



# DRAINAGE & WASTEWATER MANAGEMENT PLAN

Dŵr Cymru Welsh Water

Drainage and Wastewater Management Plan 2024

Strategic Environmental Assessment

Post Adoption Statement – November 2023



IN PARTNERSHIP WITH



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**Report for**

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**Document revisions**

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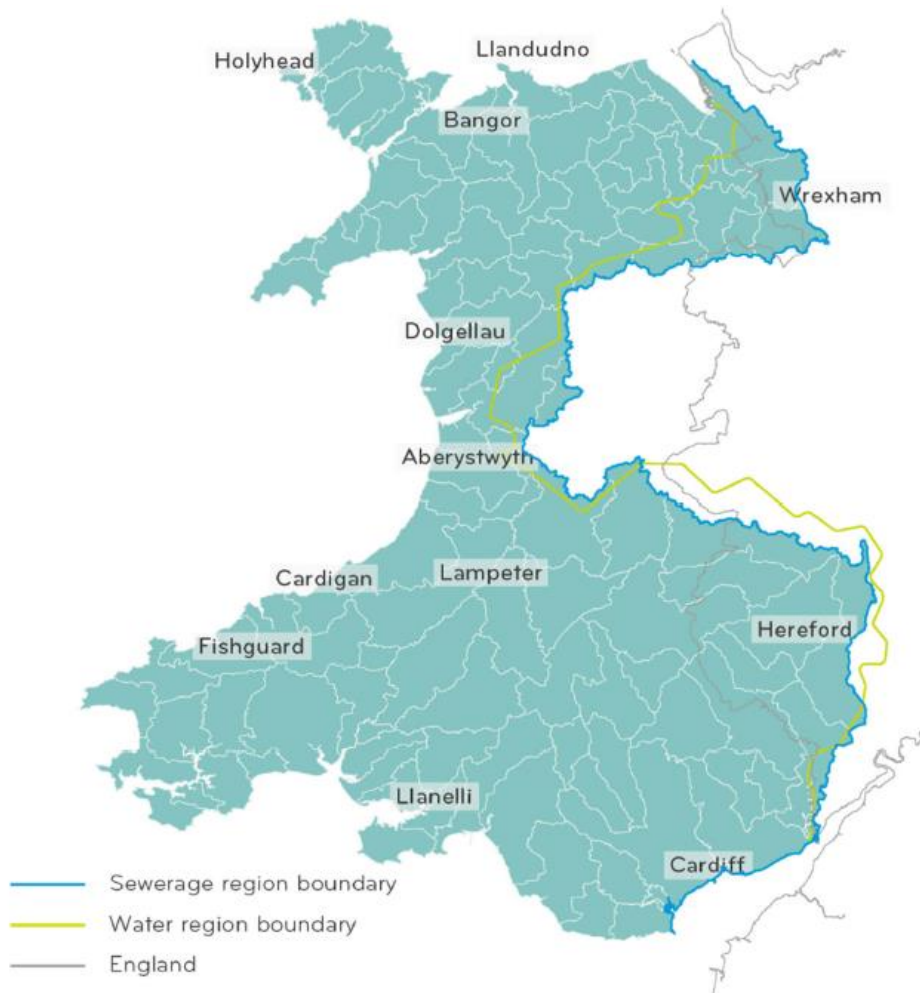
# 1. Introduction

## 1.1 Welsh Water’s Drainage and Wastewater Management Plan

1.1.1 Dŵr Cymru Welsh Water (Welsh Water) provides water and wastewater services to some 3.2 million customers living in Wales and adjoining parts of England (across 1.4m homes and businesses) with assets and infrastructure including over 30,000km of sewers, over 26,500km of water mains, over 800 waste water treatment works (WwTW), 69 water treatment works (WTW), 2,500 sewage pumping stations, 679 water pumping stations and over 2,000 combined storm overflows (CSOs).

1.1.2 **Figure 1.1** below outlines the operational area for Welsh Water.

**Figure 1.1 Welsh Water Operational Area<sup>1</sup>**



1.1.3 The Drainage and Wastewater Management Plan (DWMP) sets out how Welsh Water intends to extend, improve, and maintain a robust and resilient drainage and wastewater

<sup>1</sup> Dŵr Cymru Welsh Water (2023) *Final Drainage and Wastewater Management Plan 2024 – Non-Technical Summary*. Page 20.

system. It takes a long-term view, setting out a planning period that is appropriate to the risks faced by Welsh Water, covering at least 25 years.

1.1.4 The DWMP is governed by the following three high level planning themes, which were created from feedback received from customers and stakeholders:

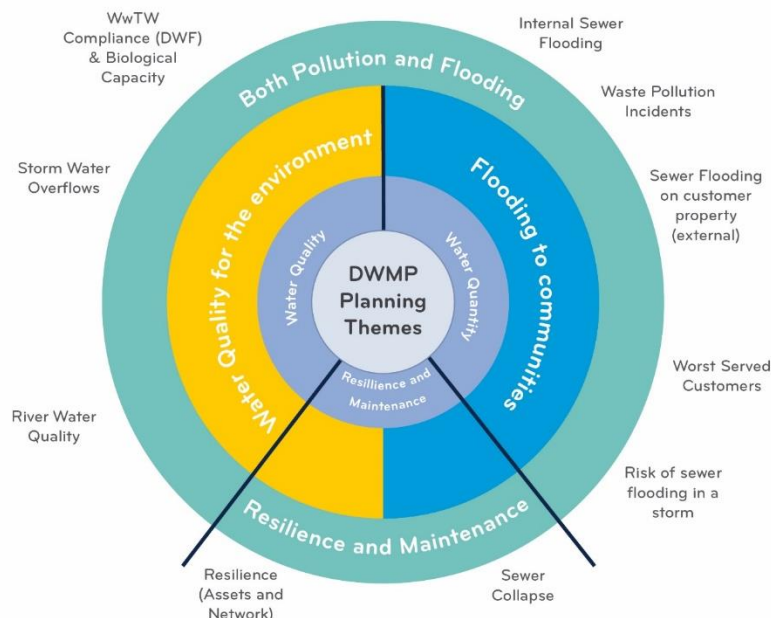
- **1. Water Quantity** – Reducing the risk of flooding to communities.
- **2. Water Quality** – Improving water quality for the environment.
- **3. Resilience and Maintenance** - Making sure we can adapt to changes in the future, whilst also maintaining important services and protecting the environment.

1.1.5 The DWMP is also governed by the following six, nationally set planning objectives:

- internal sewer flood risk;
- pollution risk;
- sewer collapse risk;
- risk of sewer flooding in a 1 in 50-year storm;
- storm overflow performance; and
- risk of water recycling centre quality compliance.

1.1.6 How the three high level planning themes and the nationally set planning objectives work together is illustrated in **Figure 1.2** below.

**Figure 1.2 The DWMP common and company objectives categories within the main themes of the plan<sup>2</sup>**



1.1.7 **Table 1.1** below highlights the planning objectives individually and if they are national or locally set planning objectives, whilst also highlighting how they relate to the high-level planning themes.

<sup>2</sup> Dŵr Cymru Welsh Water (2023) *Final Drainage and Wastewater Management Plan 2024*. Page 43.

**Table 1.1 DWMP Planning Objectives**

Planning Objective		Description	Units
<b>Water Quality</b>			
National	WwTW Compliance DWF / Biological Capacity	STW Numeric performance limit compliance	% of population served
National	Storm Overflow Performance	Assessment of spill performance based on annual rainfall	Spill Count
<b>Water Quantity</b>			
National / Local	Internal Sewer Flooding (HO)	Properties affected by flood waters as a result of hydraulic overload conditions	Property Count
National / Local	Internal Sewer Flooding (OC)	Properties affected by flood waters as a result of causes other than hydraulic overload	
National / Local	External Flooding (HO)	Property curtilage affected by flood waters as a result of hydraulic overload conditions	
National / Local	External Flooding (OC)	Properties curtilage affected by flood waters as a result of causes other than hydraulic overload	
National	Wastewater Resilience	Risk of flooding in a 1 in 50-year storm affecting population	% Resident Population
Local	Worst Served Customers – Waste (HO)	Risk of repeat internal or serious external flooding as a result of hydraulic overload	Property Count
Local	Worst Served Customers – Waste (OC)	Risk of repeat internal or serious external flooding as a result of causes other than hydraulic overload	Property Count
<b>Resilience and Maintenance</b>			
National / Local	Waste Pollution Incidents (HO)	Pollution incidents as reported by EA/NRW (Category 1-3)	Incident Count
National / Local	Waste Pollution Incidents (OC)		
National	Sewer Collapses	Where structural deterioration has caused a collapse resulting in service failure	Incident Count
Local	Asset Resilience (above ground)	Assets assessed against a pre-defined set of resilience criteria	% score
Local	Asset Resilience (below ground)	Assets assessed against a pre-defined set of resilience criteria	% score

1.1.8 The DWMP operates at the following spatial levels:

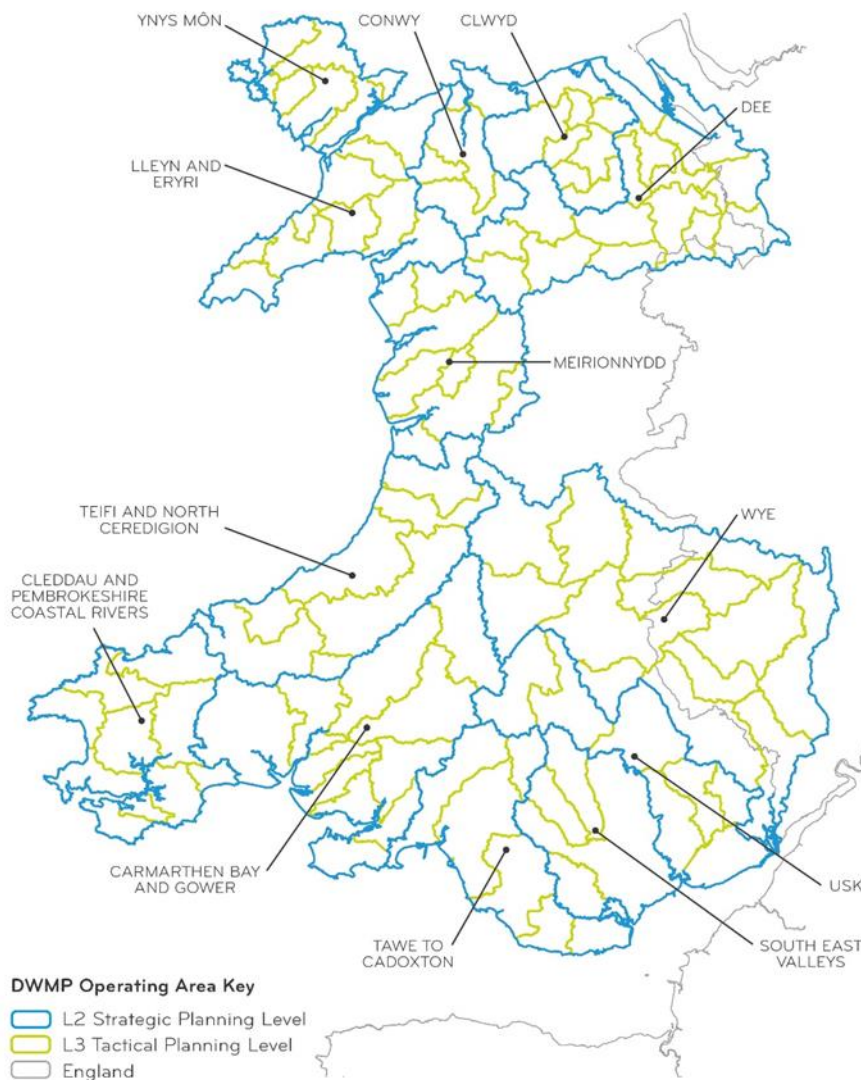
- **Level 1 – Water Company Operational Level:** An operational area which consolidates the more localised mapping in a published strategic report which will address the challenges Welsh Water has identified and how the long-term wastewater and drainage aims will be realised.
- **Level 2 - Strategic Planning Unit:** A subdivision of the Company operational area. Originally set at the River Basin Management District Catchment (RBMD) level and revised to take into account drainage from sewers. Through catchment wide

partnership and stakeholder engagement, the DWMP presents opportunities to identify new solutions to issues.

- **Level 3 - Tactical Planning Unit:** A consolidation of Wastewater Treatment Works (WwTW) and its catchments joined together by its river drainage system. This will include a detailed assessment of risks and opportunities as well as setting out long-term plans for the interventions needed.
- **Level 4 – Local Planning Area** – A further subdivision of the Level 3 based on asset or drainage area catchments.

1.1.9 **Figure 1.3** below showcases how these spatial levels are applied across the Welsh Water operational area.

**Figure 1.3 Welsh Water Operational Area and the identified spatial levels<sup>3</sup>**



<sup>3</sup> Dŵr Cymru Welsh Water (2023) *Final Drainage and Wastewater Management Plan 2024* – Technical Summary. Page 16.



- 1.1.10 Welsh Water has identified 13 Level 2 Strategic Planning Units (SPUs), 106 Level 3 Tactical Planning Units (TPUs), with further levels used to provide detail and granularity for proposals e.g. L4 drainage area.
- 1.1.11 To address the challenges within these spatial levels, a range of options were considered for the varying spatial levels, where selected combinations of these options will provide intervention strategies to be achieved corporately by 2050. The category of options include *inter alia*:
- **Combined and Foul Sewer Systems:**
    - ▶ Attenuation;
    - ▶ Cross boundary transfer;
    - ▶ Enhanced operational maintenance;
    - ▶ Increase capacity existing foul/combined networks;
    - ▶ Intelligent asset maintenance;
    - ▶ Intelligent network operation;
    - ▶ New sewerage.
  - **Customer Side Management:**
    - ▶ Customer Education;
    - ▶ Water efficient appliances;
    - ▶ Water efficient measures (domestic/commercial/industrial);
    - ▶ Rainwater harvesting;
    - ▶ Customer incentive;
    - ▶ Domestic and business customer education.
  - **Indirect measures influencing policy.**
  - **Wastewater Treatment:**
    - ▶ Bio re-use management;
    - ▶ Treat/pre-treat in network;
    - ▶ Increase treatment capacity;
    - ▶ Expand existing site;
    - ▶ New wastewater treatment works;
    - ▶ Modify consents/permits.
  - **Surface Water Management:**
    - ▶ Surface water source control measures;
    - ▶ Surface water networks;
    - ▶ Surface water pathway measures.
- 1.1.12 Detailed modelling, engineering and optioneering works was undertaken to determine the most appropriate, effective and best value response. Welsh Water prioritised the works reflecting levels of service coincident with the risks to designated sites with the highest

risk reflecting where there are multiple incidents of internal sewer flooding of properties. In total, 24 Level 3 localised areas were identified as requiring further investigation.

