	No Improvement Required
NEW QUAY CSO NC058	05-D45	North Shields	2035 - 2040
BEDFORD STREET CSO NTY057	05-D45	North Shields	2035 - 2040
HOWDON ROAD CSO (NTY 040)	05-D45	North Shields	2045 - 2050
BURDON MAIN ROW CSO	05-D45	North Shields	2045 - 2050
PERCY MAIN CSO	05-D46	Royal Quays	2045 - 2050
CSO AT MANHOLE 49 HOWDEN ROAD	05-D46	Royal Quays	No Improvement Required
NEW YORK CSO	05-D46	Royal Quays	No Improvement Required
MINDRUM TERRACE CSO	05-D46	Royal Quays	No Improvement Required
PILOT STREET PUMPING STATION	05-D47	Westoe	2030 - 2035

Storm Overflow Site Name	Drainage Area Code	Drainage Area Name	Storm Overflow Spill Frequency Reduction Scheme - Delivery Period
WAPPING STREET CSO	05-D47	Westoe	2040 - 2045
CSO AT EAST HOLBORN WEST	05-D48	High Shields	2045 - 2050
WEST HOLBORN SOUTH CSO	05-D48	High Shields	2045 - 2050
HARTON LOW STAITHES CSO	05-D48	High Shields	2045 - 2050
TUDOR ROAD CSO	05-D48	High Shields	2045 - 2050
CORONATION ST CSO	05-D48	High Shields	2045 - 2050
MITRE PLACE CSO	05-D48	High Shields	No Improvement Required
EAST HOLBORN EAST CSO	05-D48	High Shields	No Improvement Required
HARTON LOW STAITHES (MILL DAM) CSO	05-D48	High Shields	No Improvement Required
TEMPLE STREET CSO	05-D49	Tyne Dock, Whiteleas	2040 - 2045
ELDON STREET CSO	05-D49	Tyne Dock, Whiteleas	2045 - 2050
SMITH STREET PUMPING STATION	05-D49	Tyne Dock, Whiteleas	No Improvement Required
REDWELL SEAGE PUMPING STATION	05-D50	Harton	2030 - 2035
TYNESIDE CSO B5/201	05-D52	Simonside	2030 - 2035
DON VALLEY PUMPING STATION	05-D52	Simonside	2040 - 2045
JARROW ROAD PUMPING STATION	05-D52	Simonside	2040 - 2045
CSO AT BEDESWAY	05-D52	Simonside	2040 - 2045
SOUTH SHIELDS INTERCEPTOR BS/104	05-D53	Jarrow, Hedworth	2025 - 2030
TYNESIDE CSO (NO B5/301) NEWLAND DRIVE	05-D53	Jarrow, Hedworth	2025 - 2030
SPRINGWELL PARK CSO	05-D53	Jarrow, Hedworth	2025 - 2030
WEST OF HEDWORTH LANE CSO	05-D53	Jarrow, Hedworth	2025 - 2030
NEW ROAD CSO	05-D53	Jarrow, Hedworth	2025 - 2030
EDEN WALK CSO	05-D53	Jarrow, Hedworth	2025 - 2030
CEMETERY ROAD CSO	05-D53	Jarrow, Hedworth	2030 - 2035
ROMAN ROAD CSO	05-D53	Jarrow, Hedworth	2030 - 2035

