

4. Enhancing and protecting the environment



Contents

1	Environmental requirements	4
2	Our environmental strategy and objectives	5
3	Our Environmental Destination	6
3.1.1	Abstraction reduction to deliver our environmental destination	10
3.1.2	Catchment and nature-based solutions	11
4	Strategic Environmental Assessment (SEA)	15
4.1	Overview	15
4.2	SEA Scoping	15
4.3	Strategic Environmental Assessment	16
4.3.1	Habitat Regulations Assessment (HRA)	16
4.3.2	WFD Assessment	17
4.3.3	Invasive Non-Native Species Assessment	17
4.3.4	Biodiversity Net Gain Assessment	18
5	Supporting nature protection and recovery: A 25-year plan for the environment	19
5.1	Catchment approach	19
5.2	Natural capital approach	20
5.3	Net gain for the environment	20
5.3.1	Nature Recovery Fund (including the WRMP BNG Fund)	21
5.3.2	Summary	23

4 Enhancing & protecting the environment

Document purpose:

This chapter sets out how we will enhance and protect our environment. We explain the environmental requirements set out by the Government and Environment Agency, our strategy and objectives for protecting the environment in line with these requirements, and the expectations of our customers and Board. We describe our proposed “Environmental Destination”.

Executive summary

South West Water is fully committed to meeting the challenges set out in the Water Industry National Environment Programme (WINEP), the National Framework for Water Resources, the River Basin Management Plans, and in the Government’s 25-Year Plan for the Environment.

We recognise that water companies have a primary role in protecting and enhancing the environment and thereby improving the lives of those within the communities we serve, and we remain committed to delivering better outcomes for the environment.

We have been an early pioneer in environmental protection and enhancement through our award-winning, ‘Upstream Thinking’ programme. This is a catchment management programme where we work with local stakeholders to restore habitats, protect river water quality, reduce flooding and counter climate change through managing agricultural land use practices and restoring peatlands across the catchments. In achieving over 95,000 hectares of land improvements since 2015 across 80% of our region we have implemented a low cost, low carbon way of reducing harmful nutrient run-off (phosphates and ammonia) into rivers.

In addition, we have also led the way in research and development, embracing highly innovative solutions such as the use of ceramic microfiltration (CeraMac®) in our new Mayflower water treatment works in Plymouth, and by supporting the establishment of a world-class research institute, the Centre for Resilience, Environment, Water and Waste (CREWW), at the University of Exeter.

The future for public water supply is complex, in large part due to uncertainty as to how climate change will impact rainfall and evaporation patterns, river flows and groundwater storage, and how the dependant environment will react to (and recover from) low flow events which will become more frequent and prolonged into the future. In addition, it is not clear how growth in our region (resident population, tourism) will affect the demand for water and the potential consequences that this could have on the environment.

In developing our WRMP we have carefully considered the potential to adapt our supply systems and catchment ecosystems to improve resilience and achieve our ‘Environmental Destination’, and closely followed the guidance set out in the EA ‘**Environment and society in decision-making**’ document. In line with these considerations, we have adopted an adaptive, integrated, financed, pragmatic and robust approach to ensure our catchments and water supply networks are in the best state possible to secure supplies for household and business use, while safeguarding our precious water-dependent environments.

In addition to setting out our destination for environmental sustainability and resilience, we have also ensured that our WRMP will meet the other ambitions of the Government’s 25-Year Environment Plan, which requires WRMPs to

- take a catchment approach
- adopt a natural-capital approach in decision making
- support nature recovery and deliver net-gain for the environment

During our WRMP and Regional Plan pre-consultation conversations, stakeholders have embraced the opportunity to collaborate with us to assess and demonstrate the ability of catchment- or nature-based solutions to contribute to the balancing of water resources supply and demand and to the achievement of our environmental destination. To meet this challenge, we have committed to co-design and co-deliver a series of catchment and Nature Based Solution (NBS) actions in partnership with several of our key stakeholders.

1 Environmental requirements

South West Water is fully committed to meeting the challenges set out in the Water Industry National Environment Programme (WINEP), the National Framework for Water Resources, the River Basin Management Plans, and the Government's 25-Year Plan for the Environment.

We recognise that water companies have a primary role in protecting and enhancing the environment and, therefore, improving the lives of those within the communities we serve.

We have been an early pioneer in environmental protection and enhancement through our award-winning, 'Upstream Thinking' programme. This is a catchment management programme in which we work with local stakeholders to restore habitats, protect river water quality, reduce flooding and counter climate change through managing agricultural land use practices and restoring peatlands across the catchments. We have accomplished over 95,000 hectares of land improvements since 2015 across 80% of our region as a low-cost, low-carbon approach to reducing harmful nutrient run-off (phosphates and ammonia) into rivers.

In addition, we have also led the way in research and development, embracing highly innovative solutions such as the use of ceramic microfiltration (CeraMac®) in our new Mayflower water treatment works in Plymouth, and by supporting the establishment of a world-class research institute, the Centre for Resilience, Environment, Water and Waste (CREWW), at the University of Exeter.

The future for public water supply is complex, in large part due to uncertainty as to how climate change will impact rainfall and evaporation patterns, river flows and groundwater storage and how the dependant environment will react to (and recover from) low-flow events, which will become more frequent and prolonged into the future. In addition, it is not clear how growth in our region (resident population, tourism) will affect the demand for water and the potential consequences that this could have on the environment.