- 1.1.13 To address the risks, the broad categories of intervention identified were refined, considering network assessments, resilience, catchment strategy and localised option tests:
- **Sustainable options**, which seek to redirect flows of water from the wastewater/sewer network by mimicking more natural drainage regimes.
  - **Traditional options**, which involve increasing the capacity of the drainage and wastewater network.
  - **Mixed options** that combine sustainable and traditional interventions.
- 1.1.14 Welsh Water is proposing 107 interventions in the DWMP which are targeted at the worst customer and environmental impacts, with each option reflecting one of the broad categories above. It is the effects of these options that have been subject to consideration and assessment within the SEA.
- 1.1.15 In total, 21 schemes identified in Cycle 1 of the DWMP are planned to be included for delivery in asset management plan 8 (AMP8) which covers the period from 2025 to 2030, with the other preferred schemes to be delivered over the following 20 years. The 21 schemes included in AMP8 are outlined in **Table 1.2**.

**Table 1.2 Schemes included in AMP8**

L2 River basin catchment	L4 drainage area	Schemes identified for inclusion in AMP8
<b>Carmarthen Bay and the Gower</b>	Gowerton	50628-A-RZ002-DFL.000000_Sterry Road_3a-2025-2030-M 50628-A-RZ002-DFL.001211_Dyffryn_3a-2025-2030-M 50628-A-RZ005-DFL.002911_3a-2025-2030-M
<b>Clwyd</b>	Kinmel Bay	3137-AB-RZ01-DFL.000089-2025-2030-M1 3137-AB-RZ02-DFL.001448-2025-2030-M1 3137-AB-RZ06-DFL.002655-2025-2030-T1
<b>Conway</b>	Ganol STW	3333-A-RZ07-DFL.002633-2025-2030-S1
<b>Dee</b>	Five Fords (Wrexham)	675-A-RZ01-DFL.000756-2025-2030-M1 675-A-RZ03-DFL.001426-2025-2030-T1 675-A-RZ04-DFL.003153-2025-2030-M3 675-A-RZ07-DFL.002809-2025-2030-M1 675-A-RZ07-DFL.004147-2025-2030-S1 675-A-RZ09-DFL.003130-2025-2030-T1 675-A-RZ09-DFL.003172-2025-2030-T1
	Llanasa (nr Prestatyn)	846-A-RZ03-DFL.001262-2025-2030-M1 846-A-RZ04-DFL.002542-2025-2030-T1 846-A-RZ04-DFL.002554-2025-2030-T1
<b>Llyn and Eryri</b>	Llanfaglan	873-A-RZ01-DFL.000517-2025-2030-S1
<b>Tawe to Cadoxton</b>	Afan	53154-ABC-RZ006-DFL.Dunraven Street_3a-2025-2030-M
<b>Ynys Mon</b>	Amlwch WwTW	72152-A-RZ01-DFL.004110-2025-2030-M1 72152-A-RZ01-DFL.004110-2025-2030-T1

## Preparation of the Drainage and Wastewater Management Plan

- 1.1.16 Water and sewerage companies (WaSCs) have been asked to produce DWMPs for the first time, following the guidance of the Water UK DWMP Framework (the Framework)<sup>4</sup>. This Framework has been developed in collaboration with other regulating bodies that serve to protect communities and the environment. Consistent with the Framework, Welsh Water has completed the following stages during the development of the DWMP:
- Demand forecasting / Strategic Context;
  - Risk Based Catchment Screening;
  - Baseline Risk and Vulnerability Assessment;
  - Final Problem Characterisation
  - Options identification, appraisal and selection; and
  - Consultation and engagement.
- 1.1.17 This work has led to the following:
- The publication of a Draft DWMP for public consultation;
  - The publication of a Statement of Response describing the consultation on the Draft DWMP and how the company took into account the comments received in the preparation of the Final DWMP; and
  - The publication of a Final DWMP.
- 1.1.18 The Draft DWMP was published for public consultation for 10 weeks from the 27<sup>th</sup> July 2022 to the 7<sup>th</sup> October 2022. Welsh Water received 15 responses from regulators, stakeholders, and customers.
- 1.1.19 The DWMP produced is the first Cycle (Cycle 1) of the DWMP, with activity starting on the updating/production of a new DWMP starting in Cycle 2 in 2028. In addition to this, annual reviews of the performance of the DWMP will be carried out to ensure the published DWMP is making progress against its objectives.

## Strategic Environmental Assessment and the Drainage and Wastewater Management Plan

- 1.1.20 DWMPs are not currently a statutory requirement, and as such, they do not fall within the scope of Strategic Environmental Assessment (SEA) regulations.<sup>5</sup> However, completing such assessment is best practice, informs option assessments and is recommended in the Framework. The SEA process identifies, describes and evaluates potential effects; proposing where appropriate, mitigation and/or enhancement measures.
- 1.1.21 Consultation on the scope of the SEA was undertaken by Welsh Water when the Scoping Report for the SEA of the Draft DWMP was issued to the SEA consultation bodies on the 22<sup>nd</sup> October 2021 for a consultation period of five weeks (22<sup>nd</sup> October to 26<sup>th</sup> November

<sup>4</sup> Water UK in collaboration with Defra, Welsh Government, Ofwat, Environment Agency, Natural Resources Wales, Consumer Council for Water, ADEPT and Blueprint for Water (2019) *A framework for the production of Drainage and Wastewater Management Plans*

<sup>5</sup> *Statutory Instrument 2004 No. 1633 – The Environmental Assessment of Plans and Programmes Regulations 2004*. In Wales, this was transposed into legislation on 12<sup>th</sup> July 2004 as Statutory Instrument 2004 No.1656 - *The Environmental Assessment of Plans and Programmes (Wales) Regulations 2004*. The regulations translated EU law into UK regulations. EU law has ceased to apply in the UK under the terms of the Withdrawal Agreement and EU Treaties. The European Union (Withdrawal) Act 2018 (EUWA) has established a new body of domestic law known as retained EU law.

2021). Consultation responses were used to refine the proposed scope and approach to the SEA.

- 1.1.22 The Draft DWMP was then subject to SEA. This assessed the likely significant effects on the environment of the Draft DWMP including an assessment of all high-level interventions, the preferred programme of interventions and alternatives. The findings of the assessments were presented in the Environmental Report that was published for consultation alongside the Draft DWMP in July 2022.

## 1.2 Purpose of the Post Adoption Statement

- 1.2.1 Regulation 16 (4) of the SEA Regulations require that when a plan or programme is adopted (in this case, the DWMP), the consultation bodies and the public consulted on the Environmental Report are informed and the following specific information is made available:

- the plan as adopted;
- a statement summarising:
  - ▶ how environmental considerations have been integrated into the DWMP;
  - ▶ how the Environmental Report has been taken into account;
  - ▶ how opinions expressed in response to the consultation on the Draft DWMP and the Environmental Report have been taken into account;
  - ▶ the reasons for choosing the DWMP, as adopted, in the light of the other reasonable alternatives dealt with; and
  - ▶ the measures that are to be taken to monitor the significant environmental effects of the implementation of the DWMP.

- 1.2.2 The purpose of this Post Adoption Statement is to provide the specific information outlined under each of the points listed above and which is presented in the following sections of this statement.

## 2. How environmental considerations have been integrated into the DWMP

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### 2.1 Environmental considerations in the DWMP

2.1.1 The subsections that follow set out how environmental considerations have been taken into account by Welsh Water during the following key stages of the development of the DWMP:

- Demand forecasting / Strategic Context;
- Risk Based Catchment Screening;
- Baseline Risk and Vulnerability Assessment;
- Final Problem Characterisation;
- Options identification, appraisal and selection; and
- Consultation and engagement.

#### Demand forecasting / Strategic context

2.1.2 Welsh Water carried out an assessment to identify emerging trends and challenges the DWMP would have to aid in addressing and mitigating. These trends and challenges are identified below<sup>6</sup>:

- **Changing climate patterns:** Increasing frequency and severity of weather events such as droughts and flooding.
- **Emerging and persistent contaminants:** Continuing to find solutions to legacy contaminants such as microplastics and pharmaceutical compounds. This includes issues with recycling of biosolids/sludge recycling, micropollutants, nitrate vulnerable zone designations and potential associated changes in regulations.
- **Decarbonisation and sustainable business practices:** 'The resource cost and trade-offs linked to implementing the necessary move towards net zero carbon to achieve 2050 target, as well as the need for energy efficiency in operations, circular economy practices, and sustainable supply chains.
- **Increasing customer and stakeholder expectations:** Keeping up with accelerating customer expectations around service levels and technology, while ensuring we retain customer and stakeholder trust against a background of increasing environmental concerns such as carbon net zero, water quality impacted by phosphate levels and CSO discharges, recycling of bioresources, and the other concerns of stakeholders and pressure groups.
- **Price caps, affordability and potential trade-offs:** The constraints of balancing affordability concerns for customers, price caps imposed by regulators limiting

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<sup>6</sup> Dŵr Cymru Welsh Water (2022) Draft Drainage and Wastewater Management Plan 2024 – Technical Summary. Available at: [Drainage and Wastewater Management Plan | Dŵr Cymru Welsh Water \(dwrcymru.com\)](#). [Accessed 05/05/2023]. Page 10-11.

necessary investment, and the need to invest in initiatives such as improving infrastructure and environmental protection.

- **Legacy Infrastructure:** Considering the set of risks posed by physical, biological and chemical degradation of infrastructure and/or lack of capacity in design of legacy infrastructure. Also considering the risks posed by ageing digital infrastructure.
- **Regulatory changes:** The UK Environment Act (2021), and several other regulatory changes which will become law in a post-Brexit Wales by 2025, are likely to bring tighter environmental standards, driving significantly increased monitoring and investment costs.
- **Environmental responsibility:** Managing the impact of our activities on freshwater biodiversity and the important ecosystem services biodiversity brings. Considering the overall environmental responsibility of Welsh Water in their operations.
- **Drainage and combined sewer overflows (CSOs):** Managing issues of river water quality and pollution, linked to lack of treatment capacity or functionality in drainage systems, exasperated by climate change, whilst facing increasing public pressure and expectations to resolve such issues.
- **Demographic and behaviour changes:** The growth of homeworking and its implications and preparing for a growing and ageing population.

2.1.3 From an analysis of these trends and challenges, Welsh Water identified three key themes for investment planning:

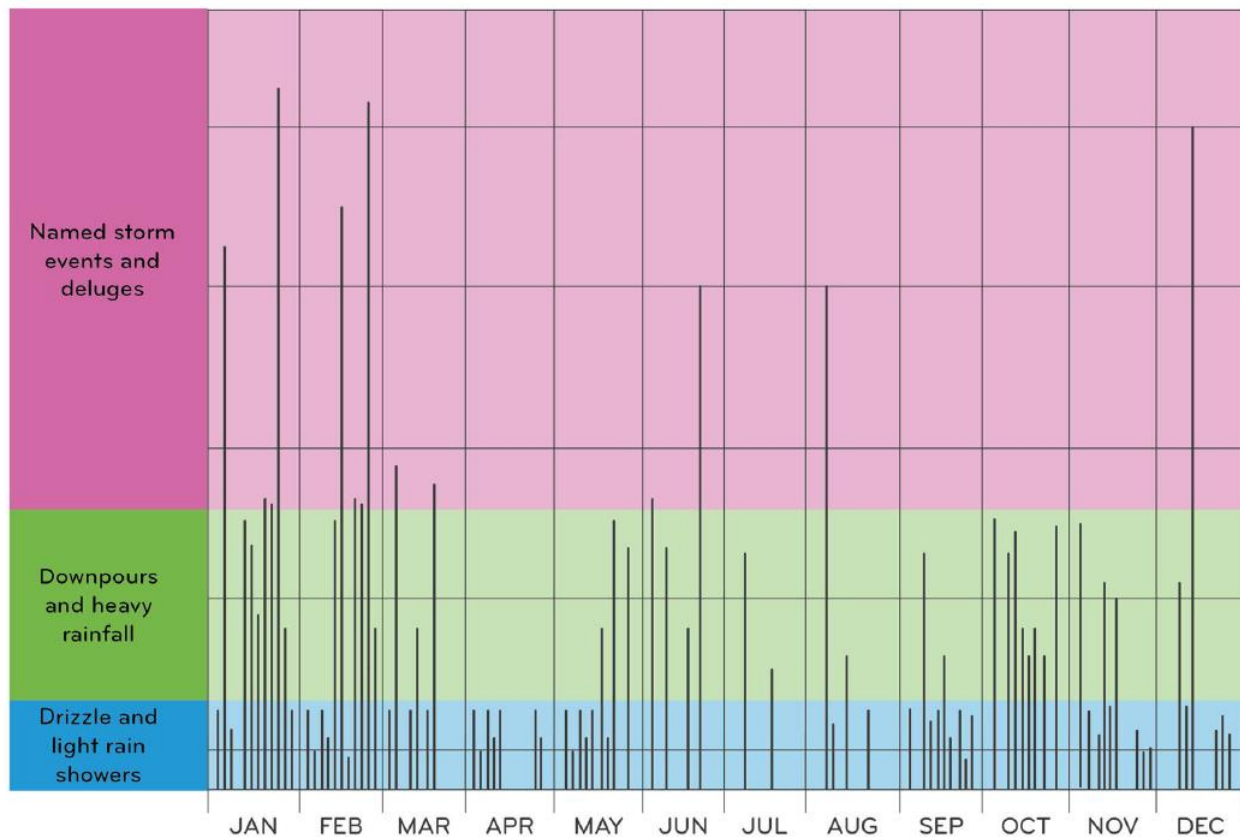
- That the customer perception of risk has increased, following the recent pandemic, with greater expectation for authorities to do more to prepare for these risks.
- That protecting our service from climate change is a key priority.
- That we need to work collaboratively to ensure we make the best choices for the future of the services we deliver.

2.1.4 Welsh Water stresses that the risk of flooding within its catchment is going to increase due to the combined effects of climate change, a changing population, increased demand for clean water and the nature of the built environment (larger/expanding urban areas with less green space, leading to an increase in impermeable spaces)<sup>7</sup>. Welsh Water adapted the Water Resource Management Plan (WRMP) supply and demand concept to better understand capacity risk.

2.1.5 Wales is one of the wettest areas of the UK. Welsh Water considered the differing intensities of rainfall and their impact on the sewerage system and combined three plans into one covering sewage, drainage, and flooding. **Figure 2.1** below identifies predicted risk of storms over a year through identifying predicted rainfall. The blue area (sewage plan) is experienced most often (Drizzle and light showers) at about 240 days in an average year, the green area (drainage plan) (Downpours and heavy rainfall) is experienced less often but still for over 115 days in an average year and the 3<sup>rd</sup>, pink area (Named storm events and deluges) (flood plan) is experienced the least at about 7-10 days in an average year.

<sup>7</sup> Dŵr Cymru Welsh Water (2023) *Final Drainage and Wastewater Management Plan 2024 – Non-Technical Summary*. Page 12, '2.3 Why is the plan important?'