Storm Overflow Site Name	Drainage Area Code	Drainage Area Name	Storm Overflow Spill Frequency Reduction Scheme - Delivery Period
STATION ROAD CSO G020	05-D53	Jarrow,Hedworth	2030 - 2035
BOLDON COLLIERY FENWICK STREET CSO	05-D53	Jarrow,Hedworth	No Improvement Required
NORTH ROAD NO1	05-D53	Jarrow,Hedworth	No Improvement Required
29/30 NORTH ROAD CSO	05-D53	Jarrow,Hedworth	No Improvement Required
JARROW HEDWORTH CSO 20 ARNOLD STREET	05-D53	Jarrow,Hedworth	No Improvement Required
JARROW HEDWORTH CSO 23 CHARLES STREET	05-D53	Jarrow,Hedworth	No Improvement Required
REAR OF 92 & 94 CHARLES STREET CSO	05-D53	Jarrow,Hedworth	No Improvement Required
BOLDON COLLIERY SOUTH (N0'7) CSO	05-D53	Jarrow,Hedworth	No Improvement Required
REAR 3 ERNEST STREET CSO	05-D53	Jarrow,Hedworth	No Improvement Required
WEST BOLDON CSO NO 3	05-D53	Jarrow,Hedworth	No Improvement Required
HEATON GARDENS PUMPING STATION	05-D53	Jarrow,Hedworth	No Improvement Required
JUNCTION LANGHOLME AVENUE &	05-D53	Jarrow,Hedworth	No Improvement Required
PRINCE CONSORT ROAD PUMPING STATION	05-D54	Hebburn	2035 - 2040
WAGONWAY ROAD PUMPING STATION	05-D54	Hebburn	2035 - 2040
BLACKETT STREET JARROW	05-D54	Hebburn	2035 - 2040
REYROLLE SEWER (SOUTH) CSO	05-D54	Hebburn	2040 - 2045
MARINE DRIVE PUMPING STATION	05-D54	Hebburn	No Improvement Required
LAMPORT CSO	05-D54	Hebburn	No Improvement Required
CALEDONIAN ST / WILLIAM ST D17-103 STY056	05-D54	Hebburn	No Improvement Required
WILLIAM STREET CSO	05-D54	Hebburn	No Improvement Required
BLACKETT STREET CSO	05-D54	Hebburn	No Improvement Required
TYNE STREET SPS	05-D54	Hebburn	No Improvement Required
CSO AT SW CORNER OF ALLOTMENT GARDEN HEBBURN Riverside	05-D54	Hebburn	No Improvement Required
REYROLLE SEWER (NORTH) CSO	05-D54	Hebburn	No Improvement Required
OVINGTON CSO TD034	05-D55	Prudhoe	2035 - 2040

Storm Overflow Site Name	Drainage Area Code	Drainage Area Name	Storm Overflow Spill Frequency Reduction Scheme - Delivery Period
ANDREWS HOUSE LA HACIENDA CSO	05-D55	Prudhoe	2035 - 2040
MARY MAGDALENE NO3 CSO (TD037)	05-D55	Prudhoe	2035 - 2040
OVINGHAM PUMPING STATION CSO	05-D55	Prudhoe	2035 - 2040
ROSELEIGH CSO	05-D55	Prudhoe	2035 - 2040
WYLAM NORTH SPS CSO	05-D55	Prudhoe	2035 - 2040
SOUTH WYLAM PUMPING STATION	05-D55	Prudhoe	2035 - 2040
MID TYNE SEWERAGE SCHEME CSO	05-D55	Prudhoe	2035 - 2040
RIDING DENE CSO	05-D55	Prudhoe	2035 - 2040
PRUDHOE CSO 4	05-D55	Prudhoe	2035 - 2040
ADDERLANE SCHOOL CSO (TD035)	05-D55	Prudhoe	No Improvement Required
PRUDHOE PUMPING STATION	05-D55	Prudhoe	No Improvement Required
MID-TYNE NO,3 CSO	05-D55	Prudhoe	No Improvement Required
ELTRINGHAM CSO BEAUMONT WOOD	05-D55	Prudhoe	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 Tyneside 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
Howdon WwTW	Howdon WwTW is being investigated/upgraded currently for dry weather flow compliance.

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 Tyneside 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	2,919	2,997	3,260	4,821	5,272
PO2 – External Flood Risk	Count of properties at risk of flooding externally during a 1 in 20 year return period rainfall event	57,899	59,080	59,455	79,416	84,709
PO3 – 1 in 50 Year Population at Risk	Population at risk of flooding during a 1 in 50 year return period rainfall event	81,640	82,950	83,478	113,686	122,086
PO6 – Pollution	Count of manholes near watercourses at risk of flooding during a 1 in 5 year return period rainfall event	198	198	199	284	374

