



**Cyfoeth
Naturiol**
Cymru
**Natural
Resources**
Wales

Consultation on the Welsh part of the Severn River Basin Management Plan (2021-2027)

October 2021

Natural Resources Wales

Natural Resources Wales' (NRW) purpose is to pursue sustainable management of natural resources in all of its work. We've produced a [booklet to introduce you to our new way of working](#). Welsh Government has issued [statutory guidance on NRW's general purpose](#). The Environment (Wales) Act 2016 sets out our general purpose.

In the exercise of its functions NRW must:

1. pursue sustainable management of natural resources in relation to Wales, and
2. apply the principles of sustainable management of natural resources in the exercise of its functions, so far as consistent with their proper exercise.

We also have a duty under the Well-being of Future Generation (Wales) Act 2015 to maximise our contribution to the seven well-being goals, through sustainable management of natural resources. We do this by setting well-being Objectives, and ensuring our work contributes across our objectives.

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Acronyms

Acronym	Meaning
ALS	Abstraction Licensing Strategies
AMP	Asset Management Plan
BPS	Basic Payment System
CSO	Combined Sewer Overflow
CSM	Common Standards Monitoring
CJEU	Court of Justice for the European Union
DCWW	Dŵr Cymru Welsh Water
DrWPA	Drinking Water Protected Area
EA	Environment Agency
EU	European Union
FRM	Flood Risk Management
FRMPs	Flood Risk Management Plans
GBNNS	GB Non-Native Species
GHG	Green House Gases
HMWB	Heavily Modified Water Body
HRA	Habitats Regulation Assessment
IPENS	Improvement Programme for England's Natura 2000 sites
INNS	Invasive Non-Native Species
JNCC	Joint Nature Conservancy Council
LLFA	Lead Local Flood Authority
N2K	Natura 2000 sites
NEP	National Environment Programme
NGO	Non-Governmental Organisation
NRP	Natural Resources Policy
NRW	Natural Resources Wales
NVZ	Nitrate Vulnerable Zone
PBDE	Polybrominated Diphenyl Ether
PIP	Prioritised Improvement Plans
PR19	Price Review 2019
RBD	River Basin District
RBMP	River Basin Management Plan
SAC	Special Area of Conservation
SMNR	Sustainable Management of Natural Resources
SoNaRR	State of Natural Resources Report
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
STW	Sewage Treatment Works
SuD	Sustainable Drainage System
UKCIP	UK Chemicals Investigation Programme
UKCP09 or 18	UK Climate Projections 2009 or 2018
UKFS	UK Forestry Standard
UKTAG	UK Technical Advisory Group

uPBT	ubiquitous, persistent, bioaccumulative and toxic
WFD	Water Framework Directive
WGWE	Welsh Government Woodland Estate
WFF	Wales Fisheries Forum
WISE	Water Information System for Europe
WLMF	Wales Land Management Forum,
WMAAG	Wales Marine Advisory and Action Group
WWMF	Wales Water Management Forum

1. Planning for the future

1.1 Introduction

The Environment Agency and Natural Resources Wales (NRW) will be updating the River Basin Management Plans (RBMPs) for the third cycle under the Water Environment (Water Framework Directive (WFD) (England & Wales) Regulations 2017 (referred to as WFD Regulations 2017) for the Severn River Basin District (RBD). The plan will set objectives for rivers, lakes, estuaries, coastal and ground waters. Although we are responsible for developing the plans, the outcomes and the actions needed to achieve them are for everybody. The plan will outline the actions we believe are needed to improve the environment, the benefits they could achieve and who is best placed to deliver them. This consultation is on the third RBMP to cover the period 2021–2027. The first plan was for 2009–2015 and the second plan 2015–2021 (see Figure 1).

The [Summary of the Severn River Basin Management Plan](#) provides an overview of the draft plan for the Severn River Basin District as a whole. **This document supports that summary and relates to the Welsh part of the Severn River Basin District (RBD) only.** There is an online [Consultation Page where you can leave your responses](#).

Figure 1: RBMPs planning cycles



According to statutory requirements under the WFD Regulations 2017, water bodies must achieve good status by 22 December 2027. Many lessons have been learnt in the planning and delivery since the WFD was introduced in 2000 and transposed into law in England and Wales in 2003, which have now been updated and replaced by the Water Environment (Water Framework Directive) Regulations 2017. These include that early engagement with our partners is crucial; environmental improvements take time and may not be noticeable in the classification within a cycle and making commitments on allocating resources on a six year cycle is difficult. Since the first cycle our understanding of good status requirements has evolved and improved monitoring techniques and standards have been reflected in the classification. The Well-being of Future Generations (Wales) Act 2015 and Environment (Wales) Act (2016) give us an opportunity to build on the foundations WFD provided in developing a place based approach.

1.1.1 Exit from the European Union

The United Kingdom (UK) left European Union (EU) on 31st January 2020 and entered a period of transition until 31st December 2020. During the transition period the UK continued to apply EU legislation, transposed any EU legislative changes and remained under the

jurisdiction of the Court of Justice of the European Union (CJEU). The requirements of WFD were already enshrined within UK law through The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017. In preparation for EU Exit the UK Government published The Floods and Water (Amendment etc.) (EU Exit) Regulations 2019 which transposed the requirements into UK law. This makes amendments to the versions of the Water Framework Directive, Groundwater Directive (GWD) and Environmental Quality Standards Directive (EQSD) that were in force at the end of the transition period. These amendments do not impact on the way we carry out the RBMP process. In future the UK and Welsh Governments will be able to make legislative changes to suit their own policies and objectives outside the EU.

1.1.2 Covid-19

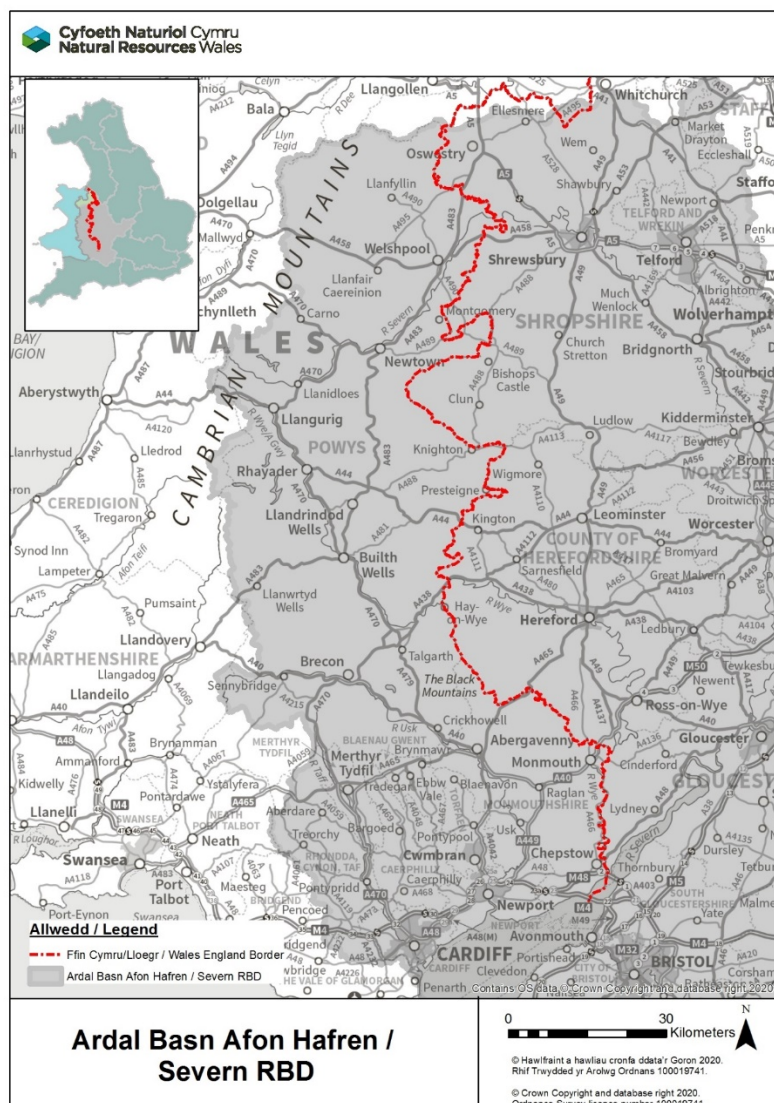
In March 2020, the UK went into lockdown due to the public health response to the virus covid-19. Welsh Government exercised its legal powers to make Regulations imposing restrictions or requirements on people with the purpose of preventing, protecting against and controlling or providing a public health response to the incidence or spread of coronavirus in Wales.

This impacted on all organisations in Wales. For NRW this meant we had to halt our monitoring programme, postponed or cancelled some of our improvement projects and reduced the engagement with some of our stakeholders who had to furlough staff. It also impacted on the timing of this consultation which was delayed. We do not yet know the scale of impact the virus and subsequent effects of any restrictions on our work programme for the third cycle.

1.2 Welsh part of the Severn River Basin District

This document relates to the Welsh part of the Severn RBD only and Figure 2 shows the boundary.

Figure 2: The Welsh part of the Severn River Basin District



Collectively, the approach and actions set out in this plan will have an effect on all types of water across the catchments that make up the management plan, this includes; rivers, lakes, canals, surface water transfers, groundwater, wetlands and estuaries. The plan aims to be integrated at the catchment scale ensuring a connection across the wider environment for people and wildlife, from source to sea.

In Wales, we aim to improve the environment through continued collective action. There are already many good examples of partnership working and we need to build on these. Responses to this consultation will help to set the strategic direction of the plans and prioritise the actions needed. We need to ensure that the objectives for RBMPs are integrated in other plans and policies. In particular this must involve our natural resource planning, Flood Risk Management Plans, Shoreline Management Plans and the Wales Rural Development Programme.

We recognise that a changing climate will potentially have an impact on the resilience and benefits our environment provides. Working in partnership, we aim to develop our understanding of local impacts and build climate resilience and adaptation into river basin management.

1.2.1 What has been achieved so far

The Welsh part of the Severn RBD has benefited from investment over the past thirty years and beyond which has delivered improvements which benefit people, wildlife and the economy. Since the second RBMP was published, we have improved our understanding of the pressures on the water environment in Wales allowing us to target actions to manage them. The majority of actions proposed in the RBMP have been started or completed.

In 2015 for the Welsh part of the Severn 33% of water bodies were meeting good overall status. The aim for the Welsh part of the Severn RBD was to improve compliance with good overall status in 17 water bodies and also improving 12 poor water bodies to moderate and 1 bad water body to poor. This corresponds to a 6% improvement in compliance to good by 2021. Since then, many improvements have been made but it can take significant time for this to be observed in the biological monitoring results. It is not yet possible to ascertain whether this aim has been met. However, the current classification indicates that 34% achieved good or better status. See section on 'current overall status' for further information.

Many organisations have worked together across the Welsh part of the RBD on a range of projects. These are groups of organisations with an interest in improving the environment in their local area. The partnerships work on a wide range of issues, including the water environment but also to address wider issues that are not directly related to river basin planning.

In Wales we communicate and work with these sectors through our external stakeholder forums. The Wales Water Management Forum (WWMF) provides an opportunity for the forum's membership organisations to share evidence and explore opportunities for working together to achieve the sustainable management of water - from source to sea. It is chaired by a NRW Board Member and meets biannually, meeting dates and records of minutes are [of the WWMF are published on our website](#). The forum also explores opportunities to develop, support and communicate shared messages and recommendations on the Sustainable Management of Natural Resources (SMNR). WWMF works with the Wales Land Management Forum (WLMF), Wales Fisheries Forum (WFF) and the Wales Marine Advisory and Action Group (WMAAG). The WLMF Agriculture Sub Group was tasked with undertaking root cause analysis to achieve a common understanding of the causes of agricultural pollution. The group looked at the ways in which these are currently addressed through investigation, agreement, reporting and delivery on potential solutions, taking an integrated approach, working across organisations. The group produced a report in April 2018 on [tackling agricultural pollution](#).

1.2.2 Scale within the Welsh part of the Severn River Basin District

This plan refers to three management units: RBDs, management catchments and water bodies. The RBD is the largest and is the entire area to which this plan relates. RBDs are divided into smaller management catchments which enable more localised decision

making and water bodies are the individual or parts of rivers, lakes, estuaries, coastal waters or groundwaters which we monitor and report on the quality.

Managing the water environment is not always best co-ordinated at the RBD scale. Under the Environment (Wales) Act 2016 boundaries (see Figure 3 below) covered by Area Statements have been published which will be a new way of working and rely on collaboration with partners and stakeholders. Catchments are still important and will be managed as part of working across Area Statement boundaries.

NRW is able to make some significant improvements through our own activities for example:

- Managing the Welsh Government Woodland Estate
- Operating flood management and hydrometry assets
- Managing National Nature Reserves

NRW is a regulator, ensuring that legislation to protect the environment is applied fairly in accordance with our regulatory principles. We also work with local and national partners to deliver projects and initiatives to improve the water environment. Examples of this include developing our approach to SMNR, Metal Mines Strategy for Wales and the Marine Protected Area Management Action Plan. Other strategies are at a UK level and include the UK Marine Strategy and the UK [strategic approach to tackle risks from harmful chemicals in UK waters](#).

1.3 Taking a Place-Based Approach

The Environment (Wales) Act 2016 states that NRW must prepare a report containing its assessment of the state of natural resources in relation to Wales. The [State of Natural Resources Report](#) (SoNaRR) published in 2016 provided the first national evidence base for Wales with an assessment of the state of our natural resources, their headline trends and whether Wales' natural resources are being managed sustainably. The report also links the resilience of Welsh natural resources to the well-being of its people. NRW published the second [State of Natural Resources Report \(SoNaRR\)](#) in December 2020; and the assessment of biodiversity, assessments by broad ecosystem and cross-cutting theme in March 2021. This second State of Natural Resources Report (SoNaRR 2020) is an assessment of whether Wales is achieving SMNR. It provides evidence to inform the identification of national risks, priorities and opportunities for sustainable management and suggests how it could be achieved in the future. Classification data is an important data source in SoNaRR I and II.

The SoNaRR report forms an important evidence base for Welsh Ministers to consider in the preparation of the [Natural Resources Policy](#) (NRP). Under the Environment (Wales) Act 2016, there is a requirement for Welsh Government to publish the NRP which sets out the national priorities, challenges and opportunities in Wales. The NRP was prepared taking into consideration the findings of the SoNaRR report that NRW published in 2016.

The Environment (Wales) Act 2016 outlines the policy framework to enable the environment to be managed in a more proactive, sustainable and joined up way. It includes a duty for NRW to produce Area Statements to help implement the priorities set out in the Welsh Government's NRP. There are seven areas or 'places' in Wales, including the marine environment. Each area has a live [Area Statement document](#) summarising the challenges and opportunities relevant to that area, which was first published in April 2020.

The delivery of Area Statements requires a new way of working and rely on successful collaboration with partners and stakeholders. The [Well-being of Future Generations \(Wales\) Act 2015](#) made it a requirement for all public bodies to work towards the seven Well-being Goals and think about how their decisions will affect people living in Wales now and in the future. Water is critical for life and societies well-being as it is needed for drinking, growing food, bathing, recreation etc. It can also have impacts on well-being when there is poor water quality, lack of water availability, flooding and can have significant economic impacts.

The objectives of the SMNR within the Environment (Wales) Act 2016 require Wales to 'maintain and enhance the resilience of ecosystems and the benefits they provide' now and in the future. For the third cycle of the RBMP, we aim to take a place based SMNR approach to catchment prioritisation which delivers water quality outcomes, wider benefits to the environment and people as required under the new legislation and contributes to the SMNR objectives. This would mean benefits for water and water dependant habitats and species aligned with well-being benefits and public participation over the long-term. Partnership projects such as [Greener Grangetown](#) help to enhance local biodiversity and wildlife, deliver water quality improvements in the River Taff and present opportunities for people to enjoy recreation close to where they live and work.

Catchments as a whole are an important factor and will help opportunities for working across Area Statement boundaries. By taking a more holistic approach to catchment management, better outcomes can be achieved for the environment and the well-being of people.

The Environment (Wales) Act 2016 introduced nine principles to help provide a method and a guide for considering SMNR, which are shown in Figure 3 below. Involvement of partners and stakeholders in the Area Statements process is an important step to support implementation of the priorities, challenges and opportunities outlined within each.