**Figure 2.1 Idealised graph of rainfall intensity and milestone zones of planning<sup>8</sup>**



2.1.6 Demand forecasting fed into the Risk Based Catchment Screening (RBCS) and Baseline Risk and Vulnerability Assessment (BRAVA).

## Risk Based Catchment Screening

2.1.7 Welsh Water utilised Risk Based Catchment Screening (RBCS) to understand risk across the region and its catchments. It is a high-level assessment that helps to identify initial problems an area faces and helps to form the basis for detailed assessments in following stages. 18 performance indicators were identified, encompassing environmental elements such as internal sewage flooding, external sewage flooding, storm overflows and other known drainage issues as outlined below<sup>9</sup>:

1. Catchment Characterisation (Tier 2).
2. Intermittent discharges impact on bathing or shellfish waters.
3. Continuous or intermittent discharges impact upon other discharge to sensitive waters (Part A).
4. Continuous or intermittent discharges impact upon other discharge to sensitive receiving waters (Part B) (Tier 2).
5. Storm Overflow Assessment Framework (SOAF).
6. Capacity Assessment Framework (CAF).

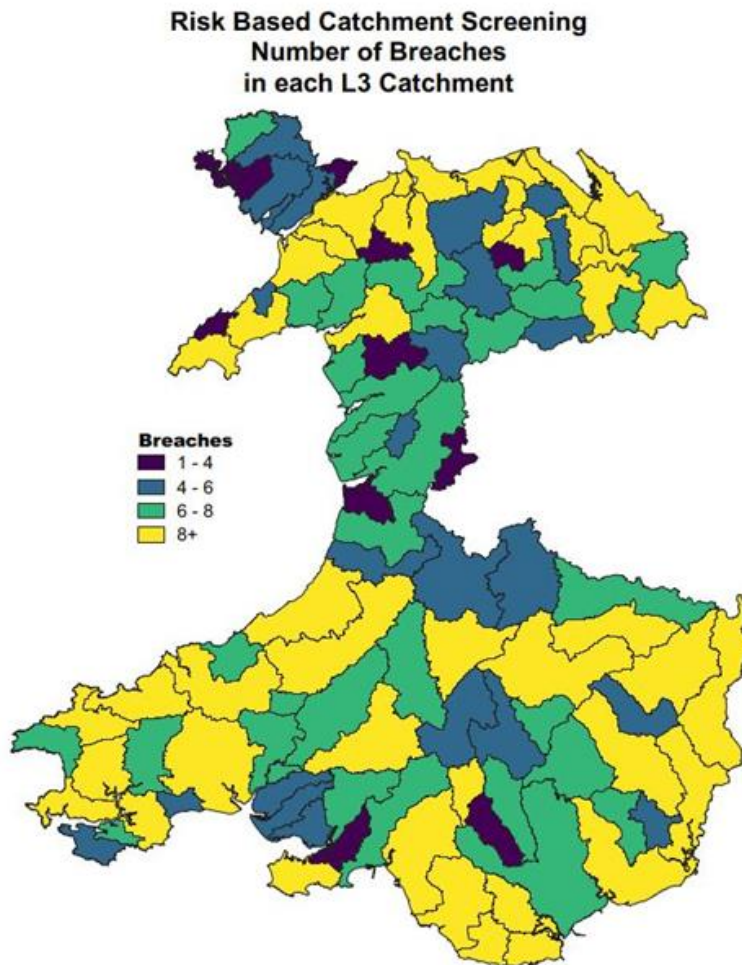
<sup>8</sup> Dŵr Cymru Welsh Water (2023) *Final Drainage and Wastewater Management Plan 2024*. Page 27.

<sup>9</sup> Dŵr Cymru Welsh Water (2023) *Final Drainage and Wastewater Management Plan 2024*. Page 129.

7. Internal Sewer Flooding.
  8. External Sewer Flooding.
  9. Pollution Incidents (categories 1, 2 and 3).
  10. WwTW Quality compliance.
  11. WwTW Dry Weather Flow compliance.
  12. Storm overflows.
  13. Risks from interdependencies between RMA drainage systems.
  14. Planned residential new development.
  15. The Water Industry National Environment Programme (WINEP / NEP).
  16. Sewer Collapses.
  17. Sewer Blockages.
  18. Bespoke Indicators (Tier 2).
- 2.1.8 Welsh Water classified the indicators into two tiers (as shown above) to provide a mechanism to differentiate between the priority of each indicator tier when considering whether further assessment is justified (all other indicators being 'first tier').
- 2.1.9 Welsh Water applied the RBCS process over three iterations, with all 106 of its L3 TPUs progressing through to the Baseline Risk and Vulnerability Assessment (BRAVA), which is the next stage of the assessment. It is important to note that the breaching of just one indicator is sufficient for further assessment through the BRAVA process.
- 2.1.10 **Figure 2.2** shows the number of RBCS breaches in the L3 catchments.



Figure 2.2 RBCS L3 catchment breaches<sup>10</sup>



2.1.11 Welsh Water identified that improvements should be carried to be RBCS process in the next cycle (Cycle 2) and future cycles of the DWMP process to better understand performance and enhance prioritisation<sup>11</sup>.

## Baseline Risk and Vulnerability Assessment

2.1.12 The BRAVA process follows the RBCS process and included further investigation of the catchments identified through the RBCS. The aim of the BRAVA was to:

- Review the performance of the current wastewater and drainage system.
- Investigate the broader resilience concerns in the highlighted catchments<sup>12</sup>.

2.1.13 The full range of factors considered in the BRAVA assessments were:

- **Population Growth and Development** – Growth forecast and specific development sites from local plans are included within the various time horizon scenarios. This ensures the impact of future growth is included within assessment.

<sup>10</sup> Dŵr Cymru Welsh Water (2023) *Final Drainage and Wastewater Management Plan*. Page 141.

<sup>11</sup> Ibid, page 141.

<sup>12</sup> Ibid, page 143.

- **Climate Change** – The principal impact of changing rainfall patterns is considered within BRAVA assessments, with additional consideration when required for additional factors. These factors include sea level and tidal range.
- **Urban Creep** – Increased im-permeability, caused by a change in land allocation at property level (e.g., paving over a front garden or a property extension) is included based on industry standard methodologies<sup>13</sup>.

2.1.14 The BRAVA comprised several phases. The first phase comprised identifying the Preliminary Strategic Needs Score, which is used to understand the level of demand within the catchment, by combining growth with the performance challenges faced within the catchment and equating it to a level of BRAVA complexity (Standard, Extended, complex).

## Final Problem Characterisation

2.1.15 Final Problem Characterisation (FPC) seeks to ensure that the approach to options development and appraisal processes are appropriate and proportionate. Welsh Water used the FPC approach to identify a *Final Strategic Needs Score (FSNS) and a Complexity Factor Score (CFS) which are combined via a decision matrix to determine the Final Problem Characterisation Score (FPCS)*<sup>14</sup>. The FPCS was used to help inform the optioneering approach within the Options and Appraisal stage by characterising problems by how complex they are.

2.1.16 Welsh Water used the allocated FPCS for a catchment to generate options development approaches that are of a suitable scale in order to address the challenges facing a catchment. The process involved categorising each area as standard, extended or complex as shown below:

- **“Low / Standard (green)** – process defaults to companies existing investment planning practices to maintain existing levels of service.
- **Medium / Extended (amber)** – the options development and appraisals process will build upon the standard processes to provide extended analytic approaches in supporting investment planning practices.
- **High / Complex (red)** – the options development and appraisal process are undertaken considering a wide range of tools and approaches to explore<sup>15</sup>.”

2.1.17 This categorisation showed where there are multiple risks in a geographical location and indicates if growth could be a big problem in the future. The results showed that the majority of areas would require a standard assessment. 24 level 3 areas were identified as needing to be investigated in greater detail.

## Options Development and Appraisal

2.1.18 Welsh Water used the Options Development and Appraisal (ODA) stage to assess the value of different options in terms of their ability to meet the challenges facing their catchments and also considered the wider benefits of the options (such as benefits to the environment and people). Welsh Water identified five option types:

<sup>13</sup> Dŵr Cymru Welsh Water (2023) *Final Drainage and Wastewater Management Plan 2024*. Page 154.

<sup>14</sup> Ibid, page 169.

<sup>15</sup> Ibid, page 172.

- **“Generic Options** – Developed within the DWMP framework and expanded to a list of 85 generic sub-options considering future stakeholder requests. Within DCWW this is referred to as the Options Long List.
- **Unconstrained Options** – This involved peer review of the Options Long List for political and customer/stakeholder acceptability, filtering out options that had one of these ‘red flag’ criteria. Remaining options were then scored against service measures based on their ability to solve the problem.
- **Constrained Options** – Challenging the unconstrained list to provide a catchment level toolkit that has options that: fix the problem, are applicable at WwTW level, suitable for catchment characteristics and does the right thing.
- **Feasible Options** – Additional criteria applied to the constrained list ensuring acceptability for the specific catchment in terms of feasibility and risk and wider operational impact. The costs and Benefits are calculated for all options. Within DCWW this is referred to as the Options Short List.
- **Preferred Options** – At localised risk areas these are the options developed for each risk cluster and TOTEX calculated, with additional wider benefits assessment through B£ST<sup>16</sup>. Selected options are based on Average Incremental Cost (AIC) or Average Increment and Social cost (AISC), with additional HRA and SEA review<sup>17</sup>.”

- 2.1.19 Options had their benefits considered to ensure that they would, in reality, provide a range of benefits upon their implementation and provide the benefits that an area needs. The WRMP Best Value Framework helped to establish what benefits should be provided and the B£ST Coarse Assessment helped to identify wider benefits that an option would bring alongside providing consistency in the assessment process<sup>18</sup>. Benefit options included the consideration of factors such as volumetric benefits, the carbon costs of the options, construction costs and impacts from construction.
- 2.1.20 Environmental assessments, including a SEA and Habitats Regulations Assessment (HRA) were carried out on the preferred programme of interventions, to ensure environmental considerations were considered and measures identified to minimise or mitigate environmental harm.
- 2.1.21 The preferred programme of interventions was therefore selected following a rigorous process of options identification and appraisal (as identified by the various assessments carried out), environmental assessment, and stakeholder engagement, including consultation on the Draft DWMP.

## Consultation and engagement

- 2.1.22 Welsh Water has undertaken extensive stakeholder and customer engagement during the preparation of the DWMP. This has included ongoing engagement with the statutory SEA consultation bodies, consultation with its various Customer Challenge Groups and DWMP consultation workshops.

<sup>16</sup> A tool used to calculate environmental and social benefits and costs consistent with guidance to use a Natural Capital Approach (NCA) approach.

<sup>17</sup> Dŵr Cymru Welsh Water (2022) *Draft Drainage and Wastewater Management Plan 2024 – Technical Summary*. Available at: [Drainage and Wastewater Management Plan | Dŵr Cymru Welsh Water \(dwrcymru.com\)](https://www.dwrcymru.com) [Accessed 05/05/2023]. Page 38.

<sup>18</sup> Dŵr Cymru Welsh Water (2023) *Final Drainage and Wastewater Management Plan 2024*. Page 260.

## 2.2 Environmental considerations in the Strategic Environmental Assessment

- 2.2.1 To provide the context for the SEA, and in compliance with the SEA Regulations, the relevant aspects of the current state of the environment and its evolution without the DWMP were considered at the outset of the SEA process, along with the environmental characteristics likely to be significantly affected by the plan. This information was contained in the SEA Scoping Report and subsequently updated as part of the Environmental Report.
- 2.2.2 The key environmental, social and economic issues identified in Welsh Water operational area and subsequently reflected in the assessment of DWMP options are summarised in **Table 2.5**.

**Table 2.1 Key environmental, social, and economic issues relevant to the draft DWMP**

Topic Area	Key Environmental, Social and Economic Issues Relevant to the DWMP
<b>Biodiversity, Flora and Fauna</b>	<p>The need to maintain and enhance biodiversity and the resilience of ecosystems, including sites designated for their nature conservation value.</p> <p>The need to address the climate emergency and nature emergencies together.</p> <p>The need to continue to increase and improve the condition of priority habitats and habitats of priority species, and restore populations of these species and other protected species.</p> <p>The need to prevent pollution of freshwater habitats, from sources such as (inter alia) slurry, sewage and soil erosion</p> <p>The need to prevent the spread/introduction of invasive non-native species.</p> <p>The need to maintain/enhance ecological connectivity.</p> <p>The need to maintain/enhance connectivity between rivers and their floodplains.</p> <p>The need to sustainably manage biodiversity assets, taking into account the effects of climate change.</p> <p>The need to recognise the key role that green infrastructure plays in supporting (inter alia) biodiversity, landscape, wellbeing and climate change resilience.</p> <p>The need to protect and enhance the green infrastructure network.</p> <p>The need to prevent/enhance physical modifications to freshwater ecosystems.</p> <p>The need to continue monitoring biodiversity and ecological indicators.</p> <p>The need to work within environmental limits and capacities.</p>
<b>Geology Land Use and Soils</b>	<p>The need to protect, maintain and enhance geomorphological functions and services.</p> <p>The need to influence how land is managed, promoting sustainable patterns of land use.</p> <p>The need to conserve and enhance soil quality and function (including carbon sequestration).</p> <p>The need to protect and avoid damage to Wales' geodiversity and conserve and enhance sites designated for geological interest.</p> <p>The need to manage impacts on soil resources, including control of pollution and remediation of contaminated land.</p>
<b>Water</b>	<p>The need to maintain and improve water quality.</p> <p>The need to maintain seasonal flows in groundwater and surface water.</p> <p>The need to ensure that the continued risk of flooding is reduced or where this is not possible, mitigated effectively.</p> <p>The potential effects of climate change and the need to build climate change resilience into the water environment and water management.</p>

Topic Area	Key Environmental, Social and Economic Issues Relevant to the DWMP
	The need to prevent the deterioration of Water Framework Directive waterbodies, achieve protected area objectives and achieve water body status objectives.
<b>Air Quality</b>	The need to minimise emissions of pollutant gases and particulates and enhance air quality
<b>Climatic Factors</b>	The need to reduce travel and promote sustainable modes of transport. The need to reduce GHG emissions arising from implementation of the DWMP. The need to take into account, and where possible adapt to, the potential effects of climate change. The need to increase environmental resilience to the effects of climate change.
<b>Population and Human Health</b>	The need to ensure that water services requirements of people and visitors can be met at all times, in a sustainable way; The need to ensure that water services remain affordable; The need to ensure that measures to manage drainage and wastewater do not adversely affect the health and well-being of any member of the community; The need to ensure that vulnerable people are not affected by implementation of measures to manage drainage and wastewater; The need to ensure that measures undertaken to manage drainage and wastewater do not have an adverse economic impact; The need to avoid disruption through effects on the transport network; and The need to ensure resilience of wastewater treatment and drainage infrastructure against climate change effects.
<b>Material Assets and Resource Use</b>	The need to promote water efficiency measures. The need to ensure that infiltration is managed. The need to maintain the balance between wastewater capacity, use and constraints. The need to reduce energy consumption and support low carbon and renewable energy production. The need to ensure the sustainable and efficient use of resources such as construction materials. The need to minimise waste arisings, promote reuse, recovery and recycling and minimise the impact of wastes on the environment and communities.
<b>Cultural Heritage</b>	The need to conserve and enhance the historic significance of buildings, monuments, features, sites, places, areas and landscapes of archaeological and cultural heritage interest, and their settings. The need to promote access to Wales' cultural heritage sites within Welsh Water's ownership where possible and safe to do so. The need to avoid damage to important wetland areas with potential for paleoenvironmental deposits.
<b>Landscape</b>	The need to protect, conserve and enhance landscape character, taking into account the effects of climate change; The need to ensure the special qualities of designated landscapes are protected; and The need to minimise any adverse impacts upon landscape that may result from measures in the DWMP.