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
05-D01	Seaton Valley	0	0	0	0	1	1	0	1	1	2	2	2	2	2	2	1	1	1	2	2	2
05-D02	Crawcrook	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
05-D03	Ryton West	1	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
05-D04	Ryton East	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2	2	2
05-D05	Ryton Haugh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
05-D06	Blaydon West	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	0	0	0	2	2	2
05-D07	Blaydon East	0	1	1	2	2	2	1	1	1	0	0	0	0	0	0	0	0	0	2	2	2
05-D08	Blaydon Haughs	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	2	2	2
05-D09	Derwenthaugh	0	1	1	1	1	2	1	1	1	0	0	0	1	1	1	1	1	1	2	2	2
05-D10	Whickham North	0	1	1	1	1	1	0	0	0	0	0	0	1	1	1	0	0	0	2	2	2
05-D11	Whickham South & Sunnyside	1	1	1	1	1	1	0	1	1	0	0	0	2	2	2	0	0	0	2	2	2
05-D12	Dunston Hill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
05-D13	Dunston, Teams	0	1	1	1	1	1	0	1	1	0	0	0	1	1	1	0	1	1	2	2	2
05-D14	Dunston & Lobley Hill	1	1	1	2	2	2	1	1	1	0	0	0	0	0	0	1	1	1	2	2	2
05-D15	Team Valley	1	2	2	1	1	1	0	0	0	0	0	0	2	2	2	0	1	1	2	2	2
05-D16	Chowdene	0	0	0	1	1	1	0	0	0	0	0	0	2	2	2	0	0	0	2	2	2
05-D17	Bensham	1	2	2	2	2	2	1	1	1	0	0	0	0	0	0	0	0	0	2	2	2
05-D18	Gateshead Central	1	1	1	1	1	1	0	0	0	0	0	0	1	1	1	0	0	0	2	2	2
05-D19	Gateshead West	0	0	0	0	0	0	1	1	1	0	0	0	1	1	1	0	0	0	2	2	2
05-D20	Gateshead Stadium, Mount Pleasant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
05-D21	Friars Goose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
05-D22	Felling & Felling Shore	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
05-D23	Heworth	1	1	1	1	1	1	0	0	0	0	0	0	1	1	1	0	0	0	2	2	2

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
05-D24	Leam Lane, Wardley, Bill Quay	1	1	1	1	1	1	0	1	1	0	0	0	2	2	2	0	0	0	2	2	2
05-D25	Newburn	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	1	2	2	2
05-D26	Denton Valley	1	1	1	0	1	1	0	0	1	0	0	0	1	1	1	0	0	0	2	2	2
05-D27	Benwell	0	1	1	0	0	1	0	0	0	0	0	0	1	1	1	0	0	0	2	2	2
05-D28	Newcastle City	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	2	2	2
05-D29	Ponteland	0	1	1	0	0	0	0	0	0	0	0	0	2	2	2	1	1	1	2	2	2
05-D30	Benton	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	0	0	0	2	2	2
05-D31	Gosforth	0	1	1	0	0	0	0	0	0	0	0	0	2	2	2	0	0	1	2	2	2
05-D32	Jesmond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
05-D33	Lower Ouseburn	0	1	1	0	0	0	0	0	0	0	0	0	2	2	2	0	0	0	2	2	2
05-D34	Byker	1	1	2	2	2	2	1	1	1	0	0	0	1	1	1	0	0	0	2	2	2
05-D35	Walker	0	0	0	0	0	0	1	1	1	0	0	0	1	1	1	0	0	0	2	2	2
05-D36	Heaton	0	1	1	0	0	1	1	1	1	0	0	0	0	0	0	1	1	1	2	2	2
05-D37	Wallsend	0	1	1	0	1	1	0	0	0	0	0	0	2	2	2	0	1	1	2	2	2
05-D38	Chirton	1	1	1	1	1	1	0	1	1	0	0	0	0	0	0	0	1	1	2	2	2
05-D39	Brierdene	0	0	1	1	1	1	1	1	1	2	2	2	2	2	2	0	0	0	2	2	2
05-D40	Whitley Bay	0	0	0	1	1	1	0	1	1	2	2	2	0	0	0	0	0	0	2	2	2
05-D41	Cullercoats	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2	2	2
05-D42	Whitley Lodge	0	1	1	0	1	1	0	0	0	2	2	2	0	0	0	0	0	0	2	2	2
05-D43	Willington Quay	0	0	0	1	1	1	1	1	1	0	0	0	1	1	1	0	0	0	2	2	2
05-D44	Tynemouth	0	1	1	1	1	2	0	0	0	2	2	2	2	2	2	0	0	0	2	2	2
05-D45	North Shields	0	0	0	0	0	0	0	1	1	0	0	0	1	1	1	0	0	0	2	2	2
05-D46	Royal Quays	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
05-D47	Westoe	1	1	1	0	1	1	1	1	1	2	2	2	0	0	0	0	0	0	2	2	2
05-D48	High Shields	1	2	2	2	2	2	1	1	1	0	0	0	1	1	1	0	0	0	2	2	2