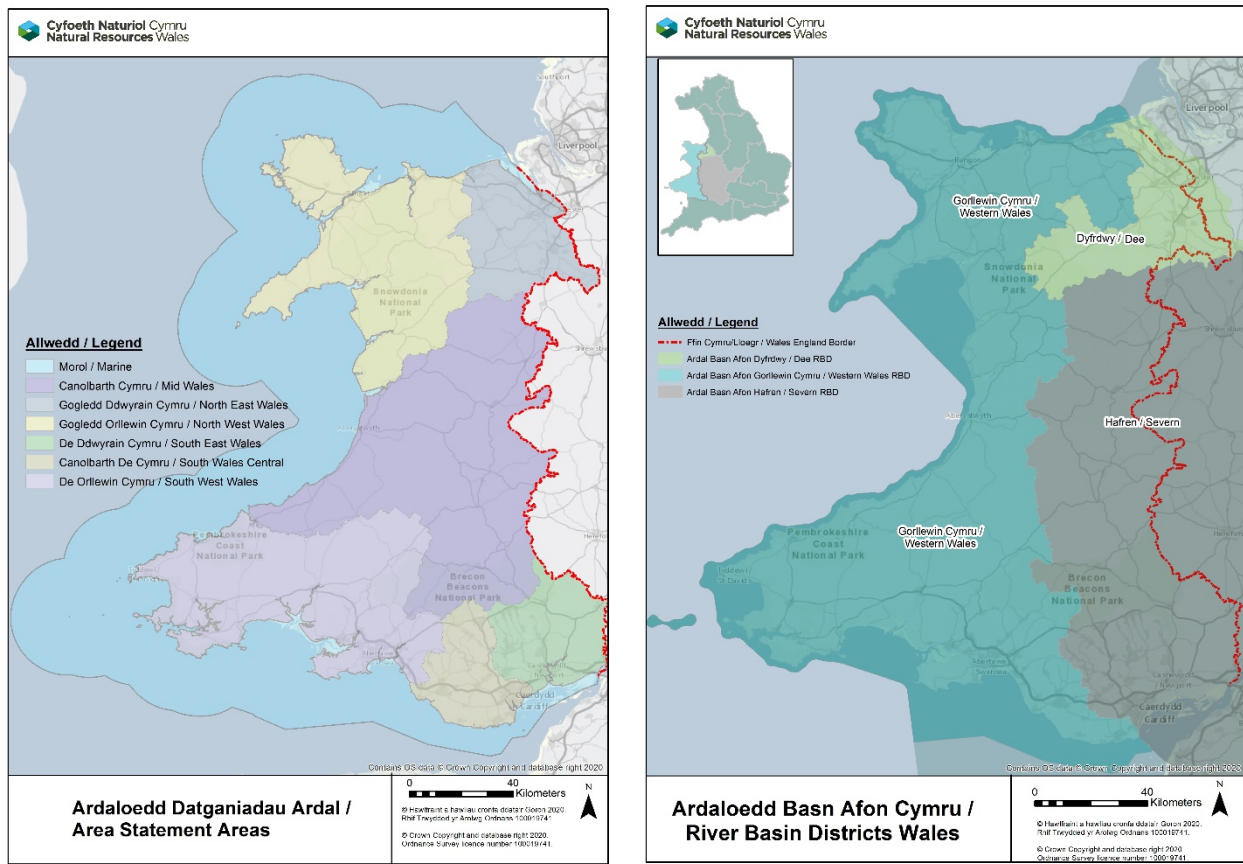
Figure 3: Nine principles of SMNR



Area Statements include information about the natural resources in that place, the benefits provided, and the priorities, risks and opportunities that need to be addressed by all to achieve sustainable management within that area. Area Statements will also be used to shape NRW's business planning and partnership working including projects linked to outcomes for our water bodies. They will be used to influence a range of public plans and policies to help integrate sustainable water management across other delivery mechanisms including land use planning, land management, flood risk and water company planning.

Area Statements are therefore both an evidence base and a prioritisation tool to help us all understand the opportunities to deliver sustainable management at an appropriate scale right across Wales. Figure 4 below shows a map of the Area Statement areas and the RBDs in Wales for comparison. The Welsh part of the Severn RBD includes parts of all the Area Statement boundaries including the Marine Area Statement. NRW have now published [Area Statements](#) on its website and continues to work with partners to identify key themes and looking at opportunities to address them.

Figure 4: Maps of Area Statement Areas and RBDs in Wales



1.4 Evidence Needs

NRW has identified a list of opportunities for collaborative research projects and evidence needs relating to the water environment. The draft [water evidence needs](#) published on our website fall within the categories of Water Quality, Monitoring, Water Resources, Land Management and Ecosystems. The priorities within these themes present potential opportunities for collaborative working with partners and academic institutions to develop the evidence base required to pursue the SMNR and contribute to the well-being goals. NRW have recently formed an Evidence Portfolio, Programmes and Processes team to support our evidence needs programme.

In addition to the water evidence needs, NRW published a complete list of [SoNaRR2020 Evidence Needs](#). The evidence lists are what NRW believe is needed to assess the SMNR and make evidence based decisions in future.

2. The Welsh part of the Severn River Basin District

2.1 Current state of the water environment and progress review

Throughout each cycle of the RBMPs, we collate all the evidence, historic and current, and produce a 'baseline classification'. Classification is the process by which the data collected in our water monitoring programmes is turned into the evidence we need to advise, regulate and manage the water environment. We have a statutory duty to assess and report on the status of every classified water body in Wales but its benefits are far wider. It is used to inform many other areas including water company investment plans, set permit limits, inform impact assessments of proposed projects and activities and management. It is also a key evidence source for SoNaRR and a national indicator for the Well-being and Future Generations (Wales) Act 2015.

Classification is an assessment of the quality of our surface and groundwaters undertaken at a point in time. It includes monitoring data required by the classification tools which vary from 3 to 6 years prior to the publication. It is based on operational routine monitoring points within a water body and is risk based.

This classification and information on the pressures and risks to waters is the basis for planning the next cycle. In this section, we describe the current state of the water environment compared to the baseline set in 2015. The third cycle RBMP will set a new baseline. A few of the standards we use to set that baseline and to describe the health of the water environment will change in the new baseline. These changes are described at the end of this section and in the [River Basin Management Plan Overview Annex Wales](#)

2.1.1 How we determine the current condition

We use the term water bodies to help understand and manage the water environment. A water body is part, or the whole, of a river, lake, ground water, transitional or coastal water. The legal requirements set out in the WFD Regulations 2017 applies to all water in a RBD, not just the water bodies that are shown on the maps. Water bodies are reporting units and are indicators of the health of the wider water environment. We assess the condition of these water bodies through monitoring which produces a classification. During the first RBMP cycle (2009-2015) the classification was updated annually. However, it is now updated once every 3 years for surface waters. The most up to date classification is the 2018 interim classification for surface waters and 2015 classification for groundwater as the latter is updated every 6 years. This combined dataset forms the most recent classification which is used to report in this draft plan for the Welsh part of the Severn RBD. The number and type of water bodies is shown in Table 1 below. Note the river category also includes canals and surface water transfer.

Table 1: Number and type of water bodies in the Welsh part of the Severn RBD.

Number of water bodies	Natural	Artificial	Heavily Modified	Total
Rivers, canals and surface water transfers	202	11	23	236
Lake	4	0	35	39
Coastal	0	0	0	0
Estuarine	1	0	2	3
Groundwater	9	n/a	n/a	9
Total	216	11	60	287

2.1.2. Surface waters

For rivers, lakes, canals, surface water transfers, coastal and estuarine water bodies, the classification is based on the ecological and chemical condition of the water body. We collect biological and chemical data, which are combined to give an **overall status** of high, good, moderate, poor or bad, based on the lowest reported class from the different elements monitored.

Ecological status is determined from a combination of data for biological, physico-chemical and specific pollutants.

Chemical status is assessed by compliance with environmental standards for chemicals.

Artificial and heavily modified waters

Many of our waters have been changed by human activity for a specific use such as navigation, flood management or water storage. In some cases, this change may mean that it is impossible to achieve good ecological status. In these cases, we aim to achieve good ecological potential. This is a measure of the best the water body could achieve given the constraints required by the modification.

Current status – Surface waters

There are 278 surface water bodies in the Welsh part of the Severn RBD, including river, canal, lake, coastal and estuarine waters. Table 2 and Table 3 below shows the number of water bodies in each status class in the most recent ecological and chemical classification. Note the rivers category includes canals and surface water transfer.

Table 2: Most recent ecological classification for surface waters (assessed water bodies) in the Welsh part of the Severn RBD.

Number of water bodies	Bad	Poor	Moderate	Good	High
River	4	32	107	93	0
Lake	0	2	35	2	0
Coastal	0	0	0	0	0
Estuarine	0	0	3	0	0
Total	4	34	145	95	0

Table 3: Most recent chemical classification for surface waters (assessed water bodies) in the Welsh part of the Severn RBD.

Number of water bodies	Fail	Good
River	13	223
Lake	0	39
Coastal	0	0
Estuarine	1	2
Total	14	264

2.1.3 Groundwaters

For groundwater, the quantitative and chemical status are combined to provide a single final classification; good or poor status. A groundwater is at poor quantitative status if there could be adverse impacts on rivers and wetlands or it is not certain that the amount of groundwater taken will be replaced each year by rainfall. Poor chemical status occurs if there is widespread diffuse pollution within the groundwater body, the quality of the groundwater is having an adverse impact on wetlands or surface waters, there is saline intrusion due to over abstraction, or the quality of water used for potable supply is deteriorating significantly.

Current status – Groundwater

Of the 9 groundwater bodies in the Severn RBD all achieve good quantitative status.

Table 4 and Table 5 below show the most recent classification of quantitative and chemical classification for groundwater.

Table 4: Most recent classification of quantitative classification for groundwater in the Welsh part of the Severn RBD

Number of water bodies	Poor	Good
9	0	9

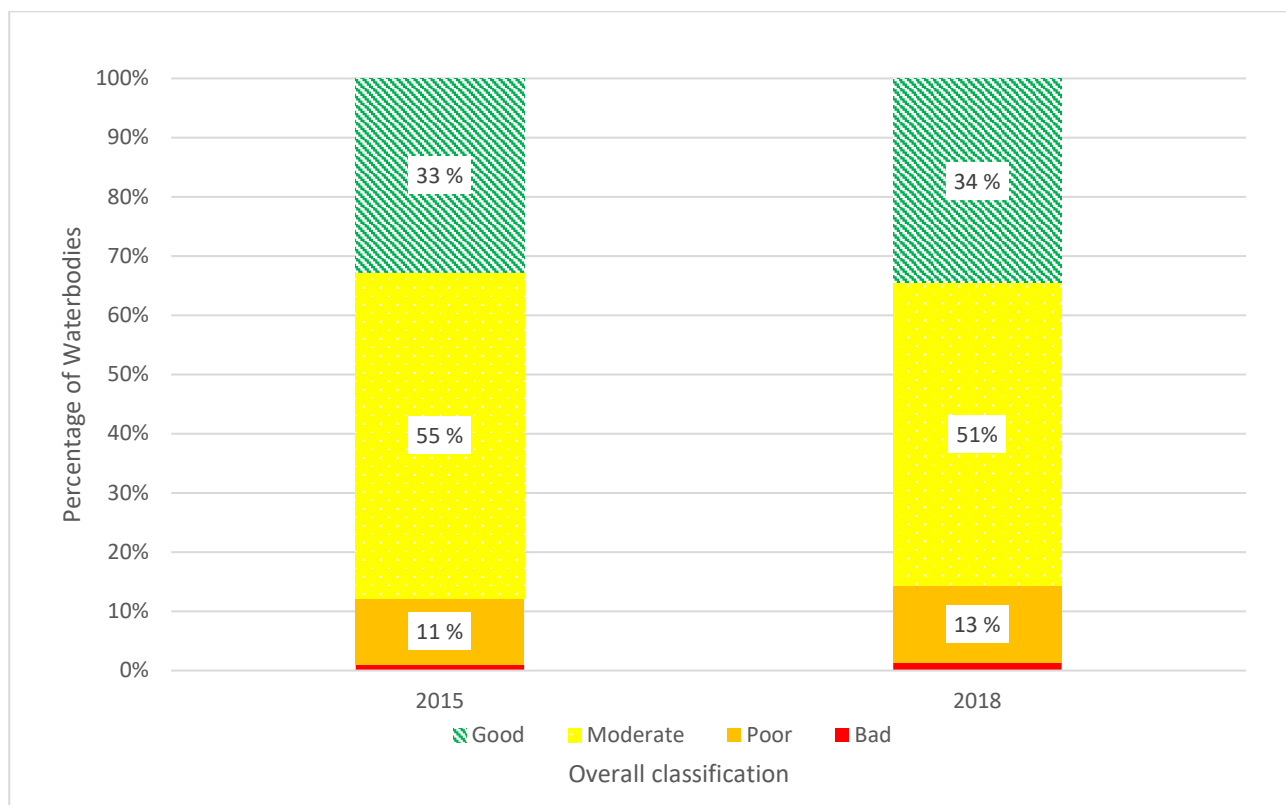
Table 5: Most recent classification of chemical classification for groundwater in the Welsh part of the Severn RBD

Number of water bodies	Poor	Good
9	3	6

2.1.4 Current overall status

In 2015, 33% of water bodies in the Welsh part of the Severn RBD achieved good or better overall status. We predicted that this would rise to 39% by 2021. The most recent classification results (2018) indicate that 34% of water bodies achieved good or better overall status. There is also 1 more water body at bad status than in 2015 and 5 more water bodies at poor overall status than in 2015. We will reassess improvements and deterioration from the 2015 baseline in the third cycle RBMP against the 2021 classification data. Statistically significant deteriorations over the duration of the second cycle will be investigated to understand if they are due to real changes in the quality of the environment and what remediation measures are required. Any real deteriorations will need to be addressed by measures during the third cycle.

Figure 5: Comparison of the overall baseline classification in the Welsh part of the Severn RBD in 2015 with the most recent classification



Some improvement in status can be linked to changes in monitoring and is limited by the current understanding of pressures on the water environment, their sources, and the action required to tackle them.

For each water body the overall water body classification (Figure 5) is made up from a number of different chemical, biological and physical elements. Classification requires that if one of these elements is not achieving good or better than the water body cannot be at good overall status. This is known as the one out all out rule.

In the Welsh part of the Severn RBD there are 2660 elements assessed and 2328 (88%) of them individually are at good or better status. These figures do not include the supporting elements of morphology and hydrological regime. For rivers 2,060 (89%) of elements are at good or better status, for lakes 124 (67%), for transitional waters 42 (84%), canals 15 (79%) and groundwater 87 (97%). The one surface water transfer in the Welsh part of the Severn RBD has 1 element at moderate status. As a result of the one out all out rule, the overall classification for the Welsh part of the Severn RBD presents a more pessimistic view of the current status.

2.2 Future updates to classification information

The data and information used in the management of the water environment is regularly reviewed and improved. We use a set of data, standards and tools that help us complete the classification. These are:

- Water body network

- Monitoring networks
- Environmental standards
- Classification tools

For the third cycle RBMPs the above are being reviewed based on improved science, better understanding of the environment, policy and directions from UK or devolved Governments. This includes:

- Minor amendments to the water body network and correction of known text errors
- Changes to classification tools based on advice from UK Technical Advice Group (UKTAG) and other technical experts.

The proposed changes between the second and third cycle RBMPs are not considered to be major. Although these changes will provide a better picture of the water environment, they make comparison with the data from the second plan more complex to present. In the preceding section the current condition of the water environment has been presented using the network, environmental standards and classification tools used for the second cycle. This will enable us in the third RBMP to report on progress against the objectives set in the second RBMPs including checks for any potential deterioration. The new network, environmental standards and classification tools will be used to set the baseline for the third cycle.

2.2.1 Changes to some of the water bodies in the network

For the third cycle of RBMPs some water bodies have been amended across Wales. For further detail on the changes listed below can be found in Appendix B of the [River Basin Management Plan Overview Annex Wales](#) The main changes are;

- Correction of errors, e.g. where a water body is associated with the wrong catchment
- Heavily Modified Water Bodies (HMWBs) - revisions made to some of the cycle 2 HMWBs designations and/or uses and new HMWB designations
- De-designation of a water body due to removal of Drinking Water Protected Area designation or because biology is at good status.

These changes will make a difference to the number of water bodies we report as being in high, good, moderate, poor and bad ecological status. The numbers of water bodies which will be used to report the classification in the third cycle RBMP are summarised in Table 6 below. The classification which will set the baseline for the third plan will be published in the third cycle RBMP.

Table 6: Number and types of water bodies in the baseline third cycle RBMP in the Welsh part of the Severn RBD.

Number of water bodies	Natural	Artificial	Heavily Modified	Total
River , canals and surface water transfers	201	11	24	236
Lake	4		34	38

Number of water bodies	Natural	Artificial	Heavily Modified	Total
Coastal				
Estuarine	1		2	3
Groundwater	9			9
Total	215	11	60	286

2.2.2 Chemicals including those that are ubiquitous, persistent, bioaccumulative and toxic (uPBTs)

Chemicals can impact on the aquatic ecosystem in the following ways:

- Aquatic life (fish, plants and invertebrates) from exposure to chemicals in UK waters;
- Human health and higher wildlife predators from chemicals that may accumulate via the aquatic food chain; and
- Surface and groundwater sources where chemical contamination may compromise their on-going use to supply water for domestic or food production purposes.