2.2.3 The issues listed above were reflected in the objectives and guide questions that collectively comprised the framework used to assess the DWMP (see **Table 2.6**). The final column maps the SEA assessment objectives onto the Well-being Goals (from S4 of the Well-being and Future Generation Act 2015).

**Table 2.2 SEA Assessment Framework**

Topic	Objective	Guide Questions	Welsh Government Well-being Goal(s)
<b>Biodiversity, Flora and Fauna</b>	1. To protect, restore and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species, enhanced ecosystem resilience, habitat connectivity and creation and contribute to the sustainable management of natural habitats and ecosystems.	<ul style="list-style-type: none"> <li>• Will it protect, restore and enhance where possible, the most important sites for nature conservation (e.g., internationally or nationally designated conservation sites such as SACs, SPAs, Ramsar and SSSIs)?</li> <li>• Will it protect, restore and enhance non-designated sites and local biodiversity?</li> <li>• Will it alter geomorphological forms and processes which underpin physical habitat for aquatic ecosystems?</li> <li>• Will it provide opportunities for new terrestrial and aquatic habitat creation or restoration and/or link existing habitats as part of the development process?</li> <li>• Will it protect, and enhance where appropriate, coastal and marine habitats and species?</li> <li>• Will it maintain and enhance the green infrastructure network and the biodiversity it supports?</li> <li>• Will it maintain and enhance ecosystem resilience?</li> <li>• Will it promote climate change resilience of both designated and non-designated sites?</li> <li>• Will it contribute to the sustainable management of natural habitats and ecosystems, i.e., within their limits and capacities taking into account climate change adaptability</li> <li>• Will it prevent the spread/introduction of invasive non-native species?</li> </ul>	<p><i>A prosperous Wales</i>  <i>A resilient Wales</i>  <i>A healthier Wales</i>  <i>A globally responsible Wales</i></p>
<b>Soils, Land Use and Geology</b>	2. To protect and enhance soil quantity, quality and functionality and geodiversity and ensure the appropriate and efficient use of land.	<ul style="list-style-type: none"> <li>• Will additional land be required for the development or implementation of the option or will the option require below ground works leading to land sterilisation?</li> <li>• Will it avoid damage to, protect and enhance where possible protected sites designated for their geological interest (GCR sites, SSSI and RIGS) and features of wider geodiversity interest?</li> <li>• Will it minimise the loss of best and most versatile agricultural land?</li> <li>• Will it avoid adverse effects on other land uses?</li> <li>• Will it minimise land contamination?</li> </ul>	<p><i>A prosperous Wales</i>  <i>A resilient Wales</i>  <i>A globally responsible Wales</i></p>

Topic	Objective	Guide Questions	Welsh Government Well-being Goal(s)
		<ul style="list-style-type: none"> <li>Will it ensure efficient use of land (e.g., make use of previously developed land)?</li> <li>Will it contribute towards a catchment-wide approach to land management?</li> </ul>	
<b>Water – Quantity and Quality</b>	3. To protect and enhance the quality and quantity of surface and groundwater resources.	<p><u>Quantity</u></p> <ul style="list-style-type: none"> <li>Will it minimise the demand for water resources?</li> <li>Will it result in changes to river flows, channel morphologies, wetted width or river levels?</li> <li>Will it support the achievement of relevant environmental objectives set out in River Basin Management Plans?</li> <li>Will it alter the sediment transport regime of the surface waters?</li> </ul> <p><u>Quality</u></p> <ul style="list-style-type: none"> <li>Will it prevent pollution and protect and improve surface, groundwater, estuarine and coastal water quality?</li> <li>Will it prevent the deterioration of Water Framework Directive (WFD) waterbody status (or potential)?</li> <li>Will it support the achievement of WFD protected area objectives?</li> <li>Will it ensure a new activity or new physical modification does not prevent the future achievement of good status for a water body?</li> <li>Will it support the achievement of relevant environmental objectives set out in River Basin Management Plans?</li> <li>Will the option prevent nutrient loading in water bodies?</li> </ul>	A prosperous Wales A resilient Wales A healthier Wales
<b>Water – Flood Risk</b>	4. To reduce or manage flood risk.	<ul style="list-style-type: none"> <li>Will it be at risk of flooding now or in the future?</li> <li>Will it have the potential to help alleviate or mitigate flooding in the catchment area including to people and property now or in the future? E.g., will it avoid reducing flood plain storage, or provide opportunities to improve flood risk management?</li> <li>Will it promote the use of sustainable drainage systems?</li> <li>Will it promote opportunities for collaborative working with other risk management authorities?</li> </ul>	A resilient Wales A healthier Wales
<b>Air</b>	5. To minimise emissions of pollutant gases and	<ul style="list-style-type: none"> <li>Will it reduce or minimise pollutant emissions to air?</li> </ul>	A resilient Wales A healthier Wales

Topic	Objective	Guide Questions	Welsh Government Well-being Goal(s)
	particulates and enhance air quality.	<ul style="list-style-type: none"> <li>Will it maintain or enhance ambient air quality, keeping pollution below Local Air Quality Management thresholds (e.g., in Air Quality Management Areas or sensitive habitats)?</li> </ul>	
<b>Climatic Factors</b>	6. To reduce greenhouse gas emissions.	<ul style="list-style-type: none"> <li>Will it reduce or minimise greenhouse gas emissions?</li> <li>Will it have a low level of embodied carbon?</li> <li>Will it provide new infrastructure that is energy efficient and/or minimises the use of energy?</li> <li>Will it provide new infrastructure that could contribute or make use of renewable energy sources?</li> <li>Will the option affect carbon sequestration?</li> </ul>	<i>A resilient Wales</i> <i>A globally responsible Wales</i>
	7. To adapt and improve resilience to the threats of climate change.	<ul style="list-style-type: none"> <li>Will it improve resilience and/or adaptability to the likely effects of climate change, e.g., by increasing resilience of water supplies or catchments?</li> <li>Will it increase environmental resilience to the effects of climate change including to impacts on flood risk and water quality?</li> </ul>	<i>A prosperous Wales</i> <i>A resilient Wales</i> <i>A globally responsible Wales</i>
<b>Population</b>	8. To promote a sustainable economy and maintain and enhance the economic and social well-being of local communities.	<ul style="list-style-type: none"> <li>Will it ensure that sufficient wastewater treatment capacity is in place to support predicted increases in population (including any seasonal changes)?</li> <li>Will it help to meet the employment needs of local people?</li> <li>Will it contribute to sustaining and growing the local and regional economy?</li> <li>Will it avoid disruption through effects on the transport network?</li> <li>Will it avoid negative effects on built assets/ existing infrastructure including transport?</li> </ul>	<i>A prosperous Wales</i> <i>A resilient Wales</i> <i>A more equal Wales</i> <i>A globally responsible Wales</i> <i>A Wales of cohesive communities</i>
<b>Human Health</b>	9. To protect and enhance human health and well-being.	<ul style="list-style-type: none"> <li>Will it maintain surface water and bathing water quality within statutory standards?</li> <li>Will it help to promote healthy communities and avoid risks to health and wellbeing (for example, due to noise resulting from construction traffic or disruption to safe and reliable water/sewerage services)?</li> </ul>	<i>A prosperous Wales</i> <i>A globally responsible Wales</i> <i>A resilient Wales</i> <i>A healthier Wales</i> <i>A more equal Wales</i> <i>A Wales of cohesive communities</i>



Topic	Objective	Guide Questions	Welsh Government Well-being Goal(s)
		<ul style="list-style-type: none"> <li>Will it improve opportunities for social interaction and community cohesion?</li> <li>Will it protect and enhance public access to, and enjoyment of, green and blue infrastructure, open space/recreational facilities and the natural and historic environment, and in doing so help promote healthy lifestyles including mental well-being?</li> </ul>	
<b>Material Assets - Water Resources</b>	10. To promote and enhance the sustainable and efficient use of resilient water resources.	<ul style="list-style-type: none"> <li>Will it improve efficiency in water consumption?</li> <li>Will it increase the resilience of water resources, now and into the future?</li> <li>Will it contribute towards improving the awareness of water sustainability?</li> </ul>	<i>A prosperous Wales</i> <i>A resilient Wales</i> <i>A globally responsible Wales</i>
<b>Material Assets – Waste and Resource Use</b>	11. To minimise waste, promote resource efficiency and move towards a circular economy.	<ul style="list-style-type: none"> <li>Will it make use of existing infrastructure?</li> <li>Will it promote the re-use and recycling of waste materials and reduce the proportion of waste sent to landfill?</li> <li>Will it help to encourage sustainable design or use of sustainable materials (e.g., supplied from local resources)?</li> </ul>	<i>A prosperous Wales</i> <i>A resilient Wales</i> <i>A globally responsible Wales</i>
<b>Cultural Heritage</b>	12. To conserve and enhance the historic environment including the significance of heritage assets and their settings and archaeological important sites.	<ul style="list-style-type: none"> <li>Will it avoid damage to, conserve or enhance the historic environment, including heritage assets and their settings such as historic buildings, conservation areas, features, places and spaces, that enhance local distinctiveness?</li> <li>Will it avoid or minimise damage to archaeologically important sites?</li> <li>Will the hydrological setting of water-dependent assets be altered, such as important wetland areas with potential for paleo-environmental deposits?</li> <li>Will it avoid damage to important wetland areas with potential for paleoenvironmental deposits?</li> <li>Will it improve access, value, understanding or enjoyment of heritage assets and culturally/historically important assets in the region?</li> <li>Will it protect or enhance (where relevant) Welsh language and culture?</li> </ul>	<i>A Wales of vibrant culture and thriving Welsh language</i> <i>A globally responsible Wales</i>
<b>Landscape</b>	13. To conserve, protect and enhance landscape and townscape character and visual amenity.	<ul style="list-style-type: none"> <li>Will it avoid adverse effects to, and enhance where possible, protected/designated landscapes and the settings of designated landscapes</li> </ul>	<i>A Wales of vibrant culture and thriving Welsh language</i>

Topic	Objective	Guide Questions	Welsh Government Well-being Goal(s)
		(including woodlands) such as National Parks or AONBs? <ul style="list-style-type: none"> <li>• Will it help to protect and improve non-designated areas of natural beauty and distinctiveness (e.g., woodlands) and avoid the loss of landscape features and local distinctiveness?</li> <li>• Will it protect and enhance landscape character, townscape, seascape and green infrastructure?</li> <li>• Will it minimise adverse visual impacts?</li> </ul>	<i>A globally responsible Wales</i>

2.2.4 The effects of the DWMP were assessed in a staged process as set out below:

- **Assessment of generic interventions** to provide an indication of the effects arising from the broad option types proposed.
- **Screening of options** to identify where there is the potential for the option to have a significant effect based on sensitivity of the location.
- **Prioritised catchment option assessment** to identify, describe and evaluate the effects of the selected and screened-in preferred options for each prioritised catchment, identified following consideration of the key risks and operational requirements.
- **Preferred programme assessment** to identify, describe and evaluate the cumulative effects assessment of the preferred programme of options for the prioritised catchments, to ensure that the effects of the draft DWMP have been identified, described and evaluated.
- **Alternative Plan assessments** an important part of the SEA process is the assessment of reasonable alternatives. The assessment of all reasonable alternative generic option types ensured that consideration was given to all potential interventions.

2.2.5 **Section 5** of the Environmental Report contains the detailed assessment of the options, split over the stages identified above.

## Assessment of generic interventions

1.1.1 The options proposed in the draft DWMP options fall into two broad option types (in addition to a third 'mixed' type, combining elements of the two):

- **Sustainable options**, which seek to redirect flows of water from the wastewater/sewer network by mimicking more natural drainage regimes. These options effectively 'remove' impermeable surfaces in urban areas (such as roads, roofs etc.) through the use of Sustainable Drainage Systems (SuDS). These systems involve either physically replacing impermeable surfaces with permeable surfaces (for example permeable/gravel paving and green roofs) or redirecting water to areas where it can infiltrate into the ground (for example swales, rain gardens, tree pits, soakaways, filter drains) or be stored (for example water butts, ponds, wetlands). These methods thereby remove or attenuate surface water runoff from entering the sewer network by increasing infiltration and residence time in the catchment, thereby reducing the frequency and severity of flooding.

- **Traditional options**, which involve increasing the capacity of the drainage and wastewater network, through methods such as the installation of underground storage tanks, the upgrading/upsizing of drainage and wastewater infrastructure, such as pipelines and sewers, the installation of additional pipelines to temporarily divert water and new or enhanced pumping facilities to move water. This increased capacity allows the drainage and wastewater network to respond to high rainfall or storm events more effectively, thereby reducing the frequency and severity of flooding.

2.2.6 The assessment identified the neutral, minor, moderate and significant positive and negative effects for construction and operation of each generic option against the 13 SEA assessment objectives.

## Screening of options

2.2.7 Welsh Water identified 160 separate projects for assessment as part of the evolving DWMP development, prior to SEA assessment. These options were screened in a two-stage process to identify where there is the potential for the option to have a significant effect based on sensitivity of the location. The process considered the international and national designated features and assets where an effect could be significant if development occurred within/adjacent (up to 1km) of the site, and which in consequence could affect the deliverability of the option. The features considered were as follows:

- Biodiversity: Ancient Woodland, NNRs, Ramsar sites, SACs, SPAs and SSSIs.
- Soils, Geology and Land Use: Geological SSSIs and Historic Landfills\*.
- Water: Source Protection Zones\*.
- Heritage: Listed Buildings\*, Scheduled Monuments and WHS.
- Landscape: AONB and National Parks.

(\* where option is directly located in/on the feature).

2.2.8 **Stage 1** of the screening identified those options that were at sufficient distance (>1km) from the identified sensitive receptors to conclude that there were no direct or indirect effects likely to arise, taking into account the nature of the schemes proposed. The conclusion was revised to take into account the findings of the HRA, which considered the potential for effects for European sites at distance from the options and their operation.