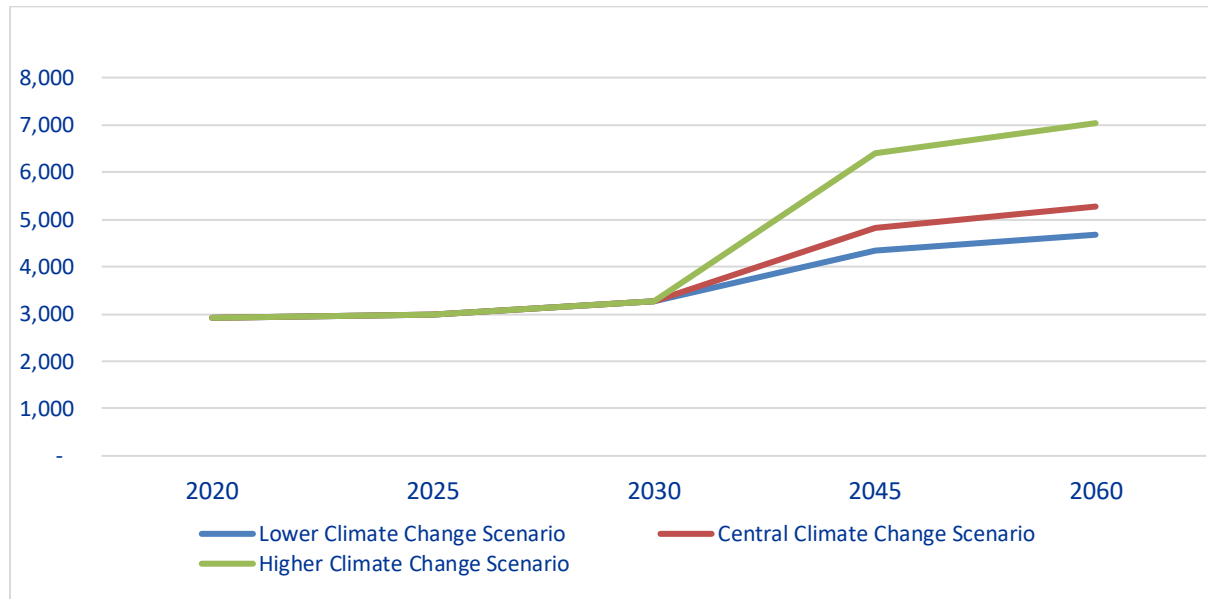
Drainage Area		PO1 – Internal Flood Risk			PO2 – External Flood Risk			PO3 – 1 in 50 Year Population at Risk			PO4 – Bathing Water			PO5 – River Water			PO6 - Pollution			PO8 – WwTW DWF Compliance		
		2020	2045	2060	2020	2045	2060	2020	2045	2060	2020	2045	2060	2020	2045	2060	2020	2045	2060	2020	2045	2060
05-D49	Tyne Dock,Whiteleas	0	1	1	0	0	0	0	1	1	0	0	0	1	1	1	0	0	0	2	2	2
05-D50	Harton	1	1	1	1	1	1	1	1	2	2	2	2	0	0	0	0	0	0	2	2	2
05-D51	Cleadon Park	2	2	2	2	2	2	1	2	2	0	0	0	0	0	0	0	0	0	2	2	2
05-D52	Simonside	1	1	1	0	0	0	0	0	0	0	0	0	2	2	2	0	0	0	2	2	2
05-D53	Jarrow,Hedworth	0	0	0	0	0	1	1	1	1	0	0	0	2	2	2	1	1	1	2	2	2
05-D54	Hebbum	1	1	1	0	1	1	0	0	0	0	0	0	1	1	1	0	0	0	2	2	2
05-D55	Prudhoe	1	1	1	1	2	2	1	1	1	0	0	0	2	2	2	1	1	1	2	2	2
05-D56	Hagg Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05-D58	Marquis of Granby	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
05-D59	Moore Croft, Newburn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Climate Change Sensitivity