NRW manage chemicals in the water environment within the framework of a [strategic approach to tackle risks from harmful chemicals in our waters](#). Chemicals in the environment are derived from a variety of sources. Some chemicals are ubiquitous and are best managed at a national scale whereas others are particular to an activity and their management should be focused at a local scale. Many chemicals are banned from production and/or use but are persistent in the environment for long periods and continue to be monitored to demonstrate that existing controls are adequate, and concentrations are decreasing. Managing chemicals will ensure that we minimise the impact on aquatic life and human uses of water and the flora and fauna that live in it.

As new chemicals are manufactured and used, and our assessment of chemicals improves to better manage any risks, the range of chemicals and the way they are assessed has evolved since the first river basin cycle. The WFD Regulations 2017 identifies a sub group of chemicals which are uPBTs that require special consideration for monitoring and presentation of classification results. These uPBTs will be reported in full for the first time in the third cycle RBMPs. However, as this draft plan is based on the 2018 classification which did not include these new requirements, then it is only the third plans that will show the full impact on overall classification across the RBD. The risk assessments are explained in section 4.4.3 of the [River Basin Management Plan Overview Annex Wales](#) and are based on best available evidence. They show a significant risk of failing the standards for Polybrominated Diphenol Ethers (PBDEs) and mercury. The chemical fact sheets are in Appendix C of the [River Basin Management Plan Overview Annex Wales](#) which show that these chemicals have been phased out of use and further measures would not be practicable. However, because of the persistence of these

chemicals in the environment it is likely that there will not be widespread compliance with standards in the next planning periods.

Because of the bioaccumulative nature of uPBTs we are now directed to monitor these chemicals in the tissue of fish and shellfish. We cannot monitor the environment for these chemicals as widely as we do with water samples and we will only sample fish and shellfish when we are confident that we are not impacting on natural populations. This limits the number of waterbodies we assess for these kinds of chemicals in Wales and so NRW is actively investigating other methods and techniques to assess the risk to higher trophic levels that uPBTs pose.

The UK regulators continue to work closely together on the subject of chemicals classification. We have each developed an approach that makes best use of the evidence available to us. Whilst the approaches to classification may differ, the measures applied to reduce uPBTs in the water environment are broadly comparable across the administrations and driven from national and international legislation, and monitoring the reduction of these chemicals in the environment will continue to ensure that measures are appropriate.

2.3 Protected Areas

There are a number of areas in the Welsh part of the Severn RBD where the water environment is particularly important. Protected Areas defined by WFD Regulations 2017 and listed in our Protected Area Register have legal protection under a range of UK Regulations (Section 3.1.2 [River Basin Management Plan Overview Annex Wales](#)). Protected Areas can have different objectives for compliance. Where the standards required for doing this are more stringent than those required to achieve good ecological status/potential we must endeavour to achieve those more stringent standards. The number and type of relevant Protected Areas are shown in Table 7, 8 and 9 below. Note that where a Protected Area crosses the boundary of more than one RBD we report in the RBMP which holds the majority of the area in order to avoid duplication. There are no Bathing Water or Shellfish Water Protected Areas in the Welsh part of the Severn RBD.

The Nitrate Pollution Prevention (Wales) Regulations (2013) have been revoked and replaced by the Water Resources (Control of Agricultural Pollution)(Wales) Regulations 2021. Measures to protect the environment from pollution by nitrates from agricultural sources will now apply to the majority of holdings in Wales after the transition periods (these apply to holdings not previously in an Nitrate Vulnerable Zone). Nitrate Vulnerable Zones in Wales previously included on the Protected Area Register will be removed for the final plan.

2.3.1 Current status – Protected Areas

Protected Areas need to meet standards that are relevant to their particular designation. Table 7, 8 and 9 shows the type and number of Protected Areas in the Welsh part of Severn RBD.

Table 7: Drinking water protected areas and current status

Water body type	Number of drinking water protected areas	Number 'at risk'
Surface water	60	20
Groundwater	9	0

Table 8: Nutrient Sensitive area protected areas

Nutrient Sensitive area protected areas	Number of sensitive areas	Length (km)/Area (km ²) designated
Eutrophication in rivers	2	143.2 km
Eutrophication in canals	n/a	n/a
Eutrophication in lakes or reservoirs	n/a	n/a
High nitrate in surface fresh water	n/a	n/a

Table 9: European site protected areas

European site protected area	Total Number
Water dependent SACs	20
Water dependant SPAs	3
Ramsar sites	2

For the purposes of the RBMP water dependant Special Area of Conservation (SAC's), Special Protection Areas (SPA's) and Ramsar sites have been called "European sites".

In Wales the condition of designated habitats and species features in SAC's and SPAs are reported over 6 year cycles. In Wales NRW has undertaken [marine indicative condition assessments for all the marine SPA and SAC features](#) in 2018. This included the [Severn Estuary SAC indicative condition assessment report](#) and the Severn Estuary SPA bird features were covered in the [Welsh SPA report](#).

NRW's [Freshwater and Terrestrial Protected Sites baseline assessment \(2020\)](#) used existing evidence to derive, where possible, 'indicative' feature condition assessments across the range of freshwater and terrestrial features on protected sites in Wales. The baseline assessment includes water dependant SAC's including the River Wye and Usk.

In January 2021 NRW published an evidence report on '[Compliance Assessment of Welsh River SACs against Phosphorus Targets](#)'. The evidence review shows that overall, phosphorus breaches are widespread within the Wye and Usk SACs against the revised tightened targets set.

2.3.2 Changes to some of the Protected Areas between second and third cycles

No changes to the nutrient sensitive areas have been made under the Urban Wastewater Treatment (England and Wales) Regulations 1994 for Eutrophication in rivers.

The Nitrate Pollution Prevention (Wales) Regulations (2013) have been revoked and replaced by the Water Resources (Control of Agricultural Pollution)(Wales) Regulations 2021. While the requirements of the Nitrate Regulations only applied to those holdings within a designated Nitrate Vulnerable Zone (NVZ) the majority of measures under the Water Resources (Control of Agricultural Pollution)(Wales) Regulations will apply to all holdings in Wales after the initial transition period.

Drinking water (surface and groundwater)

We have reviewed all of the Drinking water Surface water Protected Areas and propose to update those listed in Appendix B of the [River Basin Management Plan Overview Annex Wales](#). Drinking Water Protected Areas are proposed for removal if there is no longer a qualifying abstraction or due to boundary changes of the water body network.

European sites (water dependant SAC, SPA and Ramsar sites)

Post EU Exit, SACs and SPAs in the UK no longer form part of the EU's Natura 2000 (N2K) ecological network. The 2019 Habitats Regulations have created a national site network on land and at sea, including both the inshore and offshore marine areas in the UK. The national site network includes existing SACs and SPAs and new SACs and SPAs designated under these Regulations.

Maintaining a coherent network of protected sites with overarching conservation objectives is still required in order to fulfil the commitment made by government to maintain environmental protections and continue to meet our international legal obligations, such as the Bern Convention, the Oslo and Paris Conventions (OSPAR), Bonn and Ramsar Conventions.

Designated Wetlands of International Importance (known as Ramsar sites) do not form part of the national site network. Many Ramsar sites overlap with SACs and SPAs, and may be designated for the same or different species and habitats. All Ramsar sites remain protected in the same way as SACs and SPAs.

The Protected Areas Register for Wales will be updated and published as part of the third RBMP and maps updated on Water Watch Wales.

2.4 Delivery of actions

Actions taken during the second cycle have collectively contributed to the protection and improvement of the water environment. The actions related to all types of water bodies; rivers, lakes, canals, wetland, groundwater, estuaries and coastal waters including those in Protected Areas.

Preventing deterioration

All measures and many of the day-to-day activities of NRW and many of our partners contribute to preventing deterioration of the water environment. Through our collective knowledge, we are able to identify which water bodies are specifically at risk of deterioration and set out the measures, where possible, to prevent or mitigate those risks.

Programme of Measures (See Section 3)

The majority of national measures have been started (94%, that is 91 measures out of a total of 97). In general these set the legislative, policy or strategic approach and support, or are critical to local delivery and environmental outcomes, for example, a national ban on using a particular chemical or a national strategy for prioritising and funding the remediation of abandoned mines. The remaining require further review to ensure required steps are put into place to deliver the required outcome. Progress with the national measures, including any additional new measures was also formally reported to European Commission in December 2018 for the Water Information System for Europe (WISE) return.

The exact measures to be put in place are subject to change over time. Changes in the types of measures needed occur for a variety of reasons including new evidence, changes in water body status, changes in pressure (e.g. cropping patterns), funding availability, Government policy changes, development impacts and climate change. Opportunities to deliver more, or test novel techniques have been acted upon as appropriate e.g. the Slurry Separator Project which was supported by the 'WFD Implementation Fund' during second cycle.

Existing management tools have been used to track delivery. Progress is measured through:

- A target water body programme within catchments
- Progress with the national measures
- Investigation programme to better understand reasons for not achieving good
- Interim water body classification 2018 - mid-point through the second cycle

Across Wales the Water Company Dŵr Cymru/Welsh Water (DCWW) allocated £65m to WFD Regulations 2017 in their 2015-20 business plan (AMP6), including:

- installing Event Duration Monitoring at all Combined Sewer Overflows (CSOs)
- monitoring as part of the UK Chemicals Investigation Programme (UKCIP)
- WFD Regulations 2017 and Drinking Water Protected Area investigations
- monitoring of flows at Sewage Treatment Works (STWs)

The evidence base is being used to inform investment decisions and to influence changes to land use policy in Wales.

Investigations

Since the 2015 plans were published, NRW has carried out an investigations programme in the Welsh part of the Severn RBD to find out why many water bodies are not in good status. Our knowledge and understanding of the issues affecting water bodies has increased significantly and will continue through the third cycle. As a result, we are now in

a better position to work with our partners to identify where the greatest environmental improvements can be made, which will provide the most benefit to everyone.

Additional new measures

The Programme of Measures requires regular review to ensure the right actions are being delivered in the right place. During the second cycle new priorities and/or opportunities meant that some actions were reviewed to reflect the current need of the environment. The following new approaches and measures have been introduced:

Working with other organisations to protect and improve our water quality

Since the publication of the second cycle plans, new arrangements have been put in place to work with key organisations, including Welsh Government, and across work areas to protect and enhance our water environment. These include:

Wales Land Management Forum agriculture sub group is tasked with undertaking root cause analysis to achieve a common understanding of the causes of agricultural pollution and the ways in which these are currently addressed through the investigation, agreement, reporting and delivery on potential solutions, taking an integrated approach, working across organisations.

Wales Water Management Forum purpose is to provide an opportunity for membership organisations to share evidence and explore opportunities for working together collaboratively towards the sustainable management of water in Wales.

Wales Fisheries Forum represents a range of stakeholders with an interest in the freshwater and diadromous fisheries resources of Wales and the work of NRW and others to maintain, improve and develop migratory and freshwater fisheries in Wales.

Measures for agriculture

In April 2021 the **The Water Resources (Control of Agricultural Pollution) (Wales) Regulations 2021** were introduced to reduce losses of pollutants from agriculture to the environment.

Transitional periods for some elements of the regulations are in place to allow farmers time to adapt and ensure compliance. The timetable introduced and enacted within the regulations includes the following measures;

- Nutrient management planning
- Nutrient applications restricted to crop limits
- Closed periods for spreading manufactured and organic nitrogen fertilisers
- Storage capacity for slurry and storage of organic manure

‘WFD Implementation Fund’

Welsh Government provided the River Basin Liaison Panels with an opportunity to deliver actions which would ‘achieve or contribute towards a measurable improvement in water quality in the respective RBDs’. The fund was a total of £220K over 2 years. Projects included producing septic tanks guidance and funded the ‘Learning from Loving our Lake’ report. Projects also included work to start to prioritise improvements in physically modified rivers. It should be noted that the Liaison Panels in Wales have been replaced by the WWMF.

The Environment (Wales) Act 2016 and the Well-being of Future Generations (Wales) Act 2015

See section 1.3 on taking a place-based approach in Wales on details of the overarching aims of the Environment (Wales) Act 2016, [Natural Resources Policy](#) and Area Statements and also for the Well-being of Future Generations (Wales) Act 2015.

Tracking and reporting

In Wales, for the second RBMP cycle we embedded statutory objectives and timelines into corporate/business plans. We set targets for national and local measures, investigations programme and publishing public consultations with progress reported quarterly and scrutinised. This has allowed us to review achievements and challenges, and revise work plans as necessary.

2.4.1 Impact of actions from the current plan

The second RBMP set out a Programme of Measures that would aim to improve the overall status in some target water bodies from the 2015 baseline classification. The aim was to improve 17 water bodies from moderate to good status, 12 from poor to moderate and one from bad to poor status. A total of 74 local measures were identified principally to address diffuse & point source pollution from both urban and rural areas, to improve fish passage and to improve degraded habitat.

Out of the original 74 measures identified in 2015, 12 are reported as no longer needed/feasible or considered effective. Reasons for these include:

- Misconnections work which is now led by the Local Authority and DCWW and will be an ongoing day job activity.
- Barrier removal where it was either not technically feasible, or the easement would be complex and unlikely cost beneficial.
- Barrier removal where the spawning suitability above barrier was assessed as poor, therefore not cost beneficial to progress with any easements.

Target water body updates

Actions to control or manage rural diffuse and point pollution were targeted at several water body tributaries in the Severn Uplands, several Trothy water bodies, upper Olway, Gavenny, Honddu, Ennig, often taking a wider catchment approach. Actions consisted of NRW officers undertaking walkover surveys, farm visits including enforcement and water quality inspections; dairy farm project; Farming Connect workshops / nutrient planning / sustainable production grant events / on farm events.

Small scale capital interventions have also been completed including the following:

- project delivered by Severn Rivers Trust in the Camlad - 3.6km fencing, 1km soft revetment, soil and yard infrastructure management advice given.
- tree planting - 0.45ha in the Gavenny. While only minor opportunity for diffuse benefits and unlikely to improve WFD status, excellent opportunity for wider connectivity benefits.

Fish easements and habitat improvement works were undertaken:

- NRW's Taff priority barrier remediation programme 2015-2020. On the Cynon priority barrier no. 1 (Penrhiwceiber sports field) was removed in 2015 and number 5 (Mountain Ash railway station) had baffles added in 2016. On the Taff Clydach priority no. 14 (Cwm Farm Railway Bridge) had a pre-barrage installed in 2016 and no. 13 (Glyn Street weir) had the weir notched and a flume installed to attract fish in 2018. On the Rhondda Fach priority no. 10 (Station Rd Ferndale) fish passage improvements were made in 2019.
- In 2016/17 WUF tackled the bottom 2 easements on the Ennig.
- 2016-2018 Fish Passage improvements were made on the Bargoed Rhymney by the Healthy Rivers Project.
- On the Ebbw Fach and Fawr fish habitat improvement works (revetments / gravel traps / gravel replenishment) were carried out with the Healthy Rivers project throughout the second cycle.
- In 2017 the Wye and Usk Foundation completed a 1yr £65K Tarmac funded TRAP project to enhance the habitat of 6.5km of the Arrow and one of its tributary streams (the Gilwern Brook) with a combination of fencing, water gates, coppicing work undertaken of bank side trees, field gates installed to reduce stock pressure and pleaching of timber to protect exposed river banks and improve fish habitat.

The above works to improve fish status were complemented by actions to reduce urban diffuse pollution in the built up areas particularly in those water bodies located in the South Wales valleys. Actions consisted of NRW officers undertaking river walks, visiting/regulating industrial sites, undertaking industrial estate pollution prevention work and inspections of Combined Sewer Overflows.

In addition to those measures undertaken in the target water bodies, many further improvement measures have been undertaken across wider locations by many organisations and individuals.

Some examples of the completed and ongoing work to tackle failing water bodies:

- Dŵr Cymru Welsh Water (DCWW) completed AMP6 WFD Investigations, schemes to be delivered in current and future AMPs.
- WUF Llanpica weir fish passage work on the upper Arrow as part of Breathing Life Into Salmon Streams project.
- The first of several weirs was partially removed from the Cyfronydd brook in 2020 providing partial geomorphological connectivity and passage for fish.
- South East Valleys Groundwork 'Healthy Rivers' project fish passage and habitat improvement work.
- Wye and Usk Foundation gravelling the Elan project.
- Wye and Usk Foundation fish passage work on the Sor brook.
- NRW Taff barrier remediation programme and SE Valleys gravel replenishment
- Fish Passage Improvement: The Sustainable Fisheries Programme has delivered over 60 fisheries improvements (including habitat improvements and fish easements) across the Welsh part of the Severn from 2015 – 2020.
- NRW 'Dairy Project' farm visits in the Severn Uplands, Wye, Usk management catchments. Since 2018, the Dairy Project has been ongoing across Wales to reduce agricultural pollution coming from the yards of dairy farms.

New priorities are being developed for the third cycle (see section 3.5). We will continue our work for second cycle targeted water bodies where resources allow.

Case Study: Salmon return to the Ebbw Fawr

The main Ebbw River is formed by the confluence of the two minor Ebbw rivers, Ebbw Fach, and Ebbw Fawr (the latter of which gives its name to Ebbw Vale).