2.2.9 **Stage 2** provided further scrutiny of those options screened in, taking into account:

- the nature of the proposed works;
- the location of the proposed works and the extent to which construction activity would take place on/in existing developed areas and disturbed ground;
- the receptor potentially affected and the reasons for the designation;
- the presence of any pollutant pathways between the proposed activity and the receptor; and
- the extent to which there was other development already present, located between the proposed location of the option and the receptor that would effectively screen and mitigate any dust, air pollution and/or noise disturbance arising.

2.2.10 As a result of this screening:

- **Stage 1:** 33 options were screened out from further consideration as they were at sufficient distance (>1km) from the identified sensitive receptors to conclude that there

were no direct or indirect effects likely to arise, taking into account the nature of the schemes proposed.

- **Stage 2:** 57 options were screened out from further consideration taking into account the nature of the proposed option, the receptors affected, the location, and the presence of any pollutant pathways.

2.2.11 As a consequence, 70 options from 14 L4 areas were screened in for assessment.

## Prioritised catchment option assessment

2.2.12 At this stage, the potential significant environmental effects on the prioritised catchments and based on their options were assessed. The majority of the relevant L4 drainage areas had two options screened in for assessment. However, certain L4 drainage areas had considerably more options that required assessment and this reflected how the context of a drainage area and the challenges it faces could lead to a wide range of options being created in order to address them in different ways. This is demonstrated within **Table 2.7**, which identifies a total of 70 options were screened in for assessment.

**Table 2.3 Prioritised catchment option assessment – Options screened in for assessment**

L2 River basin catchment	L4 drainage area	Number of options screened in for assessment
Carmarthen Bay and the Gower	Gowerton	2
	Llanelli Coastal	1
Clwyd	Kinmel Bay	2
Conway	Ganol STW	6
Dee	Five Fords (Wrexham)	2
	Llanasa (Nr Prestatyn)	5
Llyn and Eryri	Bangor Treborth	9
	Porthmadog	4
Meirionydd	Tywyn	3
South East Valleys	Cardiff Bay	2
	Cilfynydd	1
	Newport Nash	29
Tawe to Cadoxton	Pen-Y-Bont (Merthyr Mawr)	2
	Swansea Bay	2
<b>Total</b>		<b>70</b>

2.2.13 The assessment of effects included consideration of the following:

- the nature of the potential effect (what is expected to happen);
- the timing and duration of the potential effect (e.g., short, medium or long term);
- the geographic scale of the potential effect (e.g., local, regional, national);
- the location of the potential effect (e.g., whether it affects rural or urban communities, or those in particular parts of a water company area);
- the potential effect on vulnerable communities or sensitive sites;
- any mitigation measures with the potential to avoid, minimise, reduce, mitigate or compensate for the identified effect(s) with evidence (where available).
- any assumptions used; and
- the reasons for any uncertainty, where this is identified.

2.2.14 Where relevant, other information and assessments including the HRA were referenced as appropriate. **Section 5.3** of the Environmental Report contains a summary assessment of the identified 70 options, with **Appendix E** of the Environmental Report containing the detailed assessment.

## Preferred programme assessment (cumulative effects)

2.2.15 As part of the SEA process, it is crucial for the cumulative impacts of a plan or programme are taken into account, in order to ensure all of a plan or programmes potential impacts are properly quantified, understood and assessed. This was carried out within **Section 5.5** of the Environmental Report. The Environmental Report also provided a high level review of the potential cumulative effects of the draft DWMP against current and emerging plans and programmes and cumulative adverse effects were not identified.

## Alternative plan assessments

2.2.16 An important part of the SEA process is the assessment of reasonable alternatives. The assessment of all reasonable alternative generic option types ensured that consideration was given to all potential interventions.

# 3. How the findings of the Environmental Report have been taken into account

## 3.1 Overview

3.1.1 The SEA Environmental Report and DWMP have been developed in tandem. **Table 3.1** details key stages of the SEA and its relationship with the development of the DWMP.

**Table 3.1 Key stages in the development of the Environmental Report and its relationship with the DWMP**

Strategic Environmental Assessment	DWMP	Relationship
<b>Scoping</b>		
<p><b>The scoping stage of the SEA identified other relevant plans, programmes and environmental protection objectives which could be affected by, or which could affect, the DWMP.</b></p> <p>The scoping stage also characterised the relevant aspects of the current state of the environment and its evolution without the DWMP.</p>	<p>The DWMP used the plans and programmes identified to ensure that it was fully in compliance with local, national and international policy and legislation.</p> <p>Baseline information supported early optioneering.</p>	<p>The links between the other relevant plans, programmes, policies and strategies that were applicable to the DWMP and its Environmental Report were outlined. These included plans and programmes at an international, European or national level covering a variety of topics.</p> <p>Information on environmental issues helped determine constraints on the suitability of certain options.</p> <p>The SEA objectives ensured that the full range of social, economic and environmental issues was considered in the DWMP’s development.</p>
<b>Assessment</b>		
<p><b>Testing the plan or programme objectives against the SEA objectives</b></p>	<p>The Environment Report and the DWMP were developed together.</p>	<p>The Environmental Report and option appraisals were jointly used to derive the DWMP.</p>
	<p>The DWMP considered generic options and high-level interventions.</p>	<p>Assessment of the high-level interventions helped to refine those taken forward in the DWMP.</p>
<p><b>The SEA assessed two generic option interventions (sustainable options and traditional options, with</b></p>	<p>The range of generic interventions were considered for implementation in the DWMP.</p> <p>The option development process</p>	<p>The generic options were subject to a range of assessments including SEA and an appraisal of costs and benefits. The</p>

Strategic Environmental Assessment	DWMP	Relationship
<p><b>potential for a ‘third’ option comprising a mix of the two options) including consideration of construction and operational effects</b></p>	<p>mirrors the WRMP process, with unconstrained, feasible and preferred options being developed and subject to appraisal.</p>	<p>findings of the SEA helped to identify the preferred programme of interventions.</p>
<p><b>The SEA screened in 70 options for assessment where there was the potential for the option to have a significant effect based on sensitivity of the location. These included a range of L2 areas (Clwyd, Conway, Dee etc) and their associated L4 drainage areas.</b></p>	<p>The preferred programme of interventions was identified to help address the identified risks (utilising the generic interventions previously assessed).</p>	<p>The preferred programme of feasible options for the L2 areas was subject to a range of assessments including SEA, HRA and an appraisal of costs and benefits.</p>
<p><b>The SEA included an assessment of plan alternatives comprised of any other programmes of intervention for each drainage area</b></p>	<p>Consultation was undertaken on the DWMP to incorporate the opinions of stakeholders and customers on economic, customer and financial aspects of the DWMP.</p>	<p>The consideration of plan alternatives within the SEA helped to identify the preferred programme of interventions in the DWMP.</p>
<p><b>Reporting</b></p>		
<p>The key findings of the Environmental Report are presented along with Welsh Water’s response in <b>Table 3.2</b> below. The extent to which the findings have informed the final DWMP is detailed in <b>Section 5</b> of this Post Adoption Statement.</p>		
<p><b>Consultation</b></p>		
<p>Responses to consultation on the Environmental Report are presented along with the Welsh Water’s responses in <b>Section 4</b> and <b>Appendix B</b>. The extent to which the consultation has informed the final DWMP is detailed in <b>Section 5</b> of this Post Adoption Statement.</p>		
<p><b>Monitoring</b></p>		
<p>Proposals for monitoring identified in <b>Section 6</b> of this Post Adoption Statement will be implemented by Welsh Water.</p>		

## 3.2 Key findings of the SEA

- 3.2.1 As demonstrated in **Table 3.1** above, the SEA process has played an important role in the development of the DWMP. The key findings of the Environmental Report are summarised in **Table 3.2** together with Welsh Water’s response.

**Table 3.2 Key findings of the Environmental Report**

SEA Objective	Key Environmental Report Findings	Response
<b>1. To protect, restore and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species, enhanced ecosystem resilience, habitat connectivity and creation and contribute to the sustainable management of natural habitats and ecosystems.</b>	<p>For three L4 areas (Five Fords, Llanasa and Newport Nash), proposed schemes (whether traditional or SUDs) potentially could, through direct construction effects on functional habitat and/or the creation of wetlands, have effects on the features recognised within designated sites (Johnstown Newt Sites SAC, the Dee Estuary Ramsar and SPA and the River Usk SAC). However, it is very likely that the effects could be avoided or mitigated using established measures although additional information may be required to determine the likely location of proposed infrastructure relative to the designated sites.</p> <p>Cumulative effects are most likely where options are located within same L4 drainage area of L2 catchment, with the more schemes that are implemented within an area, the greater the potential for disturbance of biodiversity. Even where located in separate catchments, there is the potential for cumulative effects on receptors such as coastal designated sites into which rivers from a number of catchments may flow (e.g. Severn and the Dee Estuaries, both designated as Ramsar, SAC and SPAs).</p> <p>Many of the schemes have been undertaken to reduce flooding (albeit focused on WSC) by introducing temporary storage and/or transfer of flows to WwTW. This will reduce peak volumes and flows, and the resultant mobilisation of pollutants and entrainment of debris with relatively beneficial effects on downstream water quality (and associated receptors). In addition, a number of options within this draft DWMP are being undertaken to specifically reduce CSO spills to SAC, with the objective of achieving zero spills by 2050. In consequence, the cumulative effects of operating the proposed schemes will be positive on the designated features (compared to not implementing the options), as flows that would otherwise spill are passed to the downstream WwTW for treatment in accordance with the WwTW's consents.</p> <p>Those sustainable options may also lead to cumulative positive effect through the creation of wetland habitats, suitable for protected species e.g. amphibians and wetland birds.</p>	<p>The results of the findings are noted.</p> <p>Schemes will be designed to avoid potential habitat features. Where this is not possible, mitigation for locational specific effects on biodiversity will be considered during the planning phases of each of the individual schemes. Best practice procedures will be followed for all construction works and opportunities will be sought to go above and beyond standards set down in guidance. These issues would also be considered further at the project stage as part of the EIA process (as required).</p>
<b>2. To protect and enhance soil quantity, quality and functionality and geodiversity and ensure the appropriate</b>	<p>Many of the traditional schemes will require works within urban settings, with activities on existing developed areas and previously developed land e.g. relaying/resizing of pipes/sewers) and relative to many other plans for new infrastructure will be more compatible with the SEA objective (both individually and cumulatively) for the preferential use of previously developed land. Where greenfield sites are affected, these are likely to be urban fringe sites, typically with poor soil quality, which the creation of new habitats associated with SUDs schemes, may help, over time to improve.</p>	<p>The results of the findings are noted.</p> <p>Future Welsh Water DWMPs will include the consideration of more detailed design and siting/screening opportunities, including the consideration of soil resources, land use and Agricultural Land Classifications.</p>



SEA Objective	Key Environmental Report Findings	Response
and efficient use of land.		
<b>3. To protect and enhance the quality and quantity of surface and groundwater resources.</b>	<p>Many of the schemes have been undertaken to reduce flooding (albeit focused on WSC) by introducing temporary storage. This will reduce peak volumes and flows, and the resultant mobilisation of pollutants and entrainment of debris with relatively beneficial effects on downstream water quality (and associated receptors). In addition, a number of options within this draft DWMP are being undertaken to specifically reduce CSO spills to SAC, with the objective of achieving zero spills by 2050. In consequence, in many instances, from the operation of the schemes, consistent with the contribution to the planning objectives, the cumulative effects of operating the scheme will be positive on water quality and quantity (by increasing infiltration and residence time of water within the catchment). Cumulative effects are most likely where measures are located within same L4 drainage area or L2 catchment.</p>	The results of the findings are noted.
<b>4. To reduce or manage flood risk.</b>	<p>Many of the schemes have been undertaken to reduce flooding (albeit focused on WSC) by introducing increased network capacity, flow diversions, temporary storage, and a range of SUDs schemes. Cumulative significant positive effects will occur within each L4 drainage area and aggregate up to the L2 catchment and which are reflected in the DWMP 'flood benefits' identified. The use of SUDs schemes in particular provide an opportunity to address the effects of urban creep (and the growth in impermeable surfaces within developed areas), which then exacerbate the risks of flooding.</p> <p>Some significant negative effects have been identified for the construction phase of a small number of schemes as more than 40% of the proposed construction area is located within Flood Zone 3, and so could be subject to the risk of flooding. However, the coincidence of works to resolve flood risk (within an area of flood risk) reflects the implementation of the DWMP strategic objectives and the prioritisation of areas for intervention.</p>	<p>The results of the findings are noted.</p> <p>Mitigation for flood risk will be considered during the planning phases of each of the individual schemes. Best practice procedures &amp; Considerate Constructors Schemes will be followed for all construction works and opportunities will be sought to go above and beyond standards set down in guidance. These issues would also be considered further at the project stage as part of the EIA process (as required).</p>
<b>5. To minimise emissions of pollutant gases and particulates and enhance air quality.</b>	<p>The operation of plant and machinery and vehicle movements during the construction phase would generate emissions to air which could affect air quality. Cumulative effects will occur within each L4 drainage area with the more schemes that are implemented within an area, the greater the potential for emissions, associated with construction of the proposed schemes. Cumulative effects on air quality will need to take into account the coincidence of proposed activities with locations designated as AQMAs (associated with either NO<sub>x</sub> or PM<sub>10</sub>), noting that for some locations the scale of additional vehicle movements may be incompatible with the requirements of the AQMA.</p>	<p>The findings of the assessment are noted.</p> <p>Mitigation will be considered during the planning phases of each of the individual schemes. Best practice procedures &amp; Considerate Constructors Schemes will be followed for all construction works and opportunities will be sought to go above and beyond standards set down in</p>

SEA Objective	Key Environmental Report Findings	Response
<b>6. To reduce greenhouse gas emissions.</b>	Effects are additive; the more schemes implemented within an area, the greater the amounts of materials and energy used (and the embodied and operational carbon emitted) and the greater the effects against this SEA objective. Cumulatively, and associated with the scale of future investment, it is estimated that embodied carbon associated with the DWMP new infrastructure is significant, reflecting the substantial quantities of concrete and steel used. However, for many of the proposed schemes, once in use, it is anticipated that the energy use (and the associated operational carbon emissions) is likely to be relatively modest (within the context of Welsh Water's current energy use).	<p>guidance. Detailed air quality and transport assessments will be undertaken as part of the Environmental Impact Assessment (EIA) process (if/as required).</p> <p>Measures to mitigate air quality impacts arising from construction activities will be considered within a Construction and Environmental Management Plan. These measures may include, for example, dust suppression, use of lower emissions plant, and monitoring.</p> <p>The findings of the assessment are noted.</p> <p>Measures to reduce greenhouse gas emissions during construction will be considered including, for example, the use of low(er) embodied carbon materials (including material reuse), low emission plant as well as consideration given to scheme design to lower operational energy use, aligned with Welsh Water's Net Zero strategy.</p>
<b>7. To adapt and improve resilience to the threats of climate change.</b>	The DWMP used datasets that included those from the NRW Flood Risk Assessment Wales (FRAW) project, which including considering the effects of climate change. Climate change is likely to increase the frequency and intensity of future rainfall events and are likely to be associated with greater overland flows and less time to infiltrate into the ground. This would then be exacerbated by the effects of urban creep. The DWMP takes an approach to each risk area that seeks to preferentially provide a sustainable approach, which aligns with the overall catchment strategy. Where the sustainable approach has not been sufficient to resolve the issues, a mixed approach has been developed which comprises elements of sustainable engineering and hard engineering. The use of SUDs schemes in particular provide an opportunity to address the effects of climate change by increasing infiltration and residence time of water within drainage and catchment areas. Many of the schemes have been undertaken to reduce flooding (albeit focused on WSC) by introducing increased network	The findings of the assessment are noted.