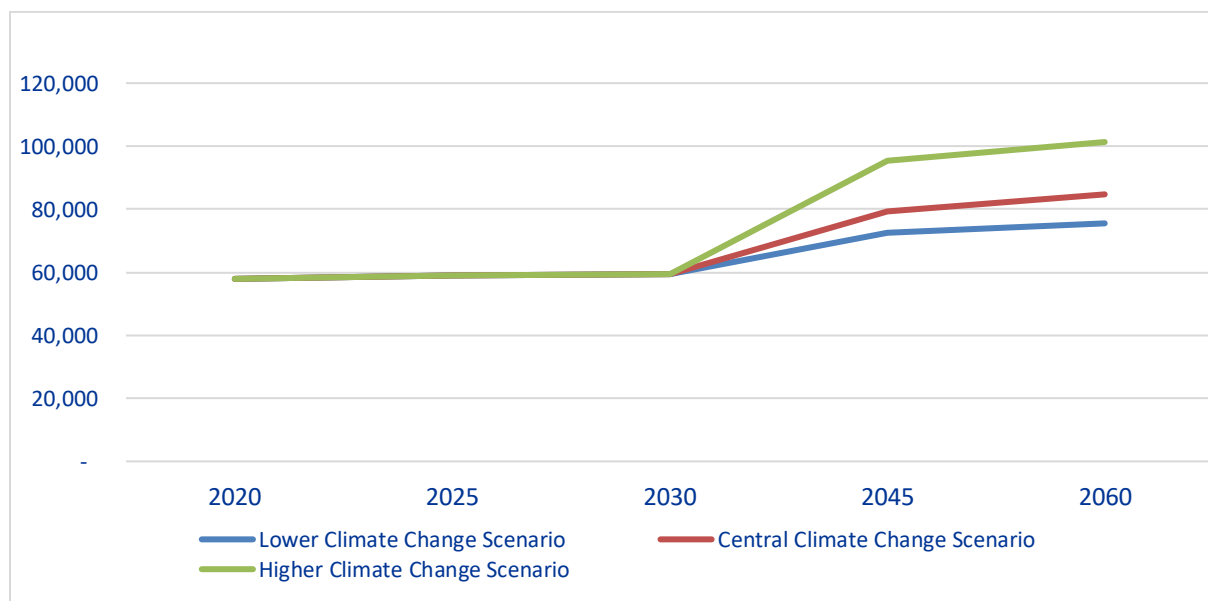
As outlined in the BRAVA methodology, two additional climate scenarios were analysed to evaluate the impact on the planning objectives of Lower Emissions and Higher Emissions climate scenarios.

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

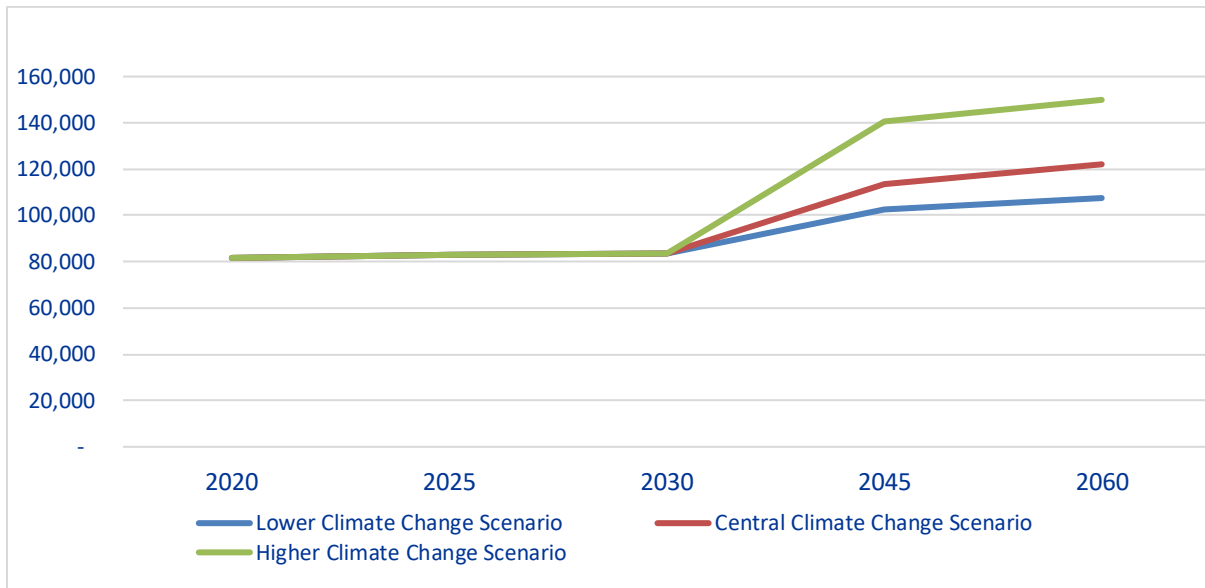
PO1 – Internal Flood Risk – Tyneside L2 SPA