The Ebbw Fawr is the latest river to see salmon return and successfully spawn in an area previously inaccessible due to man-made river barriers. This work has been managed via the Sustainable Fisheries Project in SE Wales over the past 10 years using direct funding from Welsh Government and EU Fisheries funding programmes.

Two large barriers in the lower Ebbw at Bassaleg and Abercarn were made passable. Another large weir was removed and a further weir modified to allow fish to migrate upstream. Monitoring of the juvenile fish populations undertaken by NRW in summer 2017 has shown that salmon have spawned in the Fawr upstream of Aberbeeg with salmon fry found at a routine monitoring site.

South East Wales Rivers Trust and Groundwork have been reinstating spawning areas with the installation of gravel traps.

Also see case studies throughout this document for further examples.

Many of the day-to-day activities of NRW and several of our partners contribute to preventing deterioration of the water environment. For example, the NRW local staff cover a range of activities, including regulatory, enforcement, incident management and advisory, to protect water, land and air. This contributes to preventing deterioration in many water bodies across the RBD. Examples of this work include;

- targeted farm visits, which can be regulatory for cross-compliance, groundwater and NVZ work or provision of advice and guidance on best practice to protect the water environment;
- audits of hydro-electric power HEP installations and abstraction and impoundment licenses for compliance with licence conditions;
- audits of wastewater treatment installations – water company, trade or private;
- pollution prevention and control visits to permitted sites e.g. poultry units and other major industrial sites including food and drink sector;
- water related INNS management if it affects protected sites features or NRW assets
- pollution prevention – industrial estates, misconnections, house build and new road schemes;
- attending incidents to stop polluting discharges and where required follow up with a regulatory response where environmental offences have occurred. This can reduce the impacts and prevent future issues occurring;
- pre-application advice and technical input to new permits and licences including hydro-electric power and planning applications including new agricultural storage facilities;
- monitoring land spreading deployments;
- tackling misconnections with water company and local authority.

Further, through our collective knowledge, we are able to identify which water bodies are specifically at risk of deterioration and set out targeted measures, where possible, to prevent or mitigate those risks.

The [Welsh Government Sustainable Management Scheme funding](#) (2014-2020) aimed to support collaborative landscape-scale projects delivering action that improves our natural resources in a way that delivers benefits to farm and rural businesses and rural communities. It will also support and facilitate co-ordination with other schemes to undertake the vital action needed to improve the resilience of farm and rural businesses and rural communities to climate impacts.

SMS funding brings wider benefits including for water, relevant projects for the Welsh part of the Severn RBD include:

- **Powys Moorland Partnership**

A landscape scale project to encourage moorland restoration through bottom up collaborative action driven by communities living and working on and around the moors.

- **South East Wales Resilient Uplands**

The upland landscape across Torfaen, Caerphilly and Blaenau Gwent faces a number of challenges from landscape crime, loss of habitats and key species to poor infrastructure and fragmented communities. The initial focus will be on land management to improve soils and water quality, biodiversity, and carbon storage.

- **Taff Bargoed Catchment Restoration**

This project, aims to deliver sustainable catchment management of the Taff Bargoed river in Merthyr Tydfil. In particular, the project seeks to implement sustainable upland interventions which will: restore a popular amenity for local communities to use and enjoy; reduce siltation of the water environment; enhance biodiversity and ecological resilience; improve water quality; and reduce the flood risk to local communities.

- **Farming the Gwent Levels Sustainably**

This collaborative project includes RSPB Wales, Natural Resources Wales and the Gwent Wildlife Trust working closely with farmers and other partners to develop the understanding, knowledge, skills and experience need to deliver the sustainable management of natural resources within the Gwent Levels.

- **Wye Ithon & Severn Ecosystems (WISE)**

This collaborative project will work with an established catchment partnership, including landowners and local communities to improve the natural resources in four smaller and three larger catchments covering a large landscape travelling down a stretch of the Wye catchment. Action will be taken to improve soil quality in agricultural land, create woodland to maximise the potential for reducing flood risk, habitat improvement for better biodiversity and water quality and improved infrastructure on farmyards to reduce pollution.

- **Cain Valley sustainable land and water management project**

The project is led by a partnership including the farming community of the Cain Valley catchment and aims to reduce diffuse pollution in the catchment to 'slow the flow', improve biodiversity, trial methods of invasive species removal, increase recreational

opportunity, improve farm business resilience and improve community engagement/education of the value of the natural resources in the area.

- **Camlad Valley Project**

This is a farmer led project delivering landscape scale management with the aim of improving ecosystem resilience and enabling productive resilient agricultural businesses. The biodiversity of the Camlad Valley will be enhanced through bottom-up collaborative action taken by those that live and work in the area. Landowners, farmers, communities and key stakeholders will focus on restoration of traditional lowland wet grassland habitat to deliver a healthy, resilient and diverse ecosystem.

- **Irfon Catchment Resilient Freshwater Habitats**

The Irfon catchment in Mid-Wales includes a Special Area of Conservation designated for its exceptional freshwater biodiversity. The project aims to deliver actions to improve the water quality through a collaboration of local farmers, landowners, rural businesses, foresters, statutory organisations, specialist freshwater NGOs and the water industry. The project will deliver practical measures to tackle diffuse and point source pollution in strategic locations by reducing pollutant runoff through farm soil and nutrient management, tree and woodland planting, reducing point source inputs and implementing natural flood risk management (NFRM) techniques.

- **Wild Skills Wild Spaces Project**

Utilising an innovative collaboration between the Welsh NHS and the Montgomeryshire Wildlife Trust (MWT) the proposed project will deliver a range of nature-based solutions to improve the health, skills and well-being of our local communities. New and existing habitats will be created and managed with project groups to spend meaningful time understanding and managing areas of local wildlife value. Activities will also be focused on improved natural flood risk management to slow the flow of flood water to surrounding land.

- **Restoration of Rhos Pasture**

This project is a collaboration of local farmers, land managers, tourism businesses, environmental groups and arts & culture businesses with the aim of landscape scale restoration of the iconic Welsh habitat of Rhos pasture in north Brecknock and west Radnorshire. The project will deliver actions to restore the existing marshy grassland areas to be more resilient, diverse, species rich grazing land. The outcomes of this work will include decreasing soil compaction, improving soil structure and enhancing the capacity to store carbon and water, slowing run-off and erosion.

- **Nant Alan land management and climate resilience project**

The project aims to improve biodiversity and make the Nant Alan valley and its catchment more resilient. Downstream from the catchment area suffers from flooding problems with consequences for businesses, farmers and their livestock. The project will focus on activities to help tackle diffuse pollution, reduce surface water flow, and restore broadleaved woodland.

In addition, in Wales nearly £10M Welsh Government Capital funding has been made available for water quality improvements in 2020-21. This include water quality improvements (such as fencing, chemicals passive monitoring, river restoration etc.), our minewaters programme and fisheries habitat programme.

Figure 6 shows the location of planned projects for 2020-21 in the Welsh part of the Severn RBD.

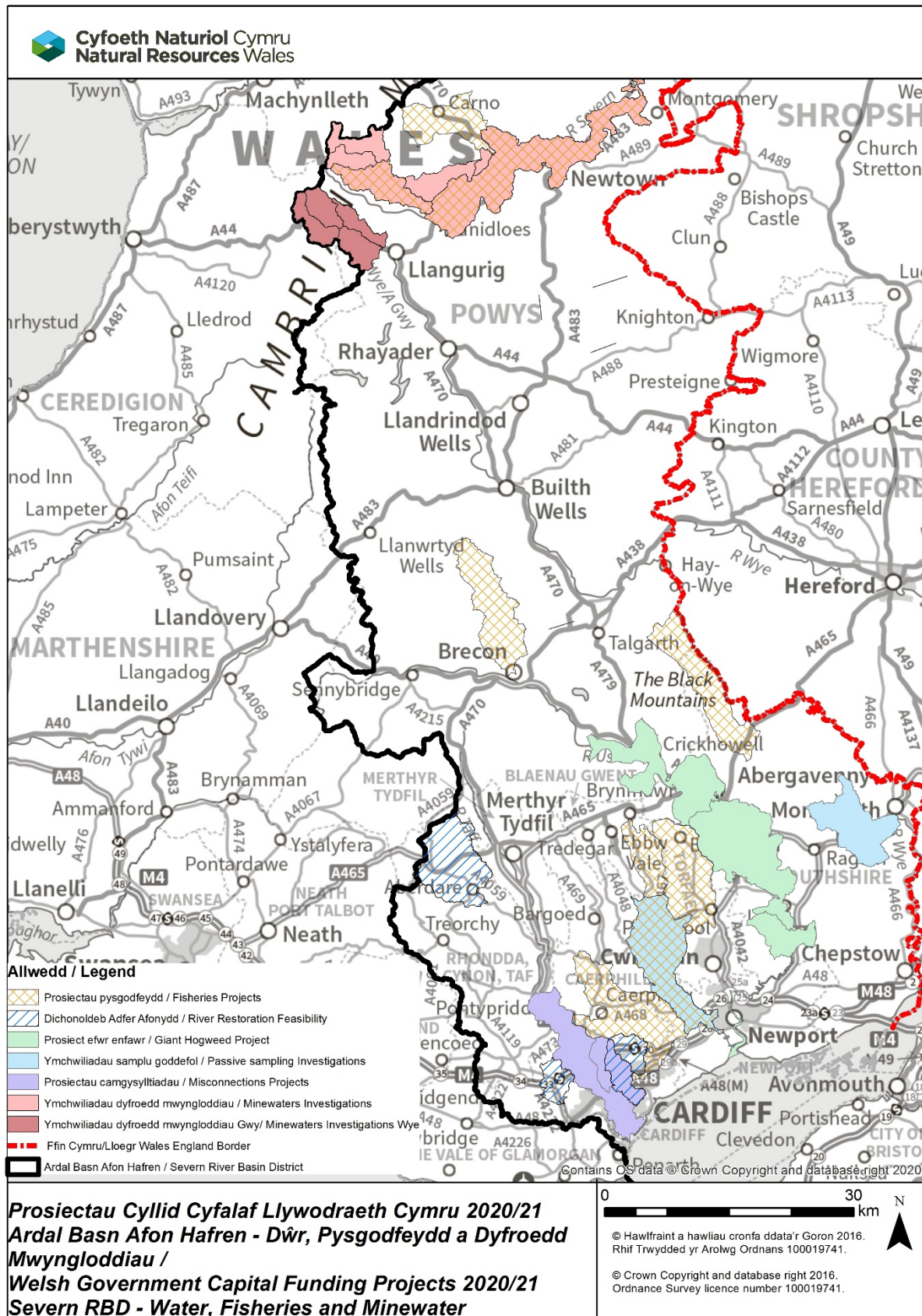
Case Study: Removal of the weir at Merthyr Vale

The upper reaches of the River Taff at Merthyr Vale are failing to achieve good ecological status because of declining fish populations. Many fish passage improvements have taken place along the River Taff and tributaries in recent years.

The removal of the weir at Merthyr Vale sees the removal of the last significant barrier on the river to fish migration. This will provide better access to this stretch of the river and will help to boost the return of salmon and sewin to the upper reaches of the River Taff. Removing the weir will improve access to over 10 km of good quality spawning habitat on the Taff Fechan and Fawr upstream of Merthyr Vale.

The removal of the weir will help to restore the health of the river to good ecological status. There are several community enhancement projects being developed as a result of the weir removal.

Figure 6: Location of planned Welsh Government capital funding projects 2020-21 in the Welsh part of Severn RBD



Case study: Greener Grangetown, Cardiff

Surface water management in the urban environment is an important issue for the quality of our water. In low-lying urban areas, increased hard surfaces like roads and paved areas produce greater flows for combined sewer systems. This contributes to increased flood risk from rivers, seas and surface water flooding.

City of Cardiff Council, Dŵr Cymru Welsh Water and NRW invested £2 million in 'Greener Grangetown', an innovative scheme to better manage rainwater in the Grangetown area of Cardiff. Using the Sustainable Urban Drainage Scheme (SuDS) techniques, the scheme will catch, clean and divert rainwater directly into the River Taff instead of pumping it over 6 miles through the Vale of Glamorgan to the sea. This will significantly reduce the carbon footprint and costs associated with pumping the water through the existing network.

Attractive planted areas were created that will help to absorb the water, increase biodiversity whilst providing the community with more green spaces on their streets. More information on [Greener Grangetown](#) is available.

Life projects

New Welsh Raised Bogs project (LIFE16 NAT/UK/000646)

In October 2017 NRW, with support from Welsh Government and Snowdonia National Park was awarded a £4 million towards a project originally funded via EU LIFE programme to restore lowland raised bogs across seven sites in Wales, including Waun Ddu in the Severn RBMP. The 4-year pioneering and ambitious project aims to restore seven of the very best examples of raised bogs in Wales. Almost 4 square miles (over 900 hectares) will be restored to a better condition, working towards meeting Protected Area objectives for 7 Special Areas of Conservation. This represents 50% of this wetland habitat in Wales and 5% in the UK.

Unlocking the Severn for LIFE - Shad Severn (LIFE15 NAT/UK/000219)

Conservation and restoration of twaite shad in the Severn Estuary Special Area of Conservation.

2.4.2 Partnership actions

Table 10: Examples of partnership working in the Welsh part of the Severn RBD

Lead	Action
Groundwork	<p>Healthy Rivers project</p> <p>Healthy Rivers is now firmly established at the forefront of river restoration in South East Wales. The Culvert of the Nant yr Aber River under the A468, Caerphilly is one such shining example.</p> <p>Working with our public and private sector partners, Keep Wales Tidy, Natural Resources Wales and Tesco (via the Bags For Help scheme) Healthy Rivers volunteers have been giving their time and energy to remove 50kg of rubbish so that a series of timber baffles could be installed through the culvert to aid in fish migration and replenishment. 480 square metres of habitat has been improved.</p> <p>More detail can be found on the Groundwork Wales website.</p>
Wye and Usk Foundation	<p>Weir removal/lowering in the Usk catchment.</p> <p>As part of a wider programme of works focused on conserving salmon in Wales, the WUF and NRW identified and evaluated a number of key barriers to fish migration in 2020. Subsequently, WUF have secured funds provided by Natural Resources Wales to undertake three weir easement projects to improve fish access to their upper spawning grounds.</p>
Severn Uplands Barrier Assessment Project - Severn Rivers Trust (SRT)	<p>Following a walkover survey conducted in 2010 and Water Framework Directive mapping in 2014 which collated locations of all known barriers to fish migration in the Severn Uplands, SRT identified up to 15 barriers of concern for further investigation. A report was produced for each barrier on the feasibility of providing fish passage along with a review of wider implications for the fish community in each specific catchment. This included evaluation around each option and considered impacts on fluvial geomorphology, access issues and potential impacts on other protected species within the local riverine community such as crayfish, otters, birds and bats.</p>

Lead	Action
South East Wales Rivers Trust	<p>Mountain Ash</p> <p>This work involved modifications to the weir at the Cynon River crossing on the former Deep Navigation colliery site. Named deep as at the time it was sunk between 1855 and 1860 it was the deepest in the coalfield.</p> <p>The required easement was effected in partnership with NRW and used funds from the Taff and Ely Mitigation Fund.</p> <p>The improvement work at the site now makes a further 13.5km of river accessible; as far as the next remaining Cynon barrier at Station Road, Hirwaun.</p>
Severn Estuary Partnership	<p>The Severn Estuary Partnership (based in Cardiff and formed in 1995), works with the Environment Agency and NRW (along with local authorities, environmental groups, water companies, industry and the private sector) to develop a sustainable and integrated approach for the River Severn estuary. A new strategy was published in 2017 to provide a strategic policy framework for the Severn Estuary, inform and support decision making and to facilitate the Marine and Coastal access Act (2009) related to cross border integration and an ecosystem based approach to management.</p>
The Wye Catchment Partnership	<p>The Wye Catchment Partnership was formed in 2014. It brings together organisations, initiatives and individuals who have a shared interest in the Wye catchment. The collaboration of these partners delivers improvements in areas such as water quality, water quantity and wildlife.</p> <p>The partnership is hosted by the Wye & Usk Foundation and NRW. It has a diverse membership with representatives from river, wildlife and conservation trusts, governmental organisations, private forestry, farming unions, water companies, local companies as well as individuals interested in the river.</p> <p>Much more information on the Wye Catchment partnership can be found here.</p>

The Metal (Non Coal) Mine Programme is a collaboration between NRW & The Coal Authority (CA). Completed work includes prioritisation of metal mines and development of a programme of work for remediation in waterbodies that fail chemical and ecological quality standards. Work-streams are split after identifying mines as Red, Amber or Green in terms of likely impact and two functional areas are:

- Interventions – where works at ‘red’ sites are designed and implemented; and
- Research Development and Innovation – to reduce risk, cost and uncertainty for new or existing technologies/applications.