SEA Objective	Key Environmental Report Findings	Response
	capacity, flow diversions. temporary storage. Cumulatively this has been assessed to contribute significant positive effects.	
<b>8. To promote a sustainable economy and maintain and enhance the economic and social well-being of local communities.</b>	The DWMP covers the period 2025 to 2050, and if schemes are implemented this would have a significant cumulative capex value of greater than £1bn. Cumulatively, it represents a significant investment in essential infrastructure which would, given its longevity create long term economic benefits and employment opportunities in the water and construction sectors of Wales. Direct, indirect and induced employment opportunities, given the focused areas of investment could also be beneficial to the communities in each L4 area.	The findings of the assessment are noted.  To maximise benefits to the local economy, Welsh Water will seek, where possible, to appoint local contractors/sub-contractors and use locally sourced materials.
<b>9. To protect and enhance human health and well-being.</b>	Many of the schemes have been undertaken to reduce flooding on WSC by introducing increased network capacity, flow diversions. temporary storage, and a range of SUDs schemes, and will have a direct effect on any affected customers health and well-being. The DWMP, by reducing flooding and ensuring surface water and bathing water quality is maintained within statutory limits will also contribute cumulative to communities' health in catchment areas. Additional greenspace areas created as the result of the implementation of SuDS infrastructure such as swales and wetlands, as part of the sustainable option type, may also lead to additional positive effects on community health and social wellbeing.	The findings of the assessment are noted.  Best practice procedures (including the use of Considerate Constructors Schemes) will be followed for construction works and opportunities will be sought to go above and beyond standards set down in guidance.
<b>10. To promote and enhance the sustainable and efficient use of resilient water resources.</b>	The DWMP includes a range of measures aimed at reducing water entering the wastewater network. These include policy and demand management measures that seek to maximise the efficient use of water resources. By including schemes that seek to maximise infiltration and increase the resident time of water within a catchment, there are also opportunities for water to contribute to surface and ground water flows, increasing resilience of the water resources available.	The findings of the assessment are noted.
<b>11. To minimise waste, promote resource efficiency and move towards a circular economy.</b>	Implementation of the DWMP would require raw materials (concrete and steel), fuel for vehicles and plant and generate waste which will impact on resource use with the significance linked to the scale of the schemes.. Effects are additive; the more measures implemented within an area, the greater the amounts of materials and energy used and the greater the effects against this SEA objective.	The findings of the assessment are noted.  Opportunities to utilise reused/recycled materials will be considered where appropriate. Construction wastes will also be reused/recycled where possible. Material will be sources locally where possible.
<b>12. To conserve and enhance the</b>	Potential for cumulative effects on heritage assets where measures are located in close proximity to each other.	The findings of the assessment are noted.

SEA Objective	Key Environmental Report Findings	Response
<b>historic environment including the significance of heritage assets and their settings and archaeological important sites.</b>	Only one locational option (within Newport Nash D Area) was assessed as having significant negative effects in the construction phase due to the scale of works and associated potential for works to affect the setting of a large number designated heritage assets (including a large number of Listed Buildings contained within the area of the works, Scheduled Monuments in close proximity to the works and Historic Parks and Gardens and Conservation Areas located either within or adjacent to the works).	Mitigation will be considered during the planning phases of each of the individual schemes. Best practice procedures (including the use of Considerate Constructors Schemes) will be followed for construction works and opportunities will be sought to go above and beyond standards set down in guidance. These issues would also be considered further at the project stage as part of the EIA process (as required).
<b>13. To conserve, protect and enhance landscape and townscape character and visual amenity.</b>	No likely significant effects were assessed for landscape. There is potential for cumulative effects where measures are located in close proximity to each other. Effects will be greater for measures requiring new infrastructure in sensitive landscapes (AONB, National Parks).	The findings of the assessment are noted.  Mitigation will be considered during the planning phases of each of the individual schemes. Best practice procedures (including the use of Considerate Constructors Schemes) will be followed for construction works and opportunities will be sought to go above and beyond standards set down in guidance. These issues would also be considered further at the project stage as part of the EIA process (as required).

3.2.2 The Well-being of Future Generations (Wales) Act 2015 places a duty on Welsh public bodies to carry out sustainable development. Welsh Water is not a public body; however, the Act, as noted in section 6(3), can apply to other parties “*who exercise functions of a public nature*”. The SEA Environmental Report therefore also outlined an assessment of the contribution of the DWMP towards achievement of the Welsh Government’s seven well-being goals utilising the assessment against the SEA objectives. The findings are set out in **Table 3.3**.

**Table 3.3 Assessment of the Contribution of the Draft DWMP to the Well-being Goals for Wales**

Well-being goal	Related SEA Objective	Contribution to Well-being goal	Commentary
<p><b>A prosperous Wales:</b></p> <p><b>An innovative, productive and low carbon society which recognises the limits of the global environment and therefore uses resources efficiently and proportionately (including acting on climate change); and which develops a skilled and well-educated population in an economy which generates wealth and provides employment opportunities, allowing people to take advantage of the wealth generated through securing decent work.</b></p>	<p>SEA Objectives 1, 2, 3, 7, 8, 9, 10, 11</p>		<p>The assessment has identified that, where options involve the construction of new infrastructure, the associated capital expenditure may generate benefits in respect of the supply chain and local employment creation. At the individual scheme level such benefits are likely to vary, depending on the size, scale and duration of the proposed intervention, and have collectively been assessed as supporting the achievement of the well-being goal ‘a prosperous Wales’. The operation of the proposed schemes, in contributing to the three strategic objectives (water quality, water quantity and resilience and maintenance), minimising the risks of flooding to WSC and increasing the sustainability of the network will in-turn support economic and population growth and improve resilience to the effects of climate change.</p>
<p><b>A resilient Wales: A nation which maintains and enhances a biodiverse natural environment with healthy functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change (for example climate change).</b></p>	<p>SEA Objectives 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11</p>		<p>The assessment of the draft DWMP schemes against the SEA objectives has also, however, highlighted the potential for direct and indirect adverse environmental effects which has been assessed as not supporting the achievement of this well-being goal. These effects would be most significant during the construction of the schemes involving significant infrastructure which would include resource use and embodied carbon</p>
			<p>Overall, the DWMP seeks to contribute to three strategic objectives (water quality, water quantity and resilience and maintenance). The use of SUDs schemes in particular provides an opportunity to address the effects of climate change on frequency and intensity of rainfall events. By increasing infiltration and residence time of water within drainage and catchment areas and by creating new wetland habitats, it will improve resilience to the effects of climate change, supporting the achievement of the well-being goal ‘a resilient Wales’.</p>
			<p>The assessment of the draft DWMP against the SEA objectives has identified the potential for direct and indirect adverse environmental effects which has been assessed as not supporting the achievement of this well-being goal. These effects would be particularly felt during construction, where there could be effects on (inter alia) biodiversity, soils, water and landscape which contribute to the resilience of</p>

Well-being goal	Related SEA Objective	Contribution to Well-being goal	Commentary
<p><b>A healthier Wales: A society in which people’s physical and mental well-being is maximised and in which choices and behaviours that benefit future health are understood.</b></p>	<p>SEA Objectives 1, 3, 4, 5, 9</p>		<p>Wales’ ecosystems. However, these effects would be largely temporary, and it is likely that adverse impacts would be mitigated where possible at the project level.</p> <p>The DWMP will seek to reduce flooding on WSC, contribute towards ensuring surface water and bathing water quality requirements are met and create new greenspaces and localised habitats that has collectively been assessed as supporting the achievement of the well-being goal ‘a healthier Wales’.</p> <p>Emissions to air, alongside noise and vibration disturbance, during construction of the hard engineering elements of proposed schemes (where applicable) may have minor adverse effects on human health which has been assessed as not supporting the achievement of this well-being goal. However, any adverse impacts in this regard would be temporary and localised and, further, are likely to be managed through the implementation of best practice construction methods.</p>
<p><b>A more equal Wales: A society that enables people to fulfil their potential no matter what their background or circumstances (including their socio economic background and circumstances).</b></p>	<p>SEA Objectives 8, 9</p>		<p>As noted above, the DWMP will contribute to the three strategic objectives (water quality, water quantity and resilience and maintenance), minimising the risks of flooding to WSC and increasing the sustainability of the network. By prioritising interventions based on risks (of flooding, or to the environment), schemes have been proposed for North, South West and Southern Wales, ensuring that those most adversely affected, irrespective of location, or circumstance have been helped. This has been assessed as supporting the achievement of the well-being goal ‘a more equal Wales’.</p> <p>The assessment of the DWMP has identified that, where measures involve the construction of new infrastructure, the associated capital expenditure may generate benefits in respect of the supply chain and local employment creation. At the individual scheme level such benefits are likely to vary, depending on the size, scale and duration of the proposed intervention; however, cumulatively they have been assessed as supporting the achievement of this well-being goal.</p>
<p><b>A Wales of cohesive communities: Attractive, viable, safe and well-connected communities.</b></p>	<p>SEA Objectives 8, 9</p>		<p>The DWMP will contribute to the three strategic objectives (water quality, water quantity and resilience and maintenance), minimising the risks of flooding to WSC and contribute towards ensuring surface water and bathing water quality requirements are met. This has been assessed as supporting the</p>

Well-being goal	Related SEA Objective	Contribution to Well-being goal	Commentary
<p><b>A Wales of vibrant culture and thriving Welsh language: A society that promotes and protects culture, heritage and the Welsh language, and which encourages people to participate in the arts, and sports and recreation.</b></p>	<p>SEA Objective 12, 13</p>	<p>↕</p>	<p>achievement of the well-being goal ‘a Wales of cohesive communities’.</p> <p>Emissions to air, alongside noise and vibration disturbance, during construction of the supply-side measures (where applicable) may have minor adverse effects on host communities which has been assessed as not supporting the achievement of this well-being goal. However, any adverse impacts in this regard would be temporary and localised and, further, are likely to be managed through the implementation of best practice construction methods.</p> <p>The assessment of the draft DWMP measures against the SEA objectives has also highlighted the potential for direct and indirect adverse environmental effects including in respect of landscape which could affect the attractiveness of communities. However, any effects in this regard would be temporary and localised.</p> <p>The DWMP will contribute to the three strategic objectives (water quality, water quantity and resilience and maintenance), which, in minimising flood risks and supporting economic and social well-being will provide foundations for the protection and enhancement of Welsh culture.</p> <p>The DWMP reflects guidance that includes Cadw’s Conservation Principles, Planning Policy Wales and the Technical Advice Note 24: the historic environment. Scheme development and assessment has taken into account new infrastructure locations, and the proximity and effects on World Heritage Sites, Scheduled Monuments and Listed Buildings. In consequence, at present, the assessment of the draft DWMP against the SEA objectives has identified adverse effects in respect of cultural heritage during the construction or operational phases of the options. Where appropriate, mitigation of any likely effects on the significance of a historic asset and its setting, consistent with the guidance has been considered.</p>
			<p>Overall, the DWMP is expected to make a mixed contribution to the achievement of the well-being goal, ‘a Wales of vibrant culture and thriving Welsh language’.</p>
<p><b>A globally responsible Wales: A nation which, when doing anything to</b></p>	<p>SEA Objectives 1, 2, 6, 7, 8, 9, 10, 11, 12, 13</p>	<p>↔</p>	<p>Taking into account the nature and scale of the draft DWMP, and that effects associated with their construction and operation would be predominantly felt at a local/sub-regional level, it is not expected</p>

Well-being goal	Related SEA Objective	Contribution to Well-being goal	Commentary
<p><b>improve the economic, social, environmental and cultural well-being of Wales, takes account of whether doing such a thing may make a positive contribution to global well-being.</b></p>			<p>that the draft DWMP would make a contribution to this well-being goal.</p> <p>It is recognised that the construction and operation of the measures would result in resource use and greenhouse gas emissions; however, in the context of national (Wales) and global emissions, any impact in this regard would be negligible.</p>



## 4. How the opinions expressed in response to the consultation have been taken into account in preparing the Final Plan

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### 4.1 Overview

4.1.1 Consultation has been an integral part of the SEA of DWMP. This has included the following main stages of consultation:

- consultation with the statutory SEA bodies on the scope of the SEA; and
- formal public consultation on the SEA Environmental Report of the Draft DWMP.

4.1.2 Consultation on the DWMP has included:

- numerous surveys, technical stakeholder groups, customer research and engagement activities throughout the process of developing the DWMP;
- working closely with Welsh Water's various independent customer and stakeholder challenge groups;
- formal consultation on the Draft DWMP (alongside which the SEA Environmental Report was published); and
- publication of a Statement of Response, outlining how the comments received on the Draft DWMP have been considered in the development of the final DWMP.

4.1.3 A summary of the outcomes of the consultation on the SEA and Draft DWMP are provided in the sections that follow.

### 4.2 SEA consultation

#### SEA scoping consultation

4.2.1 The first stage of the SEA was the production of a Scoping Report. This reviewed plans and programmes that could affect the DWMP or be affected by it, outlined baseline information for the plan area and set out the proposed framework for assessing potential environmental effects. The SEA Scoping Report<sup>19</sup> for the DWMP was issued for consultation to the statutory consultation bodies (the Environment Agency, Historic England, Natural England, Cadw, Natural Resources Wales, Welsh Government) on the 22<sup>nd</sup> October 2021 for a consultation period of five weeks (22<sup>nd</sup> October to 26<sup>th</sup> November 2021).

4.2.2 Responses were received to the SEA Scoping Report from Cadw, Historic England, Natural England, Natural Resources Wales and these responses helped to shape the SEA Environmental Report. Support for the approaches identified within the Scoping

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<sup>19</sup> Wood (2021) *Drainage and Wastewater Management Plan Strategic Environmental Assessment Scoping Report* (October 2021).

Report were received, with consultees such as Natural England and Historic England providing guidance on what else could be included as guide questions for the identified objectives. The responses from consultees were also important for highlighting further documentation that could help inform the full assessment.