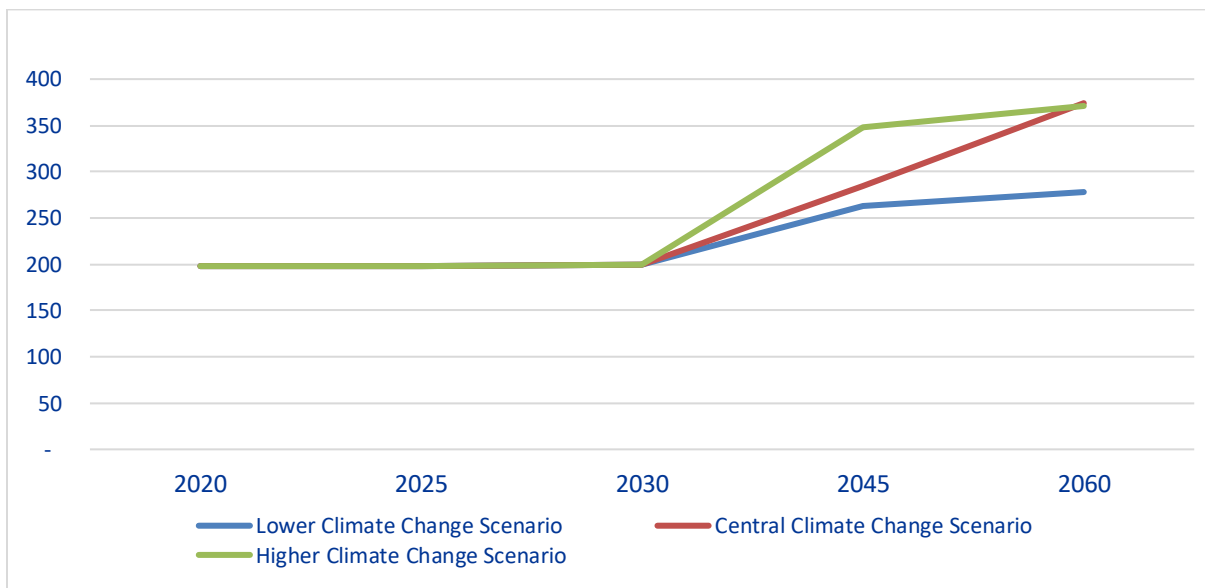
PO2 – External Flood Risk – Tyneside L2 SPA



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



PO6 – Pollution – Tyneside 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 Tyneside 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 Tyneside 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	8	25	37	40	84
Storm Overflows requiring Screening Provision Schemes	5	12	81	39	74

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	1	-	-	-	-	-	-
WwTW Quality Compliance – Investigations	- (P) - (BOD) - (Amm)	- (P) - (BOD) - (Amm)	- (P) - (BOD) - (Amm)	- (P) - (BOD) - (Amm)	- (P) - (BOD) - (Amm)	- (P) - (BOD) - (Amm)	- (P) - (BOD) - (Amm)
WwTW Quality Compliance - Schemes	- (P) - (BOD) - (Amm)	- (P) - (BOD) - (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.

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	23.65	61.46	41.26	69.17	70.77	-	-
Screening Provision Schemes	1.66	7.15	20.93	12.52	24.00	-	-

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	2,919	2,997	3,260	2,439	2,107
PO2 – External Flood Risk	Count of properties at risk of flooding externally during a 1 in 20 year return period rainfall event	57,899	59,080	59,455	45,713	44,028