Progress has been made in a number of catchments, through a mixture of feasibility studies, completing design stages and implementing remedial measures for surface water management, mine water treatment and safety via staged construction. The Wye and the Severn have several sites progressing through preliminary investigation and screening. Current RD&I includes Dispersed Alkaline Substrate pilot trials – implementing

the first UK passive trials using magnesium oxide and barium carbonate within the treatment train from success in Southern Spain and these commenced in November 2020 at sites in Wales.

Case Study: Weed Wiper Trial

Free Weed Wiper Trial for Farmers Dŵr Cymru Welsh Water (DCWW) has been working in partnership with NRW and the farming industry to launch an innovative new campaign to tackle rising levels of the selective grassland herbicide MCPA (2- methyl-4- chlorophenoxyacetic acid) in Welsh rivers. Routine monitoring by DCWW has detected increased levels of MCPA in the Afon Teifi, Tywi, Wye, Dee and a reservoir on Anglesey.

2.5 Challenges in the river basin

Since the second cycle RBMP was published in 2015, in Wales, we have continued to improve our understanding of the pressures, impacts and risks that the water environment faces. We have:

- Investigated failures to achieve standards to identify the underlying reason for failure
- Assessed the risk of deterioration or of failing to achieve standards in this and future plans
- Consulted the public on our findings through the Challenges and Choices consultation

We have reviewed the list of the most important issues we believe threaten the current and potential future uses of the water environment in Wales. We have grouped the pressures under a number of issue headings (note that these are not in order of priority). We have focused on those issues where more action is needed to achieve status objectives. Alongside these pressures in April 2019, the Welsh Government declared a '[Climate Emergency](#)' in Wales with the intention of prompting 'a wave of action at home and internationally from communities, businesses and organisations in Wales to parliaments and Governments around the world.' On the 30th June 2021 the Welsh Government also declared a nature emergency.

- **Physical modifications.** Man made changes to the natural habitat, for example poorly designed or redundant flood defences and weirs, and changes to the natural river channels for land drainage and navigation and shellfisheries on estuaries and in coastal waters. These modifications can cause changes to natural flow levels, excessive build up of sediment, and the loss of the habitat that wildlife needs to thrive.
- **Pollution from sewage and waste water.** Waste water can contain large amounts of nutrients (such as phosphorus and nitrates), ammonia, bacteria and other damaging substances.
- **Pollution from towns, cities and transport.** Rainwater running over manmade surfaces and carrying pollutants into waters, toxic substances from contaminated land, atmospheric pollution causing acidification and sewage from houses 'misconnected' to surface water drains rather than sewers.
- **Pollution from rural areas.** Poor agricultural practice and forestry can result in nutrients and sediments affecting the water environment (also known as 'diffuse rural pollution').

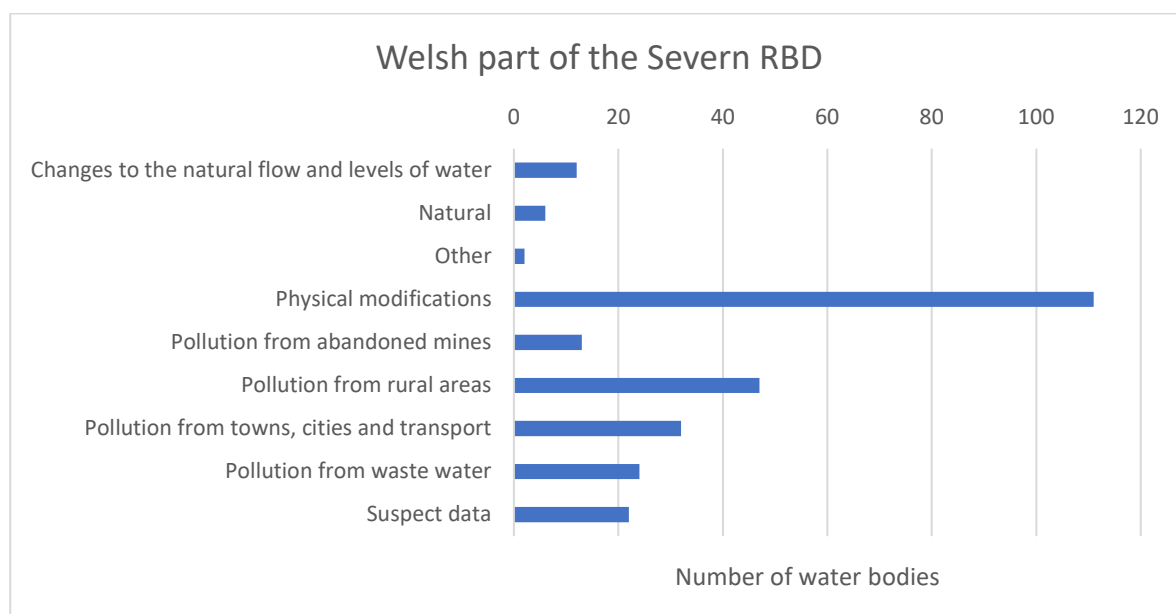
- **Pollution from mines.** Contaminated water draining from mines, most of which are now abandoned.
- **Abstraction and flow.** Taking too much water from rivers lakes and underground causes problems for wildlife and reduces the water available for people to use. Releasing too much or not enough water from a reservoir to a river could also cause problems for wildlife.
- **Invasive Non-Native Species.** The presence of invasive non-native plants and animals in our watercourses poses a threat to biodiversity, increases flood risk, affects the state of our water environment and costs the economy billions per annum.

2.5.1 Reasons for not achieving good status

Since 2015, NRW has carried out several investigations in the Welsh part of Severn RBD to increase our understanding of the issues affecting water bodies. As a result, we are now in a better position to work with our partners to deliver sustainable improvements.

Figure 7 below provides an indication of the types of pressures acting on our water bodies, which in turn highlight the issues or challenges preventing water bodies achieving good status or potential in the Welsh part of Severn RBD. This shows that the main reasons for not achieving good status in descending order are physical modifications, pollution from rural areas, pollution from towns, cities and transport, pollution from waste water and changes to the natural flows and levels of water.

Figure 7: Reasons for not achieving good status 2018



NOTE: The data above includes failures due to 'natural circumstances/features' for example, a natural barrier to fish movement such as waterfalls, we would NOT look to modify natural features such as waterfalls. Also there are failures due to 'suspect data' which we are working to resolve, and 'other' which can include things like time needed for the ecology to recover. There are also some 'unknowns' where we are unable to identify the reason for failure or the investigation was incomplete at the time of writing (these have not been included in the graphs)

2.6 Risk assessments

We have reviewed water quality data and information on the types and magnitude of pressures affecting water bodies in the RBD with the objective of:

- Assessing how susceptible water bodies are to those pressures and in particular:
- Estimating the likelihood of water bodies failing to meet their environmental quality objectives in the future, or deteriorating from their current condition.

The methodology for each risk assessment was tailored to the specific pressure, but in general, it was an assessment of the scale of the pressure and the sensitivity of the water body. The risk assessments are available for the pressures presented on Table 1 below, and are valid until 2027, including those last reviewed in the second cycle in 2014 which were assessed over a longer term so did not require updating.

Table 1: List of available risk assessments per pressure type and water category

Environmental pressure	Water category	Latest review
Phosphates	Rivers and lakes	2019, updated 2021
Chemicals and metals	Rivers, lakes, groundwater, estuarine and coastal waters	2019 (2014 for chemicals and metals in groundwater)
Dissolved inorganic nitrogen	Estuarine and coastal waters	2019
Dissolved oxygen and ammonia	Rivers	2019
Physical modification	Rivers	2019
Faecal indicator organisms	Shellfish and Bathing Water Protected Areas	2014
Acidification	Lakes, rivers	2014
Abstraction and flow	Rivers, groundwater	2014
Invasive non-native species	Rivers, lakes, estuarine and coastal waters	2014
Sediment	Rivers	2014

We will use the risk assessments to:

- Identify areas and pressures where more data is needed in order to develop and prioritise our monitoring strategy.

- Support the development of national programmes of measures, particularly for pressures where classification data is missing.

2.7 Considering climate change

To be sustainable, any action in the river basin should:

- Recognise, and where possible contribute to, the UK's greenhouse gas (GHG) emissions reduction targets.
- Be adapted, or easily adaptable, to the changes in climate that are occurring now, and those projected in the future.

Actions to address climate change should be considered right at the outset of any work, and not considered as an afterthought. In Wales by 2050 it is projected that:

- Summer average temperatures rise by an estimated 1.34°C;
- Winter precipitation increases by an estimated 5%;
- Summer precipitation decreases by an estimated 16%;
- Sea level rise of an estimated 24 cm (at Cardiff).

The UK Climate Projections 2018 (UKCP18) projections are broadly consistent with previous UK Climate Projections 2009 (UKCP09) outputs but provide a finer resolution of data down to 2.2km scale so providing better assessment of fine-scale storm convective processes and consequently rainfall patterns. It remains the case that it is expected that there will be more intense rainfall events;

- More flooding of low-lying coastal areas.
- Hotter, drier summers;
- More heatwaves;
- Milder and wetter winters;
- Less snowfall and frost;
- Lower groundwater levels.

The weather will also continue to vary from year to year. The Met Office report “Too hot, too cold, too wet, too dry” (March 2014) confirmed the underlying UKCP09 trends but also stated “new analysis suggests that we should also plan to be resilient to wet summers and to cold winters throughout this century”.

In terms of GHG emission reductions, land use, land use change and forestry is the most important sector of relevance to the WFD Regulations 2017. Depending upon its use and the associated management regime, land can either be a net source of emissions or a net sink. In 2017, in Wales, they represented a net carbon sink, equivalent to almost 1% of total Welsh emissions. The Centre for Ecology and Hydrology provide full details in their report Mapping Carbon Emissions and Removals for the Land Use, Land Use Change & Forestry Sector (2014).

In terms of the agriculture sector nitrous oxide arising principally from the application of nitrogenous fertilisers and land cultivation along with methane emitted principally by livestock and by the handling of slurries are the main GHG emissions. These agricultural emissions are significant. In 2017 they contributed more than 13% of total emissions in Wales.

In April 2019, the Welsh Government declared a '[Climate Emergency](#)' in Wales with the intention of prompting 'a wave of action at home and internationally from communities, businesses and organisations in Wales to parliaments and Governments around the world.' The declaration reiterated the ambition for the Welsh public sector to be carbon neutral by 2030 and for the next Low Carbon Delivery Plan to be published in 2021 to 'go further and faster'.

Blue carbon offsetting

Carbon storage in woodlands and peatland habitats is well-known. However, marine habitats are also important in storing "blue carbon". NRW has [commissioned a study that investigates these blue carbon habitats in Wales](#). The study shows that, alongside other mitigation and adaptation measures, marine habitats can play an important part in helping us to adapt to the impacts of the climate emergency.

Some blue carbon habitats in Wales have been impacted by human activities and restoring them to good condition may increase the amount of carbon they can store. NRW is working with partners to restore blue carbon habitat at sites such as [Cwm Ivy on the Gower Peninsula](#), thus helping to increase Wales' resilience to climate emergency impacts.

Further information on how to adapt to climate change, and how to reduce emissions, is provided in the [River Basin Management Plan Overview Annex Wales](#) accompanying this draft RBMP.

3. Measures and Objectives

3.1 Summary of the Proposed Programme of Measures

This section summaries the main Programme of Measures we aim to deliver that will meet the statutory objectives which are as follows:

- **Prevent deterioration in status** - Water body status will not be allowed to deteriorate.
- **Achieve the objectives for Protected Areas** - Achieve the standards set by the relevant legislation under which they were designated. For European sites we will continue to work towards achieving conservation objectives and achieving good status by 2027 will contribute towards meeting those objectives.
- **Aim to achieve good overall status for surface and ground waters** - Implement measures to achieve good overall status where they are technically feasible and not disproportionately costly.

To do this will require combinations of measures which are delivered across many sectors as well as by the general public – we all have a role to play. Both actions and mechanisms are referred to as ‘measures’. The RBMP considers the measures that are necessary and the mechanisms by which they are delivered. These enable us to address the challenges that threaten current and future uses of the water environment and to maintain and enhance the water environment.

The 2015 RBMP included measures, across sectors and all water body types. These have been reviewed to meet the statutory requirements. Additional new measures were also put in place and these have formed part of this review.

This third cycle review ensures the right measures are being delivered in the right place. And that new priorities and/or opportunities reflect the current need of the RBD.

In this document, a summary of strategic measures and water body (local) actions that are planned for delivery includes:

- strategic ‘measures’ - these usually apply to the whole of Wales, England and Wales, or the United Kingdom. In general these set the legislative, policy or strategic approach and support, or are critical to local delivery and environmental outcomes. They include both mechanisms and actions and are referred to as the ‘Programme of Measures’. For example, a national ban on using a particular chemical or a national strategy for prioritising and funding the remediation of abandoned mines. Included is a summary of the types of measures for each of the significant issues which will be planned for the third cycle (2021-27). More detail is available on [Water Watch Wales](#).
- water body (local) actions – those actions that are required to take place at the local scale. Many of these will be associated with the strategic measures. For example, the removal of invasive plants along a length of designated river or changes in land management practice to address diffuse pollution. Actions for artificial and heavily modified water bodies are a specific set of mitigation measures dependent on use e.g. removal of a culvert for urbanisation use. This information will be available for the third RBMP on [Water Watch Wales](#).

These are identified as;

- Confirmed - e.g. Water Company Asset Management Plan 7 (AMP7) programme
- Likely - these will be reviewed within the third cycle and we envisage that they will evolve during 2021-2027, they include where we are;
 - confident but uncertainty over where / when the measures will be implemented e.g. Opportunity Catchments, activities within the Area Statements
 - less certain on implementation with a requirement for specific funding, partnerships or is subject to other programmes to enable the measures to be fully implemented.

The [River Basin Management Plan Overview Annex Wales](#) contains more detailed information on the approach taken and what is different for the third cycle.

3.2 Main Delivery programmes

The Programme of Measures and environmental outcomes they aim to achieve will be delivered through a number of existing programmes and mechanisms. The following section provides a summary of the main programmes. Detail on all the mechanisms is within the [River Basin Management Plan Overview Annex Wales](#), further supporting documentation will also be used for the implementation of the RBMPs to support tracking.

The main programmes in this document include:

- Welsh Governments Water Strategy for Wales
- NRW WFD Regulations 2017 driven programme
- Catchment scale improvements and River Restoration opportunities in Wales
- Protected Areas
- Flood and coastal risk management
- Water Industry Investment Programme
- Water resources sustainability measures
- Agricultural land management
- NRW's Woodlands and Forestry

3.2.1 Welsh Government Water Strategy for Wales

The Water Strategy for Wales was launched in May 2015. The vision is to ensure that Wales continues to have a thriving water environment which is sustainably managed to support healthy communities, flourishing businesses and the environment. The strategy sets out the direction for long term water policy in the context of the Environment (Wales) Act 2016 and Well-being of Future Generations (Wales) Act 2015.

The Strategy is due to be revised to take into account more recent scientific, social and political changes which affect the water environment and our water sector. However, the overarching principles which shaped the development of the initial strategy will remain the same.

The existing strategy is accompanied by an action plan with milestones up to 2025 (and beyond). The policy priorities are:

- supporting the development of the area based approach to natural resource management.
- ensuring access to fair and affordable water and sewerage services.
- devolution of all matters relating to water and sewerage and the removal of the unilateral power of the UK Government to intervene in respect of water resources in Wales.
- a more focused approach to sewerage and drainage management and development and implementation of legislation to support sustainable drainage solutions.
- reform of the abstraction licence system in Wales to ensure sustainable management of our water resources now and in the future.
- review and where appropriate change current practices and regulatory approaches to tackle diffuse pollution.

3.2.2 NRW WFD Regulations 2017 driven programme

NRW is committed to delivering statutory objectives through an integrated approach to natural resources and catchment management across its functions. For 2021-2027, we have worked to develop an affordable Programme of Measures, based upon our current understanding of existing resources.

There will be a focus on:

- Preventing deterioration in all water bodies – through the NRW core activities, including incident response.
- Identifying where element level improvements will be achieved during the cycle, but where further measures will be required to deliver an overall ecological status change.
- Continuing to develop our approach to natural resource management by working at a local catchment level and capturing the wider benefits delivered for WFD Regulations 2017 through Opportunity Catchments.
- Targeting actions locally in an integrated way to deliver environmental improvements in water bodies and Protected Areas, including areas protected for water habitats and species through Area Statements and SMNR.

3.2.3 Catchment scale improvements, River Restoration and Sustainable Fisheries opportunities

NRW is currently developing an integrated 5 year River Restoration Programme to bring together related work across Wales. The aim is to take a nature-based approach to restore characteristic river habitat for the benefit of hydromorphology, water quality, biodiversity, fisheries and flood regulation. The focus of this work can be defined as: the re-establishment of natural physical processes (e.g. variation of flow and sediment movement), features (e.g. sediment size and river shape) and physical habitats of a river system (including submerged, bank and floodplain areas).