## Public consultation on the Environmental Report

4.2.3 Welsh Water published an Environmental Report alongside the Draft DWMP for consultation for 10 weeks from Wednesday 27<sup>th</sup> July 2022 to Friday 7<sup>th</sup> October 2022. The Environmental Report indicated that Welsh Water welcomed, in particular, views on whether consultees agreed:

- that the Environmental Report had correctly identified the likely significant effects of the Draft DWMP and if not, what other significant effects consultees thought had been missed, and why;
- with the conclusions of the Environmental Report and the recommendations for mitigation and enhancement of significant effects; and
- with the proposed arrangements for monitoring the significant effects of the implementation of the DWMP and if not, what measures would consultees propose.

4.2.4 Responses to the draft DWMP consultation that were relating to the Environmental Report / SEA process were received from the following respondents:

- Afonydd Cymru;
- Historic England; and
- Welsh Government Historic Environment Branch (Cadw).

4.2.5 **Appendix B** contains a summary of these consultation responses and a response to them.

## 4.3 Consultation on the Draft DWMP

4.3.1 Welsh Water completed an extensive pre-consultation phase with regulators, stakeholders and customers prior to consultation on the Draft DWMP. Welsh Water engaged with stakeholders and customers throughout the development of the DWMP including setting the long-term targets, identifying areas of shared risks or opportunities, and determining options for the preferred plan. This included engaging with the various established independent customer challenge groups.

4.3.2 All engagement was carried out in-line with the following objectives set by Welsh Water:

- *“We aim to engage all stakeholders in a proactive manner that meets their different needs and expectations, while building a broad public awareness of the challenges involved in delivering the DWMP.*
- *We prioritize early, consistent, and meaningful engagement with key stakeholders to ensure their views are properly considered at every stage of the development process.*
- *We aim to create greater public awareness of the magnitude and intricacy of the task of executing the DWMP by presenting comprehensive information about the challenge in a manner that is easily understandable.*
- *We aim to maintain consistent messaging to avoid mixed communication by ensuring that all DWMP communications are consistent in terms of style, tone and content.*

- *We aim to identify risks early and proactively implement effective actions to minimise or neutralise reputational or program damage<sup>20</sup>.*

4.3.3 The Draft DWMP was issued for public consultation for 10 weeks from Wednesday 27<sup>th</sup> July 2022 to Friday 7<sup>th</sup> October 2022. During the consultation process Welsh Water:

- provided customer brochures and questionnaires (including an online questionnaire) in Welsh and English;
- a bespoke e-learning tool that explained the purpose and content of the draft DWMP in an easy to understand manner;
- created a virtual room that housed all of the consultation materials and was available at all times of day;
- contacted approximately 150 stakeholders directly via email in addition to Ofwat, Defra, Customer Council for Water (CCW) and the EA;
- publicised the consultation on the Welsh Water website; and
- had ongoing ‘business as usual’ engagement with stakeholders and regulators within which the consultation was promoted and there were opportunities to discuss the plan.

4.3.4 In total, 15 consultation responses were received for the DWMP, SEA and HRA. This was comprised of seven responses from identified stakeholders, three from regulators, three from individual customers and two from Welsh Government organisations.

4.3.5 The themes raised in the responses to the consultation are summarised in **Table 4.1** below. A summary of the responses received, and how Welsh Water has taken the responses into account in finalising the DWMP, is outlined within the Welsh Water DWMP Statement of Response document.

**Table 4.1 Summary of Draft DWMP consultation feedback**

Key themes arising from consultation	Summary of feedback received
<b>Adaptive Planning</b>	<ul style="list-style-type: none"> <li>• Pembrokeshire County Council praised the commitment to adaptive planning and highlighted how when updated nutrient guidance is published by Natural Resources Wales, which could affect investment programmes that would need to be adaptable.</li> <li>• Ofwat stated that the draft DWMP did not sufficiently demonstrate adaptive planning, as the plan lacked detail on this matter and how adaptive planning was used in the decision making process of the plan.</li> </ul>
<b>Area Summary</b>	<ul style="list-style-type: none"> <li>• Natural Resources Wales was encouraging regarding the solutions identified within the draft DWMP but did note that further detail of specific solutions should be provided and adequately explained.</li> <li>• Natural Resources Wales also identified that further consideration of sewer blockages and solutions to address/prevent this needs to be considered.</li> <li>• They generally provided comments regarding the inclusion of more and detail explanations on what is happening within the draft DWMP to ensure it would address identified challenges and be developed in accordance with relevant guidance/legislation.</li> </ul>

<sup>20</sup> Dŵr Cymru Welsh Water (2022) *Welsh Water DWMP Statement of Response*. [Accessed 05/05/2023]. Page 6.

Key themes arising from consultation	Summary of feedback received
<b>Business Plan</b>	<ul style="list-style-type: none"> <li>Afonydd Cymru advised that the draft DWMP should be clearer in stating it is part of a wider investment programme being developed and should identify how later stages would address sewer overflows.</li> <li>Several consultees highlighted a need for further consideration of priority species and habitats.</li> <li>Ofwat expressed concerns with the methodology underpinning how solutions were developed and also expects the price review process to be present and integrated within the rationale for any solution.</li> <li>A number of consultees identified a need for the identification of potential green solutions to identified challenges.</li> </ul>
<b>CSO</b>	<ul style="list-style-type: none"> <li>Several consultees stressed the importance for the draft DWMP to address the issue of sewer overflows.</li> </ul>
<b>Stakeholder Engagement</b>	<ul style="list-style-type: none"> <li>Natural Resources Wales found the level of stakeholder engagement implemented to be limited.</li> <li>Ofwat identified that further consultation is needed with the Welsh Government in order to ensure the final DWMP meets statutory requirements and is well informed.</li> <li>A number of consultees were satisfied with the level of consultation they received.</li> <li>A consultee identified that Neston Town Council and Cheshire West and Chester Council should be consulted if they have not been already.</li> <li>Caerphilly County Borough Council identified they are in the process of creating local flood groups, who should be consultees in the future.</li> <li>A number of consultees expressed general agreement with the principles and content of the draft DWMP.</li> <li>Ofwat requested the draft DWMP further explain how stakeholder engagement has so far influenced its content.</li> </ul>
<b>Format of Plan</b>	<ul style="list-style-type: none"> <li>Natural Resources Wales identified that the draft DWMP should be clearer in its use of green infrastructure and green solutions and also be updated to accommodate more sewer capacity. They also stressed the need for long-term thinking and the application of long-term solutions to improve the resilience of Wales in a cost effective manner.</li> </ul>
<b>Legislation</b>	<ul style="list-style-type: none"> <li>Isle of Anglesey Council highlighted the draft DWMP seeks to meet legislative requirements but notes that this is difficult without further guidance from the Welsh Government.</li> </ul>
<b>SEA</b>	<ul style="list-style-type: none"> <li>Afonydd Cymru welcomed the use of the SEA process though noted some concern that significant negative effects were identified against potential solutions they viewed as providing benefits.</li> <li>Cadw identified no issues with the methodology and results of the SEA.</li> <li>Historic England was supporting of the SEA and its findings, only noting that potential further mitigation could be suggested for the enhancement of the historic environment.</li> </ul>

4.3.6 Welsh Water also commissioned Relish to carry out two phases of independent research to identify what their customers' opinions of a DWMP. The responses to the consultation questionnaire complemented this additional customer research activity which involved more than 500 customers and 100 business. In depth consultation was carried out with

25-30 customers to identify what they wanted from the draft DWMP and what outcomes they prioritised (affordability, pace of change etc).

- 4.3.7 The Statement of Response to the consultation describes how the responses to the consultation were considered in formalising the Final DWMP.

## 5. The reasons for choosing the DWMP as adopted, in light of the other reasonable alternatives dealt with

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### 5.1 Reasons for the selection of the final DWMP

- 5.1.1 Welsh Water has chosen the final DWMP using industry good practice methods. This includes consideration of technical feasibility, financial costs and benefits, and quantified impacts on the environment and community, taking into account the findings of the SEA and HRA as well as ongoing engagement and input from customers and key stakeholders.
- 5.1.2 The overarching approach in the DWMP is set out in the established 14 Planning Objectives and three high level planning themes, which set out the long term objectives. The 14 Planning Objectives form the broader context within which the consideration of options took place.
- 5.1.3 Through the options development phase of the DWMP process Welsh Water looked to identify risks through the use of the Risk Based Catchment Screening (RBCS). The risks identified had mitigation identified through the Baseline Risk and Vulnerability Assessment (BRAVA). Final Problem Characterisation (FPC) was undertaken following these two assessments in order to ensure that solutions were proportionate and reasonable.
- 5.1.4 The final mixture of generic and bespoke options has undergone extensive assessment by Welsh Water (through the assessment processes identified in **Section 2**), through the SEA process (with finding contained within the Environmental Report) and from consultees. The final options therefore provide the best solutions to addressing the issues present within Welsh Water's operational area, whilst also maximising environmental benefits (where possible) in a cost effective manner.
- 5.1.5 Through the implementation of the DWMP, Welsh Water will be able to maximise the number of areas as practically as possible that would see some form of improvement over the lifetime of the DWMP. The DWMP would also seek to quickly rectify areas that have a SAC at risk of being compromised and protect customers that have experienced internal sewer flooding in the past.

### Finalisation of the DWMP

- 5.1.6 The Statement of Response sets out how the finalisation of the DWMP has taken into account feedback on the draft DWMP and outlines how Welsh Water has taken further action. The final DWMP has evolved following the consultation process, some of which are identified below:
- The final DWMP has incorporated the Government's Guiding Principles for drainage and wastewater management plans.
  - The DWMP has been updated to ensure clearer reference to relevant legislation/guidance.
  - The final DWMP includes details of the approach to storm overflow spill management and investment in the next AMP period.

- The prioritisation matrix of the DWMP has been reviewed and a more detailed explanation of this element of the DWMP is provided.
- Further examples and evidence have been provided within the DWMP in order to better showcase nature based solutions, their effects, costs and benefits.
- Further detail of how the DWMP would be monitored and how Cycle 2 of the DWMP would be informed by what came before it has been included.
- The DWMP includes enhanced consideration of, and reference to, adaptive planning.
- The DWMP provides further evidence that the solutions identified are deliverable in terms of Cycle 1 of the DWMP and how these form the basis for future solutions in later cycles of the DWMP.

## Future cycles of the DWMP

5.1.7 The DWMP will be renewed on a five yearly basis. Welsh Water will continue to develop the DWMP into Cycle 2. Welsh Water identified that lessons had been learned with regard to consultation and the following methodologies and priorities would be applied during the creation of Cycle 2 of the DWMP:

- *“Increase customer awareness through annual updates and community forums.*
- *Use customer documents and social media to keep customers informed of wastewater and drainage progress.*
- *Inform and advise customers on how they can manage wastewater.*
- *Invest in managing wastewater and handling additional rainfall, prioritising sustainability over least cost, and explore joint working opportunities.*
- *Improve our environmental benefit approach and investigate solutions for managing customer flooding and preventing floods at a cost that customers can afford.*
- *Address concerns regarding sewer overflow impacts to our rivers, working with stakeholders to identify opportunities and involve communities.*
- *Create affordable incremental plans and gradually improve all areas over time based on weather frequency and intensity.*
- *Review the approach to historical sites to ensure access and building is carried out in a sympathetic manner<sup>21</sup>.*

<sup>21</sup> Dŵr Cymru Welsh Water (2023) *Final Drainage and Wastewater Management Plan 2024 – Non-Technical Summary*. Page 19.

## 6. The measures decided concerning monitoring

### 6.1 Monitoring the effects of the DWMP

- 6.1.1 The SEA Regulations require the significant environmental effects of implementing a plan to be monitored. Monitoring the effects of the DWMP can help to answer questions such as:
- Were the SEA predictions of effects accurate?
  - Is the DWMP contributing to the achievement of the SEA objectives?
  - Are mitigation measures performing as well as expected?
  - Are there any adverse effects? Are these within acceptable limits, or is remedial action desirable?
- 6.1.2 Welsh Water expects to monitor the effects of the DWMP alongside the other impacts of its operations, and as such, is likely to rely on existing sources of information that are collected either by Welsh Water or by other relevant organisations such as the Environment Agency, Natural England, or Natural Resources Wales. For example, Welsh Water already collects certain data for an annual review process (the Annual Performance Report) that is submitted to the Office of Water Services (Ofwat) and their own environmental reporting. In line with the Framework, Welsh Water will publish the first annual review of the DWMP 12 months after publication of the DWMP and will then publish annually on the same date each year until the next DWMP is published.
- 6.1.3 Consistent with the proposals of the Environmental Report, potential effects against all the SEA objectives have been included in the monitoring framework, which is set out in **Table 6.1**. Welsh Water will take a broad view of the findings of their ongoing monitoring processes to identify whether the DWMP has any significant unforeseen effects. Where these are identified, Welsh Water may be required to put in place specific monitoring arrangements and will consider how best to mitigate or avoid the adverse consequences.

**Table 6.1 Indicators for Monitoring Effects**

Objective	Indicator	Source of Information	Commentary
<b>1. To protect, restore and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species, enhanced ecosystem resilience, habitat connectivity and creation and contribute to the sustainable management of</b>	Condition of specific protected sites (e.g., SACs, SPAs, SSSIs)	Welsh Water, Natural Resources Wales (NRW)	Additionally, open communication between NRW and Welsh Water results in up-to-date information and identification of any potential issues.



Objective	Indicator	Source of Information	Commentary
<b>natural habitats and ecosystems.</b>	Biological monitoring (macroinvertebrates, macrophytes, fisheries, bird surveys)	Welsh Water	Monitoring/investigations undertaken as part of NEP may support this indicator.
	Intermittent discharges impact on bathing or shellfish waters	Welsh Water	Welsh Water maintains a list of all intermittent discharges to bathing or shellfish waters, using information on the CSOs which have exceeded the relevant spill frequency thresholds.
<b>2. To protect and enhance soil quantity, quality and functionality and geodiversity and ensure the appropriate and efficient use of land.</b>	Area of previously undeveloped land used during construction	Welsh Water	Welsh Water could record the area of previously undeveloped land that is built on as a result of the DWMP scheme, linked to biodiversity net gain/resilience completed as part of the NCA.
	Condition of sites designated for geological interest (e.g. geological SSSIs) on water industry land holdings	Welsh Water, NRW	Previous studies may also be used to inform monitoring and assessment.
<b>3. To protect and enhance the quality and quantity of surface and groundwater resources.</b>	River flows, river levels, lake and reservoir levels. Water quality of surface waters. Groundwater levels, recharge characteristics and abstracted groundwater quality	Welsh Water, NRW	Previous studies may also be used to inform monitoring and assessment. For example Review of Consents (RoC) documentation and any previous NEP studies.
	Pollution incidents	Welsh Water	Welsh Water maintain a list of all pollution incidents which have occurred.
<b>4. To reduce or manage flood risk.</b>	Internal Sewer Flooding External Sewer Flooding Outcomes from Catchment Vulnerability Assessment (CVA): Catchment	Welsh Water, NRW	Welsh Water measure the number of incidents per year and keep a record of all flooding incidents per year.