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
05-D01	Seaton Valley	0	0	0	0	1	1	0	1	1	2	0	0	2	1	0	1	1	1	2	0	0
05-D02	Crawcrook	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
05-D03	Ryton West	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
05-D04	Ryton East	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2	0	0
05-D05	Ryton Haugh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
05-D06	Blaydon West	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0
05-D07	Blaydon East	0	0	0	2	1	2	1	1	1	0	0	0	0	0	0	0	0	0	2	0	0
05-D08	Blaydon Haughs	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	0	0
05-D09	Derwenthaugh	0	0	0	1	1	1	1	1	1	0	0	0	1	1	0	1	1	1	2	0	0
05-D10	Whickham North	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0
05-D11	Whickham South & Sunnyside	1	0	0	1	0	0	0	0	0	0	0	0	2	1	0	0	0	0	2	0	0
05-D12	Dunston Hill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
05-D13	Dunston, Teams	0	0	0	1	1	1	0	1	1	0	0	0	1	0	0	0	1	1	2	0	0
05-D14	Dunston & Lobley Hill	1	0	1	2	1	1	1	1	1	0	0	0	0	0	0	1	1	1	2	0	0
05-D15	Team Valley	1	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	1	1	2	0	0
05-D16	Chowdene	0	0	0	1	1	1	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0
05-D17	Bensham	1	0	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0
05-D18	Gateshead Central	1	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	0	0
05-D19	Gateshead West	0	0	0	0	0	0	1	1	1	0	0	0	1	1	0	0	0	0	2	0	0
05-D20	Gateshead Stadium, Mount Pleasant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0

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
05-D21	Friars Goose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
05-D22	Felling & Felling Shore	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
05-D23	Heworth	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0
05-D24	Leam Lane, Wardley, Bill Quay	1	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0
05-D25	Newbum	1	0	0	1	0	1	1	1	1	0	0	0	1	0	0	1	1	1	2	0	0
05-D26	Denton Valley	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	0	0
05-D27	Benwell	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0
05-D28	Newcastle City	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0
05-D29	Ponteland	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	1	1	1	2	0	0
05-D30	Benton	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0
05-D31	Gosforth	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	2	0	0
05-D32	Jesmond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
05-D33	Lower Ouseburn	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0
05-D34	Byker	1	0	0	2	1	1	1	0	0	0	0	0	1	1	0	0	0	0	2	0	0
05-D35	Walker	0	0	0	0	0	0	1	1	1	0	0	0	1	1	0	0	0	0	2	0	0
05-D36	Heaton	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1	1	1	2	0	0
05-D37	Wallsend	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	1	1	2	0	0
05-D38	Chirton	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	1	2	0	0
05-D39	Brierdene	0	0	1	1	1	1	1	1	1	2	0	0	2	0	0	0	0	0	2	0	0
05-D40	Whitley Bay	0	0	0	1	1	1	0	1	1	2	0	0	0	0	0	0	0	0	2	0	0
05-D41	Cullercoats	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2	0	0
05-D42	Whitley Lodge	0	0	0	0	1	1	0	0	0	2	0	0	0	0	0	0	0	0	2	0	0
05-D43	Willington Quay	0	0	0	1	1	1	1	1	1	0	0	0	1	1	0	0	0	0	2	0	0

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		2020	2045	2060	2020	2045	2060	2020	2045	2060	2020	2045	2060	2020	2045	2060	2020	2045	2060	2020	2045	2060
05-D44	Tynemouth	0	0	0	1	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2	0	0
05-D45	North Shields	0	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	2	0	0
05-D46	Royal Quays	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
05-D47	Westoe	1	0	0	0	0	0	1	1	1	2	0	0	0	0	0	0	0	0	2	0	0
05-D48	High Shields	1	0	1	2	0	0	1	1	1	0	0	0	1	1	0	0	0	0	2	0	0
05-D49	Tyne Dock,Whitel eas	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	2	0	0
05-D50	Harton	1	0	0	1	0	0	1	1	1	2	0	0	0	0	0	0	0	0	2	0	0
05-D51	Cleadon Park	2	0	0	2	0	0	1	1	1	0	0	0	0	0	0	0	0	0	2	0	0
05-D52	Simonside	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0
05-D53	Jarrow,Hed worth	0	0	0	0	0	1	1	1	1	0	0	0	2	0	0	1	1	1	2	0	0
05-D54	Hebbum	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0
05-D55	Prudhoe	1	0	0	1	1	1	1	1	1	0	0	0	2	0	0	1	1	1	2	0	0
05-D56	Hagg Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05-D58	Marquis of Granby	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
05-D59	Moore Croft, Newbum	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://www.nwl.co.uk/contact-us)

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