There are several strands to the River Restoration Programme including prioritisation of water bodies for restoration works, production of a series of strategic river restoration plans for priority rivers including SAC rivers, collation of activity data and development of best practice case studies. There are strong links to Opportunity Catchments, Area Statements

and the Fisheries Habitat Restoration Plans which focus on physical habitat constraints to fish populations.

More information about the River Restoration Plans which we have commissioned is available in section 2.2.5 of the [River Basin Management Plan Overview Annex Wales](#)

In addition to the River Restoration Programme, the Sustainable Fisheries Programme (SFP) is a theme covering several different, but related objectives for fish stocks and fisheries. These include:

- the SFP itself which is a small fund provided by Welsh Government to deliver a range of outcomes including fish habitat improvements and fishery promotion;
- a programme of 'alternative mitigation' providing river habitat improvements as an alternative to migratory salmonid artificial rearing and stocking initiatives that NRW has now ceased;
- occasional other sources of funding for delivery of fish habitat restoration.

These initiatives are supported and managed by NRW, and look to continue previous works (cycles one and two), initiating new projects across Wales to improve fish stocks and habitat. NRW works closely with Afonydd Cymru and the family of six Rivers Trusts in Wales, as described in the Memorandum of Understanding between the parties, to develop and deliver the SFP programme.

Due to continuing concerns around the numbers of salmon returning to our rivers and the future of many fisheries is now threatened. NRW has launched two consultations on proposals for catch control bye-laws - one on the Welsh side of the River Severn and one on the Wye and Usk rivers. You can view the consultations for the [Severn](#) and the [Wye and Usk](#) on our consultation hub.

3.2.4 Protected Areas

We want to ensure that Protected Areas meet the standards and objectives that apply to them. Some projects and measures have been developed specifically for Protected Areas not currently meeting their objectives. Additional information on the measures and objectives for European sites can be found in the [core management plans](#) and the [Regulation 37](#) marine equivalent.

The draft Programme of Measures includes a wide range of measures to protect and improve:

- Drinking water
- Nutrient sensitive areas
- European sites

More detail is available in the [River Basin Management Plan Overview Annex Wales](#)

SAC Rivers Project

In January 2021 NRW published an evidence report on '[Compliance Assessment of Welsh River SACs against Phosphorus Targets](#)'. The evidence review shows that overall, phosphorus breaches are widespread within the Wye and Usk SACs against the revised tightened targets set. The Court of Justice of the European Union (CJEU) judgment on the 'Dutch Nitrogen' cases affects the assessment of plans and projects under the Habitats

Regulations. As a result of the decision the scope for authorising new development that will lead to additional nutrient loading is likely to be limited where the conservation status of the SAC is unfavourable due to nutrient standards being exceeded. NRW has created a SAC Rivers Project in response to the wide range of issues that have developed after publishing the report. Delivering the project, investigating and tackling phosphate pollution in rivers including the Wye, Usk, Cleddau, lower Teifi and the Dee, is part of the NRW Corporate Plan for 2021-22.

Four workstreams have been set up to undertake the work required which include;

- providing planning advice and position statements
- water quality compliance assessments
- water quality improvements
- monitoring and evidence

3.2.5 Flood and coastal risk management

Flood Risk Management (FRM) activity contributes to NRW's overall purpose by managing the risk of flooding to the people and communities of Wales and increasing community resilience, both for the present day and for the future.

The NRW FRM Service as a whole, includes all activity carried out by NRW in accordance with duties and responsibilities assigned by Welsh Government and legislation. At a high level FRM activities are considered to include;

- Management of flood risk assets
- Delivery of the Hydrometry and Telemetry service
- Community Engagement and Resilience
- Understanding and analysing flood risk
- Advising planners, consenting and enforcement
- Providing strategic advice and oversight
- Reservoir regulation

FRM activity seeks to reduce flood risk to the communities of Wales through reduction of inappropriate development within at risk areas, prevention of flooding using defences and the management of catchments and watercourses, and moving people and property to safety at times of extreme weather by making communities more aware and resilient before, during and after flooding. All of the above activities come together to deliver these outcomes and therefore none in isolation address the risk of flooding entirely for any community at risk.

Through NRW's Flood and Coastal Risk Management capital investment and routine maintenance programmes we manage flood risk in several ways:

- By building new flood defences and other structures such as sluices and pumping stations
- By maintaining defences and structures once built, keeping them in good condition, and repairing or improving them if and when required

- By maintaining main river watercourses, removing obstructions, vegetation and silt or gravel, to keep water flowing and remove significant flooding risks
- Work on habitats to mitigate and compensate for the detrimental impacts of flood defences

Each of these activities are underpinned by our efforts to understand flood risk through our flood risk mapping and modelling work. We undertake our flood risk maintenance and capital work by having regard to climate change, the Well-being of Future Generations Act 2015 and the Environment (Wales) Act 2016. We integrate SMNR, nature based solutions and natural flood management into our schemes to deliver sustainable schemes which maintain or where possible improve ecological status or potential.

The Flood Risk Regulations

The purpose of the Flood Risk Regulations is for NRW and Lead Local Flood Authorities (LLFAs) to understand what is at risk of flooding and to plan what is needed to be done to manage the risk. This involves assessing what water courses and coastlines are at risk of flooding (the Preliminary Flood Risk Assessment), map the flood extent, assets and humans at risk in these areas (Flood Hazard and Flood Risk maps) and to take adequate and coordinated measures to reduce the risk (Flood Risk Management Plans (FRMP)) on a six year cycle.

We are currently drafting the second cycle FRMPs, once complete, will sit alongside the third cycle RBMPs. Both plans will jointly include measures that aim to improve the water environment in Wales.

3.2.6 Water industry investment programme

In DCWW's 2020-25 business plan (AMP7), £218m has been allocated to delivering their statutory environmental requirements aiming to deliver 418km of river improvements across their operating area. The programme includes, investigations and targeted investment to reduce the impacts of high spilling CSOs, UK Chemicals Investigation Programme third phase (UKCIP3), and further investment at STWs to meet Urban Wastewater Treatment (England and Wales) Regulations 1994 requirements. Evidence from AMP7 investigations will inform investment decisions and development of the Company's new Drainage and Wastewater Management Plan which will be published in draft for consultation in 2022.

In the Severn RBD, for the third cycle DCWW aim to deliver;

AMP 7 Wales

- Considerable investigation and targeted improvements to reduce the impacts of assets on fish passage.
- Biodiversity partnership project at Elan Valley Woodlands SAC
- 13 schemes to meet Joint Nature Conservation Committee (JNCC) Common Standards Monitoring (CSM) targets. Please note under review following SAC phosphate compliance report publication
- 10 improvement schemes to meet Urban Wastewater Treatment (England and Wales) Regulations 1994 flow requirements.
- 1 schemes to meet WFD Regulations 2017 no deterioration requirements

- 2 schemes to contribute to delivering WFD Regulations 2017 good ecological status. Please note these are amber based on cost benefit and we are in collaboration with NRW leads assessing SMNR opportunities

AMP 7 General/cross boarder

- U_INV2 drivers utilising the 'Storm overflow assessment framework' based on a prioritisation tool directed investment in late AMP7
- Application of NBS encouraged through partnership working and being brought in heavily with SOAF and Fish pass delivery.
- monitoring as part of the UK Chemicals Investigation Programme (UKCIP)
- monitoring of flows at STWs

Water Resources Planning

Water Resources West (WRW) is one of five regional water resources planning groups set up in England. WRW is a joint partnership between United Utilities, South Staffs Water, Severn Trent Water and Dwr Cymru with advisory support from NRW and the Environment Agency. The aim of WRW is to provide strategic oversight and co-ordination of water resources matters across the river catchments of the West of England and the cross-border river basins with Wales. They are working with a range of stakeholders to ensure enough water is available to meet demands for people, environment and adapting to climate change.

One water supply scheme, a transfer of water from the River Severn to River Thames is being investigated, as part of regional water resources planning, to re-deploy the current abstraction by United Utilities from Lake Vyrnwy so that water is released from the lake into the River Vyrnwy and on into the River Severn for subsequent re-abstraction near Gloucester to provide resilient public water supply. Water companies are undertaking an investigation into the environmental impact of this proposal. Until the assessments are complete there is a risk that regulation 19 may be required for the River Vyrnwy element of the scheme. More information on this scheme is available at this link [RAPID - Ofwat](#).

3.2.7 Water resources sustainability measures

An abstraction licence is needed before abstraction of water of more than 20 cubic metres a day per source of supply can take place (unless exempt from licensing). An impoundment licence is needed where flow is impeded or obstructed (impounded) by the construction, alteration, repair or removal of an impoundment (unless exempt from licensing). These licences are regulated in Wales by NRW. NRW maintains a register of all abstraction and impoundment licence applications and subsequent decisions which can be viewed externally via the public register.

Water resource availability assessments will continue to be updated and improved so that the most up to date water resource availability picture is available to customers wishing to apply for an abstraction licence, in the form of published Abstraction Licensing Strategies (ALS). ALS will continue to underpin our abstraction and impoundment licence determination decisions.

Where abstraction licences are found to be failing to meet statutory objectives, a review of the licence is undertaken by NRW and/or EA. Measures to mitigate, revoke or reduce that

abstraction or catchment management measures are then put in place to comply with a minimum objective of no deterioration, as required by the WFD Regulations 2017.

Since 1 January 2018, most previously exempt water abstractors (if taking over 20 cubic metres a day per source of supply) require a licence to continue legally abstracting water. Between 1 January 2017 and 31 December 2019 NRW offered a simpler transitional application process for previously exempt abstractors. NRW must determine all transitional applications by 31 December 2022. Some abstractions and impoundments that are considered low risk remain exempt.

NRW is responsible for checking compliance on a risk basis with licences, providing advice and guidance and taking protective responses including issuing notices, civil sanctions or enforcement action. Compliance of abstractions will support the SMNR and enhance resilience of the environment to meet statutory objectives.

Sustainable management of water resources face challenges to flow regimes as a result of climate change, more intensive rainfall and longer drier periods, mean that some existing licences are likely to become problematic in the future as surface watercourses and groundwater levels fall, [UK Climate Change Risk Assessment - A Summary for Wales 2017](#).

In future, once implemented, abstractions will be managed under the Environmental Permitting (England and Wales) Regulations 2016. This reform of the licensing system provides the opportunity to build in long term flexibility to deal with current and future challenges of climate change, population and economic growth, and to build water efficiency measures into water use across all sectors.

The UK Climate Change Risk Assessment Summary for Wales 2017 projects increased frequency and intensity of extreme weather events. Existing pressures on water resources, demand due to population growth and urban development, are also likely to increase as well as the carbon footprint for treatment and supply of water. A major tool to mitigate these pressures is to improve the efficient use of water across all sectors.

The Wales Water Efficiency Group and the UK Water Efficiency Strategic Steering Group work collaboratively to promote consistent messaging and water efficiency initiatives across the UK, raising awareness of the need to conserve water.

3.2.8 Sustainable land management - agriculture

NRW continues to work with the sector to co-produce a strategic approach in line with our regulatory principles and our principles to deliver SMNR to tackle agricultural pollution. This has produced an approach which has five themes which in combination will be far more effective than if any theme is taken forward in isolation, more detail is available in the [River Basin Management Plan Overview Annex Wales](#). These are Regulation; Voluntary actions; Advice, guidance, knowledge; Skills and experience development; Investment and Innovation. These are reflected in the approach developed by the [WLMF Sub-Group on Agricultural Pollution](#) in their progress report [Tackling Agricultural Pollution](#).

The Agriculture (Wales) Bill will form the primary, long term legislation foundation for Welsh agriculture and sustainable land management policy and regulation, replacing the Common Agricultural Policy and UK Agriculture Act 2020. The Bill and subsequent

secondary legislation provide an opportunity to make provision for a number of important areas in relation to the themes.

3.2.9 Sustainable land management - Woodland and forestry

Well maintained culverts, effective silt traps, roadside drains separate from any natural watercourses, riparian zones and appropriate water management within the forest are essential for maintaining good ecological status in water bodies linked to the Welsh Government's Woodland Estate (WGWE).

NRW are committed to constantly improving the environmental quality of WGWE. We are continuing to address pressures on water quality and quantity through compliance with the UK Forestry Standard (UKFS) published in 2017 (and supporting practice guides "Managing forestry operations to protect the water environment" and "Managing forests in acid sensitive water catchments"). All harvesting, restocking and engineering work on the WGWE requires a Water Management Plan.

Forest Resource Plans set out the 25 year vision and a 10 year plan of operations for a forest. They present the opportunity to enhance the water environment through designating riparian zones which will become permanent features, identifying areas for management under Low Impact Silvicultural Systems through a progressive thinning regime, and assessing areas of deep peat to determine whether they are suitable for restoration.

Forest Resource Plans are implemented through Coupe Plans, produced to manage forest operations. This is the stage when Water Management Plans are drawn up, to ensure the work has no significant impact on water quality. All work must comply with the UKFS.

In addition, where additional funding is identified, projects provide excellent opportunities to improve the water environment, such as river restoration.

3.3. Setting Objectives for the third cycle

This plan sets out what we intend to achieve by 2027. This is identified by setting an objective for each water body. The detailed outcomes of this information can be accessed at Water Watch Wales and a more detailed description of our approach is provided in the [River Basin Management Plan Overview Annex Wales](#)

As required under the Regulations we aim to implement measures to achieve good overall status for surface and groundwaters by 2027. Alternatives to that objective are allowable which may result in 2 additional options:

- an objective of less than good by 2027 (less stringent objective) due to technical infeasibility (no known technical solution is available) or disproportionate cost (unfavourable balance of costs and benefits).
- or an extended deadline of good status or potential beyond 2027 for reasons of natural conditions (ecological recovery) or technical infeasibility for a small number of chemicals

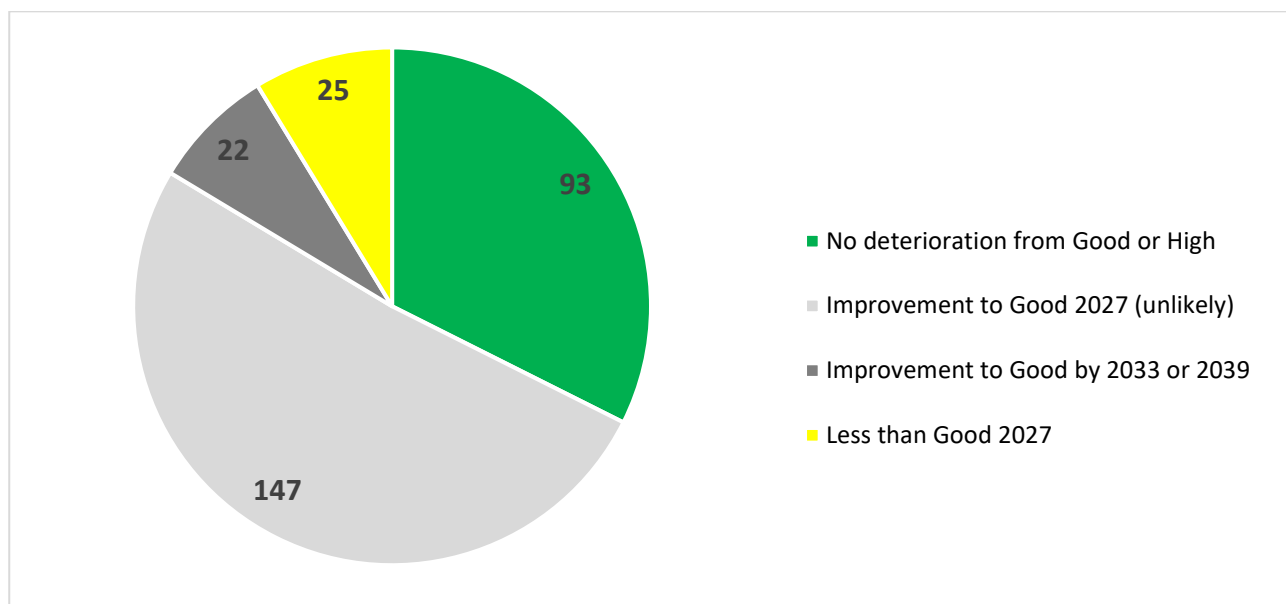
We continue to apply the same methodology for setting objectives for the third cycle that we did for the first two cycles, i.e. predict what will be achieved by the end of the cycle.

However, in the third cycle there are limitations which specify that an extended deadline may only be justified for reasons of natural conditions (with the exception of a small number of priority substances).

When setting an objective for a water body that is at less than good status, it is not acceptable for objectives to undermine those of other protected areas such as European sites. Water bodies that are co-located with European sites cannot have objectives delayed or, set to be less stringent than good status or potential, for reasons of technical feasibility or disproportionate cost as European sites objectives do not allow for these alternative objectives. In some instances whilst the objective for a water body currently at less than good status that is co-located with an European sites is set at good status, the underlying issues are unlikely to be resolved within a 6 year planning period. To ensure that this plan remains realistic we have identified those water bodies where we believe that achieving good status or potential is likely or unlikely. We are reviewing the relationship between water bodies and European sites for the third RBMP. All objectives must be reviewed for every planning cycle as new evidence and measures to resolve environmental pressures become available.