Objective	Indicator	Source of Information	Commentary
	characterization which provides a mechanism to understand the vulnerability of the sewer catchment to flooding as a result of an extreme wet weather event.		
<b>5. To minimise emissions of pollutant gases and particulates and enhance air quality.</b>	Number of vehicle movements/distance travelled	Welsh Water	Welsh Water could consider recording the number of vehicle movements and distance travelled as an indicator of air quality impacts during implementation.
<b>6. To reduce greenhouse gas emissions.</b>	Quantity of greenhouse gas emissions per megalitre of water supplied.	Welsh Water	Welsh Water energy managers can use company data, and guidance from the UKWIR greenhouse gas workbook and BEIS (Department for Business, Energy & Industrial Strategy) conversion factors to derive this information.
	Energy use used in the operation of options.	Welsh Water	Welsh Water should hold and record energy consumption data e.g. via accounts / invoices.
	Renewable energy generated or purchased.	Welsh Water	Welsh Water should record renewable energy generation data, in addition to data on renewable energy purchased e.g. via accounts / invoices.
<b>7. To adapt and improve resilience to the threats of climate change.</b>	Internal Sewer Flooding External Sewer Flooding Outcomes from Catchment Vulnerability Assessment (CVA): Catchment characterization which provides a mechanism to understand the vulnerability of the sewer catchment to flooding as a result of an extreme wet weather event.	Welsh Water, NRW	Welsh Water measure the number of incidents per year and keep a record of all flooding incidents per year.

Objective	Indicator	Source of Information	Commentary
<b>8. To promote a sustainable economy and maintain and enhance the economic and social well-being of local communities.</b>	Number of Welsh Water sites with public access which provide sporting, recreational and leisure resources and number of visits per year.	Welsh Water	Welsh Water hold information on the number of annual visitors to sites where specific visitor facilities are provided (e.g. Llyn Brenig). These could be analysed to determine effects of operation on visitor use.
	Planned residential new development (informing predicted growth forecast to target catchments requiring investigations for potential future capacity constraints).	Welsh Water	Welsh Water examine information on planned growth and forecasts across LPA within the area.
<b>9. To protect and enhance human health and well-being.</b>	Compliance with drinking water standards at customers' taps (%).	Welsh Water	Welsh Water reports these data to Ofwat as part of the statutory returns process (Annual Performance Report) and to the Drinking Water Inspectorate.
	Compliance with water quality standards under the EC Bathing Waters Directive.	NRW	NRW monitors the compliance of bathing waters and report this annually.
	Number of nuisance-related complaints e.g. noise, dust.	Welsh Water	Welsh Water could record the number of nuisance-related complaints made in relation to implementation of the DWMP.
<b>10. To promote and enhance the sustainable and efficient use of resilient water resources.</b>	Pollution Incidents Internal Sewer Flooding External Sewer Flooding Intermittent discharges impact on bathing or shellfish waters Sewer Collapses Sewer Blockages	Welsh Water NRW	Welsh Water measure the number of pollution incidents per year and keep a record of all flooding incidents per year and maintain a list of intermittent discharges.
	Leakage Water saved through demand management/ water efficiency measures	Welsh Water	Welsh Water report these data to Ofwat as part of the annual returns process.

Objective	Indicator	Source of Information	Commentary
<b>11. To minimise waste, promote resource efficiency and move towards a circular economy.</b>	Amount of recycled / reused materials used	Welsh Water (contractors/consultants)	Information on the use of recycled / reused materials should be held by construction managers and accounts (contractors / consultants accounts, waste or procurement records).
	Proportion of waste sent to landfill	Welsh Water (services data)	Information on waste disposal to landfill should be held by Welsh Water.
	Chemicals Use in Water Treatment	Welsh Water (services data)	Information (quantities, composition) on chemical use should be held in accounts.
<b>12. To conserve and enhance the historic environment including the significance of heritage assets and their settings and archaeological important sites.</b>	Loss / damage or discovery / protection of cultural, historic and industrial heritage features.	Welsh Water, Cadw	Cadw's regional field monument wardens monitor the condition of all statutorily protected monuments on a five-year programme.
<b>13. To conserve, protect and enhance landscape and townscape character and visual amenity.</b>	Loss or damage to landscape character and features of designated sites.	Welsh Water	Welsh Water could record the number and size of infrastructure built within designated landscape sites.

- 6.1.4 Welsh Water recognise that there is a need to invest in data that has not been collected previously. They will seek to build on the learning points identified in the first (Cycle 1) DWMP in the development of the Cycle 2 DWMP. Welsh Water recognise the need to:
- Increase the data collected to support modelling and data improvement aspirations;
  - Develop integrated systems not just within Welsh Water but jointly with colleagues from Councils, Natural Resources Wales and the Environment Agency and Environmental NGO's so that we collect and work from the same data, improving the usefulness of that data and increasing our joint understanding so that we all work together to improve the environment from both Quality (pollution impact) and Quantity (flooding and drought impact) perspective.
  - Increase their understanding of asset capacity and increase the coverage of hydraulic models to forecast that capacity, including integrated models that consider the implications of our surface water separation plans on other catchment drainage systems.
  - Improve and automate their DWMP analysis tools to integrate these results together to provide more time to review data and less time checking and verifying.

- Acknowledge that they must continue to capture lessons learned by those responsible for DWMP production, as the first iteration is completed, so that they can be embedded in time for second cycle DWMPs.
- Continue to work with the contacts and groups created during the development of the framework, and associated workshops, as a practitioner support network throughout the DWMP process, enabling a shift in focus to a shared vision, to obtain the greatest benefit from net gains.
- Ensure that the DWMP Framework and process continues to evolve and embeds current good/best practice.
- Develop the framework to facilitate collaborative working with other organisations who can play a role in the implementation journey for the DWMP, such as local authorities and environmental regulators<sup>22</sup>.

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<sup>22</sup> Dŵr Cymru Welsh Water (2023) *Drainage and Wastewater Management Plan 2024* Technical Summary. Page 120.

# Appendix A

## SEA Quality Assurance Checklist

**Table A.1** details the SEA Regulations' requirements of the Post Adoption Procedures and indicates where relevant information required can be found in this report.

**Table A.1 Compliance of this report with the requirements of the SEA Regulations**

SEA Regulations Requirement	Location in the Post Adoption Statement (where appropriate)
<b>Information as to adoption of plan or programme (SEA regulation 16)</b>	
<p><b>(1) As soon as reasonably practicable after the adoption of a plan or programme for which an environmental assessment has been carried out under these Regulations, the responsible authority shall -</b></p> <p><b>(a) make a copy of the plan or programme and its accompanying environmental report available at its principal office for inspection by the public at all reasonable times and free of charge; and</b></p> <p><b>(b) take such steps as it considers appropriate to bring to the attention of the public</b></p> <p style="padding-left: 20px;"><b>(i) the title of the plan or programme;</b></p> <p style="padding-left: 20px;"><b>(ii) the date on which it was adopted;</b></p> <p style="padding-left: 20px;"><b>(iii) the address (which may include a website) at which a copy of it and of its accompanying environmental report, and of a statement containing the particulars specified in paragraph (4), may be viewed or from which a copy may be obtained;</b></p> <p style="padding-left: 20px;"><b>(iv) the times at which inspection may be made; and</b></p> <p><b>(v) that inspection may be made free of charge.</b></p>	<p>A copy of the DWMP and accompanying reports and documentation is available at:  <a href="https://www.dwrcymru.com/en/our-services/wastewater/drainage-and-wastewater-management-plan">https://www.dwrcymru.com/en/our-services/wastewater/drainage-and-wastewater-management-plan</a></p> <p>A paper copy of the DWMP, Environmental Report and this Post Adoption Statement are available for public viewing upon request to <a href="mailto:drainageandwastewatermanagementplan@dwrcymru.com">drainageandwastewatermanagementplan@dwrcymru.com</a> at: Welsh Water Linea, Fortran Road, Cardiff</p> <p>The office is open from 9am until 5pm Monday to Friday, staff to support the viewing will be required to support the in person viewing and will need to be arranged prior to the visit.</p>
<p><b>(2) As soon as reasonably practicable after the adoption of a plan or programme -</b></p> <p><b>(a) the responsible authority shall inform—</b></p> <p style="padding-left: 20px;"><b>(i) the consultation bodies;</b></p> <p style="padding-left: 20px;"><b>(ii) the persons who, in relation to the plan or programme, were public consultees for the purposes of regulation 13; and</b></p>	<p>A copy of the DWMP and accompanying reports and documentation is available at:  <a href="https://www.dwrcymru.com/en/our-services/wastewater/drainage-and-wastewater-management-plan">https://www.dwrcymru.com/en/our-services/wastewater/drainage-and-wastewater-management-plan</a></p> <p>This Post Adoption Statement addresses 3(iii) and contains particulars specified in paragraph (4) as outlined below.</p>

SEA Regulations Requirement	Location in the Post Adoption Statement (where appropriate)
<p>(iii) where the responsible authority is not the Secretary of State, the Secretary of State;</p> <p>and</p> <p>(b) the Secretary of State shall inform the Member State with which consultations in relation to the matters referred to in paragraph 3.</p> <p>(3) The matters are -</p> <p>(a) that the plan or programme has been adopted;</p> <p>(b) the date on which it was adopted; and</p> <p>(c) the address (which may include a website) at which a copy of—</p> <p>(i) the plan or programme, as adopted,</p> <p>(ii) its accompanying environmental report, and</p> <p>(iii) a statement containing the particulars specified in paragraph (4), may be viewed, or from which a copy may be obtained.</p>	
<p>(4) The particulars referred to in paragraphs (1)(b)(iii) and (3)(c)(iii) are -</p>	
<p>(a) how environmental considerations have been integrated into the plan or programme;</p>	Section 2
<p>(b) how the environmental report has been taken into account;</p>	Section 3
<p>(c) how opinions expressed in response to -</p> <p>(i) the invitation referred to in regulation 13(2)(d);</p> <p>(ii) action taken by the responsible authority in accordance with regulation 13(4),</p> <p>- have been taken into account;</p>	<p>Section 4 and Welsh Water Statement of Response, available at:</p> <p><a href="https://www.dwrcymru.com/en/our-services/wastewater/drainage-and-wastewater-management-plan">https://www.dwrcymru.com/en/our-services/wastewater/drainage-and-wastewater-management-plan</a></p>
<p>(d) how the results of any consultations entered into under regulation 14(4) have been taken into account;</p>	Not applicable - no transboundary consultation with EU Member States took place
<p>(e) the reasons for choosing the plan or programme as adopted, in the light of the other reasonable alternatives dealt with; and</p>	Section 5
<p>(f) the measures that are to be taken to monitor the significant environmental effects of the implementation of the plan or programme.</p>	Section 6.
<p><b>Monitoring of implementation of plans and programmes (SEA regulation 17)</b> Content</p>	

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SEA Regulations Requirement	Location in the Post Adoption Statement (where appropriate)
<b>(1) The responsible authority shall monitor the significant environmental effects of the implementation of each plan or programme with the purpose of identifying unforeseen adverse effects at an early stage and being able to undertake appropriate remedial action.</b>	Monitoring procedures are set out in Section 6. Welsh Water will identify effects and undertake remedial action (as necessary) as the DWMP is implemented.
<b>(2) The responsible authority's monitoring arrangements may comprise or include arrangements established otherwise than for the express purpose of complying with paragraph (1).</b>	The monitoring procedures set out in Section 6 will complement existing monitoring arrangements where possible.

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# Appendix B

## Consultation responses

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**Table B.1 Summary of the consultation responses (on the Environmental Report accompanying the Draft DWMP)**

Respondent ID/Name	Consultee Response Summary	Response/Action
<b>Afonydd Cymru</b>	Welcomes the use of the SEA process in producing the draft DWMP.	Support is noted.
<b>Afonydd Cymru</b>	Highlighted their concern that some of the findings of the SEA identified negative scores against potential options that would provide considerable benefits. Further detail justifying such results in the SEA is requested.	<p>Comment noted.</p> <p>In response, it is noted that the role of SEA is to provide an evidence-based approach to identify and assess the likely significant environmental effects from plans and strategies prior to implementation. Schedule 2 of the SEA Regulations requires that the assessment includes information on the “<i>likely significant effects on the environment, including on issues such as: biodiversity; population; human health; fauna; flora; soil; water; air; climatic factors; material assets; cultural heritage, including architectural and archaeological heritage; landscape; and the inter-relationship between the issues referred to</i>”.</p> <p>The approaches to assessment have been developed, in consultation with the statutory bodies to be compliant, proportionate, and appropriate to the range of effects identified, described and evaluated. Justification as to the basis of the assessment has been included within both reports. Further reasoning and detail are provided in the main body of the Environmental Report and the option assessments contained in appendices to accompany the report.</p>
<b>Welsh Government Historic Environment Branch (Cadw)</b>	Stated that, in general, they had no issues with the SEA methodology and findings.	Support is noted.
<b>Welsh Government Historic Environment Branch (Cadw)</b>	Noted that the findings of the SEA need to be carefully considered when Welsh Water picks its options.	<p>Comment noted.</p> <p>Section 5 of this report and the final DWMP both provide a justification of the options chosen, which is based on a careful consideration of the findings of the SEA.</p>

Respondent ID/Name	Consultee Response Summary	Response/Action
<b>Welsh Government Historic Environment Branch (Cadw)</b>	Commented that Wales has four, not three, World Heritage sites (reference to the Slate Industry of Northwest Wales missing).	<p>Comment noted.</p> <p>The additional WHS will be referenced in any future SEA work that accompanies the development of future cycles of the DWMP. The Slate Industry of Northwest Wales WHS has no implications for the SEA assessment of the Cycle 1 DWMP options.</p>
<b>Historic England</b>	Provided their support for the SEA process, the findings of the SEA and its clear use in informing the final options for the DWMP.	Support noted.
<b>Historic England</b>	Noted that the SEA identifies potential adverse effects (usually from construction) on historical assets/landscapes and their setting. They consider it likely that such effects could be mitigated in reality as the detailed design of the various schemes develops.	<p>Comment noted.</p> <p>The SEA was produced based on the information available and it is noted that in reality, potential adverse effects could be mitigated through the use of detailed designs, best practice construction guidance, screening and other feasible mitigation.</p>
<b>Historic England</b>	Historic England requested that schemes include opportunities for enhancing the historic environment through improving people's understanding, access and enjoyment of heritage assets and their settings. They also highlighted that the potential impacts (positive and negative) on designated and non-designated heritage assets in England should be considered.	<p>Comment noted.</p> <p>The Environmental Report contains identified mitigation, which includes the potential for the enhancement of the historic environment through scheme implementation. The assessment of options takes into account heritage assets in England and Wales.</p>