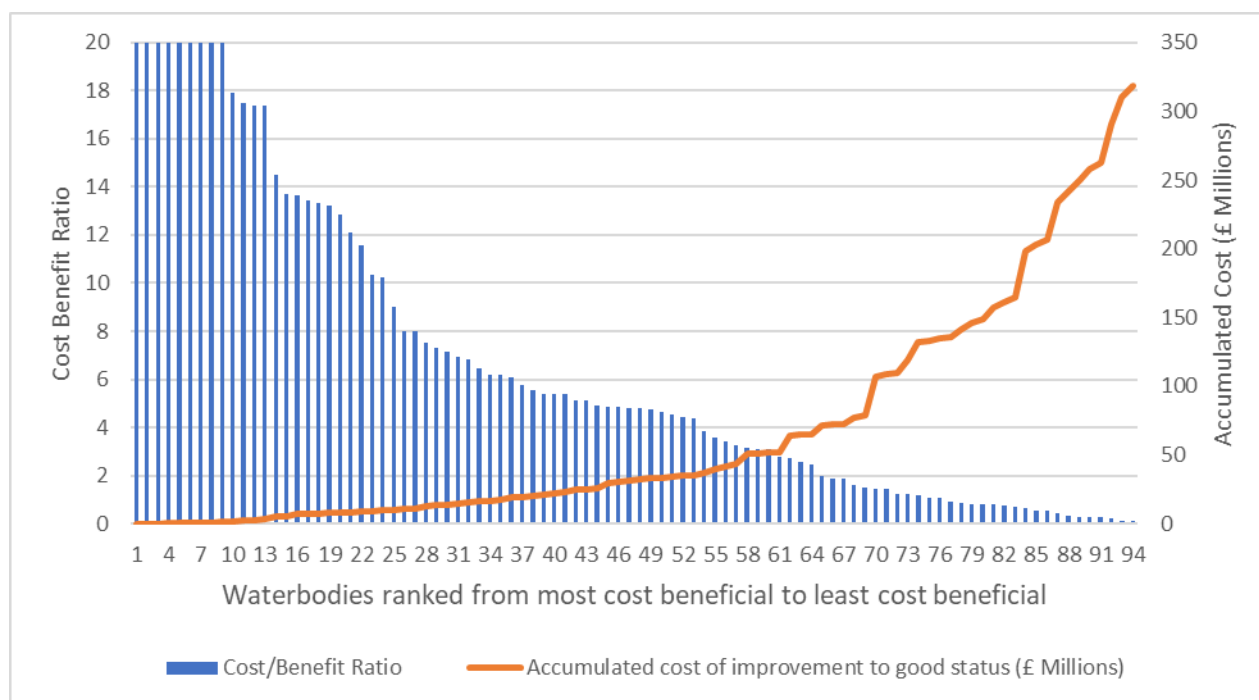
Figure 8 shows that of the 287 water bodies in the Welsh part of the Severn RBD, 93 are at good status and therefore have an objective of no deterioration over the third cycle. 22 water bodies will improve by 2033 or 2039 as a result of the measures already in place or planned in the next cycle. However, this does not yet take into account the ambition and focus in opportunity catchments which we have proposed as part of this consultation. 147 other water bodies are currently at less than good status, and have an objective of good status but it is believed that the reasons for not achieving good are yet to be confidently identified or the measures unlikely to be in place by 2027. This results in 240 water bodies (84%) having an objective of good status by 2027, however at present we are only confident that 93 will achieve or remain at good status or potential (32%). It is intended that the investigations programme will help provide more definitive objectives for these water bodies for the third RBMP. Finally, 25 water bodies have an objective of less than good status or potential on the basis of them being disproportionately costly, or technically infeasible to improve to good status over the third cycle. In all 25 water bodies some national, local measures may be taken to improve the water quality and contribute towards SMNR values but it is unlikely that they will be sufficient to result in a classification status change and available resources may be better focused elsewhere. No deterioration remains an objective for these 25 water bodies.

Figure 8: Proportion of water bodies and objective categories for the Welsh part of the Severn RBD



The disproportionate cost assessment has been made on 94 water bodies which we have been able to collate costs for. There are a number of water bodies and types of pressure which we have yet to be able to cost for this draft plan but intend to update for the third RBMP. Since publication of the second RBMP the Environment (Wales) Act 2016 and Well-being of Future Generations (Wales) Act 2015 allows us to consider benefits of improvement in water quality that the benefits valuation for the WFD Regulations 2017 may not include, such as using mine water remediation to heat local homes. For this reason, measures in water bodies that are calculated to be disproportionately costly for the WFD Regulations 2017 requirement may still be progressed if it is demonstrated that there are wider and significant SMNR values that would be accrued. Figure 9 shows the 94 water bodies considered for economic assessment which are ranked on the x axis from the most cost beneficial to improve to the least cost beneficial to improve. There are 18 water bodies which have a cost benefit ratio of less than 1. Six of the 18 waterbodies are associated with European site features and so retain an objective of good status. The overall cost of improving the water bodies for which we have costs for is £335 million of which £243 million is associated with improvements to sewerage and waste water disposal. The actual cost of improving all water bodies is likely to be significantly larger, however the estimated cost to improve those water bodies which are not disproportionately costly is £135 million. To improve these water bodies also requires other factors such as access and regulatory tools to be available, and that the pressures are also technically feasible to be resolved.

Figure 9: Economic assessment of improving water bodies to good status or potential.



3.4 How the Proposed Programme of Measures address the Significant Water Management Issues and deliver Objectives for 2027

This section includes a summary of the programmes and activities that are the basis for the Programme of Measures for each of the significant issues which will be planned for the third cycle (2021-27) and where we would hope to get to by 2027. In many instances, bundles of measures will be required to tackle multiple pressures within the RBD. All require collective action. The Programme of Measures are available on [Water Watch Wales](#). The [River Basin Management Plan Overview Annex Wales](#) also includes more information on some of the wider pressures that sit outside of the SWMIs such as plastic pollution and climate change.

3.4.1 Physical Modifications

Key programmes and activities include:

- River Restoration Programme
- Flood Risk Management activities
- Shoreline Management Plan policy for coastal defence management
- Sustainable Fisheries Programme
- The Agenda For Change for Fisheries
- Barriers to fish passage

Economic appraisal and objectives for water bodies not achieving good:

The remediation of physical impacts have been difficult to cost and it is hoped that an improved estimate will be made for the final RBMP. The total cost to improve fish passage

and habitat and reduce the impact of physical modification in 25 water bodies which we have been able to generate costs for is £20.2 Million. However the cost throughout the RBD is likely to be much greater. In combination with the cost of remediating other pressures, 7 water bodies are considered to be disproportionately costly to improve.

Physical modifications are widespread, but particularly in the South East Valleys Management Catchment caused by the legacy of the valley's industrial heritage, new development pressures and ageing infrastructure. Working in partnership, we aim to progress actions from both the River Restoration Programme and the Fisheries Habitat Restoration Plans, deliver river restoration, fish spawning habitat improvements and continue with fish passage improvements.

Where do we want to be by 2027;

- Where modifications to the water environment are essential to society, for example navigation, public water supply, coastal defence or flood management, we want to mitigate harmful impacts as far as possible.
- Create and deliver the 5 year river restoration programme
- Future modifications do not cause deterioration.
- We want to increase the extent of buffer zones and river side corridors alongside inland waters in order to make them more resilient to other pressures, including climate change.

3.4.2 Managing pollution from sewage and waste water

Key programmes and activities include:

- Water Company Programme: AMP7 and NEP: SMNR pilot: Drainage and Waste Water Management Plans: investment to meet P standards for European sites.
- Misconnections
- Sustainable Drainage Systems (SuDs)

Economic appraisal and objectives for water bodies not achieving good:

The economic analysis shows that to resolve the wastewater pressures to bring the status of 25 water bodies back to good status results in a total cost of £243 million which is associated with upgrades to wastewater treatment works and sewer network discharges. In combination with other costs of improvement, 17 of these water bodies are calculated to be disproportionately costly to improve, where associated with a European site will remain a priority and have an objective of Good status by 2027. There are several water bodies in the Wye and Usk catchments that pass WFD Regulations standards but have potential STW AMP7/8 schemes due to Habitats Regulations Common Standards Monitoring drivers. Further consideration of the wider catchment plans and SMNR values should be taken into consideration when planning improvement to pollution from sewage and waste water in water bodies not collocated with European sites that have been calculated to be disproportionately costly.

Where do we want to be by 2027;

- All sewerage systems are maintained or improved so they operate effectively and their impacts on the water environment, from catchment to coast are minimised.

- Solutions to CSO problems that deliver multiple benefits are embedded in planning and development across Wales (e.g. water sensitive urban design, sustainable drainage schemes).
- Increase public awareness of the impacts of misconnections and disposal of harmful substances into sewerage systems (e.g. paint, oil, fats and garden chemicals).
- Delivery of agreed AMP schemes, including those for the Usk and Wye SAC to improve water quality.

3.4.3 Manage pollution from rural areas

Key programmes and activities include:

- Sustainable land management themes
- Welsh Governments Woodlands for Wales Strategy
- Awareness and implementation of the UK Forestry Standard Guidelines (including “Forests and Water” Guidelines), and Practice Guides

Economic appraisal and objectives for water bodies not achieving good:

The total cost of resolving agricultural pressures according to current legislation in 55 water bodies that we have been able to cost has been calculated at £31.3 million. When other costs of improvement are considered 8 are considered to be disproportionately costly to improve to good status. Many of these 8 waterbodies deemed to be disproportionately costly to improve are also in protected areas such as the River Wye and so retain an objective of good status by 2027.

Water bodies not achieving good status due to pollution from rural areas are widespread, occurring in all of the management catchments (Severn, Wye, Usk, South East Valleys). Additionally the [compliance assessment](#) with respect to phosphorus targets for river SACs (where targets have been substantially tightened), have showed that in the Wye and Usk SACs, while WFD Regulations standards are largely met, the conservation targets have widespread failures. Further source apportionment work is underway to establish the contribution from different sectors.

Where do we want to be by 2027;

- We want to strengthen regulatory, financial and operational mechanisms to support a sustainable agricultural sector that protects the water environment, from catchment to coast, and helps deliver the full range of ecosystem services that provide financial, social and ecological benefits to Wales.
- Appropriate new woodland creation and forestry management that benefits the water environment, people through outdoor recreation and delivers ecosystem services such as reduced diffuse pollution, reduced flood flows, clean drinking water, habitat for fish and wildlife, and shade in river margins to mitigate the impacts of climate change.
- For those groundwater dependent wetlands that are in a poor ecological condition as a result of high nutrient groundwater inputs we will encourage local changes in catchment management to mitigate and if possible prevent.
- Use the results of the source apportionment work when available to focus local measures with the agricultural sector where appropriate.

- Continue to identify opportunities and deliver interventions to improve water quality through the Wye Nutrient Management Plan Board and establish a Usk Nutrient Board.

3.4.4 Managing pollution from mines

Key programmes and activities include:

- Metal Mine Strategy for Wales
- Coal Authority programme of work

Economic appraisal and objectives for water bodies not achieving good:

The total cost of improving 10 water bodies which are failing due to metal mine discharges is estimated at £21 Million. The majority of those costs are for the metal mine remediation and treatment of discharges, however there are some costs that have not been accurately identified. In particular the metal mines in the Welsh part of the Severn RBD have been studied less than elsewhere in Wales and significant investigation would be required before any further investment made. To put these costs into context, the funding made available to NRW from Welsh Government to remediate metal mines in financial year 2020 to 2021 is £4.5M across Wales. Prioritisation of metal mines remediation is made on a national basis and takes into account wider practical matters than the cost benefit assessment for WFD Regulations 2017.

Where do we want to be by 2027;

- We want to investigate and seek to mitigate the impacts of abandoned mines on the water environment through a strategic work programme across Wales. It will take decades to address all the issues and we will prioritise actions that deliver the best ecological, social and economic outcomes for society's investment.

3.4.5 Manage pollution from towns, cities and transport including the impacts of acidification

Key programmes and activities include:

- Diffuse Water Pollution Plan including Pollution Prevention work
- Water Sensitive Urban Design
- Misconnections
- contamination from historic industrial and waste sites
- UK Forestry Standard Guidelines (including "Forests and Water" Guidelines), and Practice Guides

Economic appraisal and objectives for water bodies not achieving good:

The cost of improving 16 waterbodies in the upper Wye for acidification is £18.2 million of which is mostly through upland restoration and some sustainable woodland and forest management. All waterbodies are associated with European sites and therefore not subject to the outcome of disproportionate cost assessment. 19 waterbodies would benefit from resolving misconnections, predominantly in the heavily urbanised South East Valleys management catchment, at a cost of £2.3 million.

Where do we want to be by 2027;

- We want to minimise the negative impact of historic and future development on the water environment via our role as a land quality consultee in the planning process or, where the planning process is not applicable, by providing advice and assistance to local authorities with their contaminated land inspection strategy.
- We want to put SMNR at the centre of urban design and planning. By using SuDs, restoring the areas around rivers and coasts including the river banks, floodplain and the intertidal area, providing public green spaces, raising awareness and changing behaviour to improve the quality of life in the urban areas of Wales.
- We want land use practices to contribute to sustainable, long term recovery to natural pH conditions in areas where ecological processes are compromised by acidification. We will continue to regulate emissions of acidifying pollutants to allow the water environment to recover.

3.4.6 Changes to natural flow and levels of water

Key programmes and activities include:

- Flood Risk Management activities
- Multi-Sector demands project for water saving measures
- Waterwise work on reducing water consumption
- Welsh Government National Peatland Restoration Programme

Where do we want to be by 2027;

- We want to encourage sustainable land use patterns in urban and rural environments that reduce runoff from rainfall.
- We want to deliver interventions such as in-channel habitat improvement that mitigate the impacts of abstraction on the water environment.
- We want to better understand the water demands across sectors
- We want to improve water use efficiency to reduce the need for additional abstraction in the future.
- We want to support the delivery of the Welsh Government National Peatland Restoration Programme

An accurate economic appraisal of changes to natural flow and level of water has not been possible.

3.4.7 Managing INNS

Key programmes and activities include:

- Implementing the updated GB strategy on invasive species
- Working with partners and support the development of new and innovative solutions, such as AquaWales and Aquainvade led by Swansea University
- Continue using and promoting mechanisms such as online and smart phone recording systems

Where do we want to be by 2027;

- We want to prioritise actions to slow down or prevent the spread of existing invasive species and eradicate these or new introductions where possible to do so.

- We also want to minimise the risk posed by INNS generally through improved biosecurity and improved local information on INNS distribution and impact.

An accurate economic appraisal of managing INNS has not been possible.

3.5 Placed based approach for the third cycle measures

For the third cycle RBMPs we aim to achieve a place-based approach to catchment prioritisation that also delivers WFD Regulations 2017 outcomes. We are not proposing to select targeted water bodies solely for the purpose of delivering outcomes under WFD Regulations 2017 but have identified a list of catchments across Wales that represent the best suite of opportunities to deliver sustainable management for both water and well-being outcomes. The Area Statement engagement process was central to the selection of these 'Opportunity Catchments'. In addition the Area Statement process will continue post 2027 and therefore integration will bring WFD Regulations 2017 benefits for the longer term. Ten opportunity catchments have been identified that represent the strongest mix of opportunities for integrated catchment management within each place.

Opportunity Catchments will focus staff resource across NRW's functions to support partners to deliver integrated catchment management solutions. It is anticipated that partners operating within the ten Opportunity Catchments will also be able to contribute towards improvements within these areas. NRW will continue to work with partners in other catchments that are not selected as an Opportunity Catchment including focussing on addressing physical modifications, fisheries restoration plans, metal mine remediation and pollution from wastewater, and rural and urban areas.

The proposed ten Opportunity Catchment areas are shown in

Figure 10 and are:

- Dee (Wales only)
- Clwyd
- Conwy
- Anglesey
- Teifi
- Taff/Ely
- Cleddau/Milford Haven
- Swansea Bay
- Central Monmouthshire
- Ithon

Figure 10: Map of proposed opportunity catchments

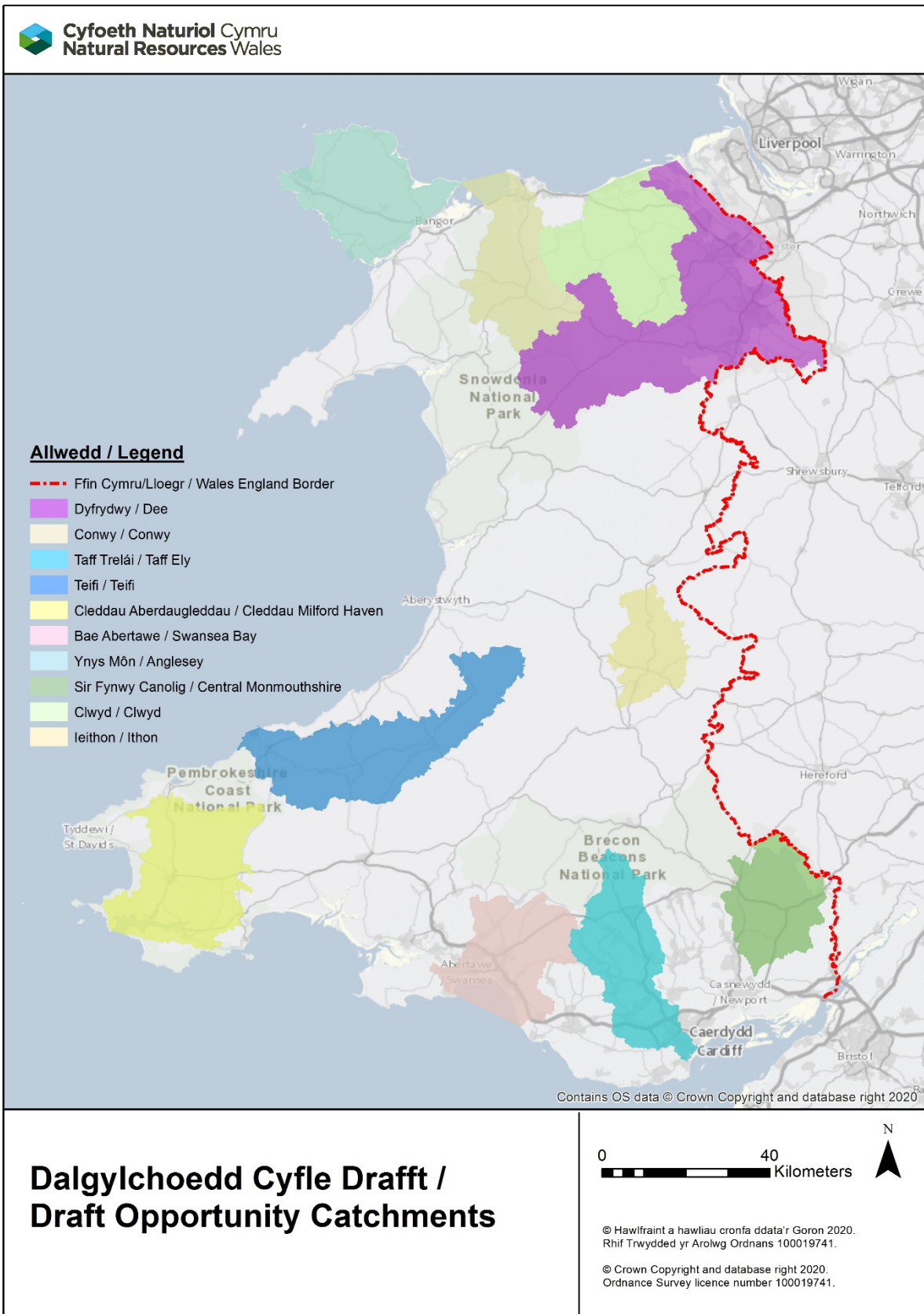


Figure 10 above displays the ten Opportunity Catchment boundaries which include small (mostly coastal) non-reportable water bodies that are connected to failing transitional and coastal water bodies. For the purpose of reporting, these small non-reportable water bodies were removed from the water body network in the second cycle due to their size, therefore there is no requirement to report on their overall status. The map in figure 10 also indicates where there are cross-border waterbodies that extend into England (shown in the shaded areas). The cross border waterbodies are within the Dee and Central Monmouthshire Opportunity Catchments.

The number and type of water bodies meeting good overall status in Opportunity Catchments within the Welsh part of the Severn RDB is shown in Table 22 below.

An exercise was undertaken to decide which transitional and coastal water bodies would be included in the Opportunity Catchment relevant boundaries. Decisions were made based on;

- hydrodynamics of the water bodies in question at the seaward extent of the catchment boundary and whether they were functioning as one system
- existing classification data for these transitional and coastal water bodies to understand if they were subject to the same or similar pressures as within the catchment (e.g. catchments failing for nutrients linked to a transitional and coastal water body also failing for nutrients)

None of the Taff/Ely, Ithon or Central Monmouthshire met the above requirements so were not included within the Opportunity Catchment boundary and therefore are displayed in Table 2 below as n/a.

We want to improve the ecosystem resilience in these Opportunity Catchments and achieving good status is a step towards achieving resilience.

An exercise was also undertaken to decide which groundwater bodies would be included within the Opportunity Catchment. Those with least 5% of the groundwater body within the Opportunity Catchment area and vice versa were included. This process also eliminated those groundwater bodies that only touch the Opportunity Catchment boundary.

Table 2: Percentage of water bodies in each Opportunity Catchment meeting good overall status by water body type.

Opportunity Catchment Name	River, canals and surface water transfers water bodies good status (%)	Lake water bodies good status (%)	Coastal water bodies good status (%)	Transitional water bodies good status (%)	Groundwater bodies good status (%)	All water bodies good status (%)
Taff/Ely	14	0	n/a	n/a	80	19
Central Monmouthshire	33	0	n/a	n/a	50	33
Ithon	57	n/a	n/a	n/a	0	53

Across Wales, Nutrients, chemicals and physical pressures at the coast are the most significant that result in failure to achieve good status in estuarine and coastal waters. A significant number of the measures taken in the targeted water bodies in freshwater catchments have contributed to improvements in estuarine and coastal water bodies although further measures are needed to achieve a change to good status. The wider opportunities provided through Area Statements and the wider framework of marine planning now established provides additional focus on estuarine, coastal and marine waters and the link to their freshwater catchments. The opportunity catchments chosen for the third cycle have fully applied the source to sea approach to catchment management and identified estuarine and coastal water bodies where a sustainable management approach to water will be progressed. All catchment based actions identified for the RBMPs which contribute to progress towards Good Environmental Status of marine waters for the UK Marine Strategy are also reflected in the Marine Strategy Part 3 Programme of Measures which will be published in 2021.

3.5.1 Opportunity Catchments in the Welsh part of the Severn RBD

There are 3 Opportunity Catchments in the Welsh part of the Severn RBD which are Taff/Ely, Central Monmouthshire and Ithon.

Summary of the Central Monmouthshire Opportunity Catchment

Central Monmouthshire Opportunity Catchment includes the River Usk SAC below Abergavenny. Tourism is important to the local economy, with the Brecon Beacons National Park and the Monmouthshire and Brecon Canal attracting visitors in search of outdoor recreation. It also stretches westwards encompassing parts of the River Wye catchment. It is rich in wildlife and its high ecological value is recognised through national and international designations. Projects such as the [Resilient Greater Gwent](#) will focus on the main drivers of biodiversity loss which are climate change, pollution, habitat change/loss and invasive species.

The principle theme for the Central Monmouthshire Opportunity Catchment directly aligns with one of the five landscape profile areas that make up the [South East Area Statement](#) that can be used as a delivery mechanism for the strategic themes: Linking our Landscapes, Healthy Active Connected and Climate Ready Gwent. One of the aims of this Opportunity Catchment are to deliver a landscape-scale collaborative partnership that pursues Area Statement, WFD and Wellbeing objectives. The area comprises largely of enclosed farmland which creates both pressures via agri-rural land management practices and opportunities for the landscape such as a resilient agri-economy, low carbon climate ready food etc. There is also an opportunity to apply an "once delivery" approach in tackling the pressures and impacts as well as to enhance ecosystem resilience at the landscape-scale with opportunities to improve the WFD status of waterbodies and the River Usk SAC condition.

Identified opportunities for the [South East Area Statement](#) include river restoration, access to water, nature based solutions and catchment management.

Summary of the Ithon Opportunity Catchment

The Ithon has been identified as an Opportunity Catchment due to its importance in terms of water dependant habitats and species. It is also as an agriculturally productive area with a high density of intensive farming units. The Ithon Opportunity Catchment forms part of the River Wye SAC and collaboration is needed to improve water quality, riverine habitats, and manage land and water in a sustainable way to prevent deterioration. There is a balance needed between the goals of thriving communities and managing the environment in a sustainable way. Projects such as [The Wye Ithon Severn Ecosystem \(WISE\) Project](#) aim to work with farmers to protect and enhance natural resources in a way that benefits agricultural businesses, rivers and the wider community.

The principal theme for the Ithon Opportunity Catchment is to work collaboratively with partners to prevent deterioration of water quality and sustainably manage water, land and air for the benefit of wildlife and people. It has a high density of intensive poultry units and alongside this, pig production is developing within the catchment. Adequate planning and environmental controls for intensive farming, reducing nutrient inputs into the catchment and restoring riverine habitats will contribute to better water quality and WFD objectives. A healthier water environment benefits the species and habitats that depend upon it and create a place which people can enjoy.

Identified opportunities in the [Mid Wales Area Statement](#) for the Ithon Opportunity Catchment includes river restoration, access to water, nature-based solutions and catchment management.

Summary of the Taff Ely Opportunity Catchment

The Taff Ely Opportunity Catchment begins high in the Brecon Beacons and flows through steep-sided valleys to the low-lying coastal areas of Cardiff. The water quality of the rivers has largely recovered from historical degradation caused by the iron, coal and other industries, but the narrow valley floors mean that industrial and urban development has tended to lie close to the banks of the rivers, resulting in extensive man-made changes, loss of riverside habitats and leaving rivers vulnerable to urban pollution. Measures planned by partnership projects such as the [Taf Bargoed Catchment Project](#) deliver catchment wide benefits to land management and the riparian environments whilst engaging with the local community.

The principal theme for this Opportunity Catchment is 'People', and the role that the water environment can play in wellbeing and regeneration in this highly urban environment. With a catchment population of around 500,000, 20% of the Welsh population, including Wales' Capital, this Opportunity Catchment offers a unique opportunity to explore people's connection to the water environment, the post-industrial and urban pressures on the water environment, and the ecosystem services of a resilient freshwater ecosystem. 'Working with Water' is one of the key themes of the [South Central Wales Area Statement](#), and we will be focusing our engagement around Opportunity Catchments. We aim to develop new ways of working across functions internally and developing better networks with strategic partners, together developing an integrated approach to catchment restoration at a meaningful landscape scale. Through understanding and valuing the natural environment, working through equitable partnerships and putting the environment at the heart of decision making we want to deliver catchment scale restoration, working with natural processes and exploring nature-based solutions to deliver sustainable management of the catchment and maximise the wellbeing benefits for people living there.

The [South Central Wales Area Statement](#) and [Mid Wales Area Statement](#) have identified opportunities for the water environment that link to the Taff Ely Opportunity Catchment and include river restoration, access to water, nature based solutions and catchment management.

3.6 Third cycle ambition

In Wales the ambition for the third RBMP will be to continue to protect and improve the quality of water in Wales, including Protected Areas. This will depend on a number of factors including funding levels from both public and private finances, commitment to delivery and availability of delivery mechanisms. The proposed Programme of Measures will address multiple issues across Wales which will progressively reduce the number of elements failing in water bodies and will improve the overall condition of water bodies over time. The ambition across Wales by 2027 is to improve overall condition of water bodies where possible, prevent deterioration and, where resources allow, ensure that even those water bodies that do not achieve good status will be under the least pressure possible.

During this consultation we will continue to develop realistic but ambitious priorities for the third cycle across Wales. By 2027 we propose to;

- Complete local actions across Wales which is expected to result in water bodies having made progress towards improving status and/or not deteriorating. Actions may include tackling physical constraints, continuing undertaking farm visits to advise on nutrient management, reducing enrichment impacts on groundwater dependent terrestrial ecosystems and/or marine ecosystems. We may prioritise water bodies with fewer failing elements, those in urban areas, those which have not improved from the first cycle, those at poor or bad status etc.
- Deliver the planned investigations programme for third cycle which inform our understanding of the problem so that appropriate actions can be taken
- Finalise mitigation measures assessments in some of the Heavily Modified Water Bodies
- Target nature based solutions for physical modifications at some areas on the coast

- Further develop the NRW River Restoration Programme, publish additional restoration plans and undertake feasibility work
- Deliver projects funded via the Welsh Government capital funding programmes, such as Water Quality (including minewaters, river restoration and fisheries programmes) and European sites network - marine, terrestrial and freshwater
- Deliver the outcomes of the water related LIFE projects in Wales
- Work collaboratively with water companies to support the delivery of sustainable improvements to the water environment, through both the delivery of their statutory environmental requirements (i.e. NEP) and the development of innovative solutions (e.g. SMNR pilot catchments)
- We will manage our Welsh Government Woodland Estate to meet the UK Forest Standard Forest & Water Guideline as a minimum and tackle metal mine pollution with innovative approaches to remediate the toxic discharges associated with these sites that are on the estate. We are also identifying and acquiring land to expand the estate as a response to Wales' woodland creation targets, the nature and climate emergencies and the need for compensatory planting for woodland lost from the WGWE. We have an initial target of 1700ha of woodland creation over the next five years

Where appropriate these measures will be taken in all surface water bodies including estuarine and coastal waters and will contribute to an improvement in marine waters. We will focus our efforts for the above within the ten Opportunity Catchments and support partnerships to deliver multiple benefits. We will also continue with high priority work in other areas where appropriate. We will take an SMNR approach for the third cycle plans to deliver more integrated catchment benefits in line with the priorities for water identified within Area Statements. NRW cannot deliver on the ambition within this RBMP alone and therefore we need to build on existing partnerships to deliver solutions to the environmental pressures. NRW proposes to commit to key actions in the third RBMP and will continue to work with existing partners, and identify new partners to deliver benefits to the water environment.

The priorities will be agreed and reflected in the third RBMP presented to Welsh Government Ministers. To realistically achieve our ambition requires further funding and resource which has not been identified or committed at this stage. Ministers will make a decision on affordability and overall ambition which will be published in the third RBMP.

4. Practical actions that we can all take

There are **several steps and practical actions we can all take in our daily lives and at home to collectively protect and potentially improve the quality of our water bodies. Some of these are summarised below.**

Prevent pollution to our rivers, lakes, groundwater and sea

- Check that household appliances are connected to the foul sewer, not the surface water drain.
- Adopt-a-beach to help keep beaches clean and stop litter at source.
- Ensure household oil storage is in good condition, with an up-to-date inspection record.
- Ensure septic tanks or private sewage treatment plants are well maintained and working effectively.
- Put cotton buds, wipes and other litter in the bin, not down the toilet. It may end up in the sea or on your local beach where it can harm wildlife.
- Take waste oil and chemicals such as white spirit to a municipal recycling facility: don't pour them down the sink or outside drains.
- Use kitchen, bathroom and car cleaning products that don't harm the environment, such as phosphate-free laundry detergents, and use as little as possible. This helps prevent pollution at source.
- When you see pollution or fly-tipping, report it on 0300 065 3000..

Protect our marine environment

- Eat fish from sustainable sources, caught using fishing methods that don't cause damage to marine wildlife and habitats.

Save water in your garden

- Choose plants that tolerate dry conditions. To help lawns through dry periods, don't cut them too short.
- To save water in gardens, collect rain in a water-butt, water at the beginning or end of the day, mulch plants, and use watering cans where possible instead of sprinklers or hosepipes

Save water in your house or office

- Purchase low energy and low water use appliances
- Ask water companies to fit a meter. On average, this can reduce household water consumption.
- Fix dripping taps, and lag pipes to avoid them bursting in freezing weather.
- Hand wash cars
- Consider installing rainwater harvesting systems in your home, block or workplace. This can save one third of domestic mains water usage.
- Install a 'hippo' or 'save-a-flush' in toilet cisterns.
- Install a low-flush toilet, put flow regulators on your taps and showers, and install waterless urinals at work.

- Run dishwashers or washing machines with a full load on economy setting, and boil the minimum amount of water needed in kettles or saucepans.
- Turn off the tap when brushing teeth, and take short showers rather than baths.
- Wash fruit and vegetables in a bowl rather than under the running tap - and use the remainder on plants.
- Ensure extensions or conservatories have their roof water draining into a soakaway or sustainable drainage system and are not connected to the combined sewer.
- Ensure that any off-road parking or patio around the house use permeable materials so rain can soak into the soil.

Help tackle the threat of INNS

- Find out how you can get involved in national campaigns ([Check, Clean, Dry](#) and [Be Plant Wise](#)) to help to reduce the spread of INNS, by checking out the [GB Non Native Species secretariat \(GBNNSS\) website](#).
- Do not buy, plant or release INNS, access the most up to date advice about how to control INNS and dispose of them responsibly through the [GBNNSS Website](#).
- You can find out about the location of INNS in Wales through the National Biodiversity Network Atlas Wales [INNS Portal](#).
- If you spot an INNS then please record it either online ([iRecord](#)), by downloading a recording app ([iRecord](#) and [LERC Wales](#)) or by contacting your [Wales Biodiversity Centre](#)
- Join an environmental group or organisation in your area that takes action to tackle INNS (e.g. wildlife organisations or rivers trusts), also check out the [GBNNSS website](#) for the contact details of specific INNS local action groups in your area.