In our draft Water Resources Management Plan (dWRMP) and the overarching West Country Regional Water Resources Plan, we have set out how we intend to

1. protect people, homes and businesses from the impacts of climate change and increasing hot and dry summers
2. protect rivers and reservoirs, and the wildlife that depends on healthy water levels
3. support tourism and the long-term economic health of the region
4. encourage households and non-household customers to be more water efficient and increase the capture and recycling of water at all stages of the water cycle, reflecting its value as a precious natural resource

While achieving these objectives, we must build consumers' trust and deliver an excellent service, continue our support for vulnerable consumers and act in the long-term interests of society and the environment.

We have developed our dWRMP to efficiently deliver resilient, sustainable water resources for our customers and the environment, both now and in the long term.

In developing our dWRMP, we have carefully considered the potential to adapt our supply systems and catchment ecosystems to improve resilience and achieve our Environmental Destination which meets Government objectives. To do this, we have adopted an adaptive, integrated, financed, pragmatic and robust approach to ensure our catchments and water supply networks are in the best state possible to secure supplies for domestic and business use, while safeguarding our precious water-dependent environments.

To achieve this, we have carefully considered the environment and society at every stage of our decision-making process, and focused our approach on meeting three key core objectives:

- Clearly setting out our **Environmental Destination** and developing a robust plan to achieve it (Section 3, p10)
- Full compliance with all environmental legislation, including the **Strategic Environmental Assessment (SEA)**, **Habitats Regulations Assessment (HRA)** and **Biodiversity Net Gain (BNG)** requirements (Section 4, p15)
- Meeting the ambitious challenges set out in the **Government's 25-Year Environment Plan** (Section 5, p18):
 - support nature recovery
 - use natural capital in decision making
 - use a catchment approach
 - deliver net gain for the environment (beyond the specific BNG requirements of the planning process).

2 Our environmental strategy and objectives

As a business that is so closely associated with the environment, we are very aware of our environmental impact and obligations, and South West Water has always been committed to delivering benefits to the environment. We recognise that the abstraction, treatment and delivery of drinking water, and the removal and safe disposal of wastewater can all have implications for river and sea water quality.

We also appreciate that the energy used to carry out these processes has implications for carbon levels and pollution, and we understand that the scale of our operations brings with it a scale of responsibility in how we manage our workforce and operational activities.

For us, environmental sustainability spans not only the practice of meeting environmental standards but also drives us to find new ways of working that deliver better environmental outcomes.

Our environmental achievements include:

- We have been an early pioneer through our award-winning, 'Upstream Thinking' programme. This is a catchment management programme where we work with local stakeholders to restore habitats, protect river water quality, reduce flooding and counter climate change through managing agricultural land use practices and restoring peatlands across the catchments. We have accomplished over 95,000 hectares of land improvements since 2015 across 80% of our region: a low-cost, low-carbon approach to reducing harmful nutrient run-off (phosphates and ammonia) into rivers.
- Early in 2021, we outlined £82m of investment as part of our Green Recovery Initiative, which includes pilots for storm overflows, improving river quality, smart metering, water resource development and peatland restoration.
- Last July, we set out our Net Zero ambitions, outlining our commitment to transform how we produce and use energy to become carbon neutral by 2030 through our three pillars: sustainable living, championing renewables, and reversing carbon emissions. Initiatives, such as planting trees are important parts of this strategy, and we plan to plant 250,000 trees by 2025, more than doubling the original target, which we achieved four years early.
- South West Water's WaterFit Plan outlines how we will play our part, working with partners, customers, visitors and local communities to protect and enhance the South West's water for future generations.

WaterFit

WaterFit builds on our existing plans to ensure we can achieve our environmental aims across a wider range of commitments, as well as going faster and further with a new ambition. By front-loading and rebalancing £330m investment, we will focus on the projects that will deliver multiple benefits, focused on a catchment-by-catchment, community-by-community investment approach, ensuring all areas in our region are benefiting with no additional impact on bills. Overall, WaterFit will enable us to deliver a step change in both river and coastal water quality by fulfilling our specific WaterFit commitments:

- **Nurture healthy rivers and seas.** Reduce our impact on rivers by one third by 2025 and put forward plans to target zero harm by 2030. Reduce spills from storm overflows to an average of 20 per year by 2025. Building on 100% bathing waters meeting water quality standards for the second year in a row, we will maintain our excellent bathing water quality record all year round, reducing spills even further in these sensitive areas. We are targeting zero serious pollutions by 2025, and continuing a year-on-year reduction in all pollutions
- **Put nature on everyone's doorstep.** Make bathing water accessible, less than an hour's drive, for 100% of our residents and visitors. Provide access to our 40 inland lakes and reservoirs, so that local communities can continue enjoying them for health and recreation. Achieve the region's first bathing quality river, using learning from our current pilots on the rivers Dart and Tavy.
- **Create and restore habitats.** Stop pollutants from 120,000 hectares of regional farmland getting into rivers and seas by 2025, working with local partners. Restore an additional 1,000 hectares of peatlands by 2025 to create new habitats, improve river quality and reduce flooding. Plant a quarter of a million trees by 2025, to help combat climate change, support river health, and create new wildlife habitats.
- **Inspire our local champions.** Donate 25% of our Community Fund to local groups. Launch our WaterFit Warriors programme to inspire water-quality champions in schools and communities. Share progress with our customers through our unique WaterShare+ scheme.
- **Create a sustainable future.** Work collaboratively with developers. Back the ban on non-flushable or plastic-containing wet wipes. Work with visitors and customers through our Love Your Loo campaign.
- **Put people in control.** Work with partners to provide water quality information for residents and visitors. Help people understand river health, by sharing real-time river water quality information. Provide 100% monitor coverage at our treatment works and on our storm overflows by 2023.

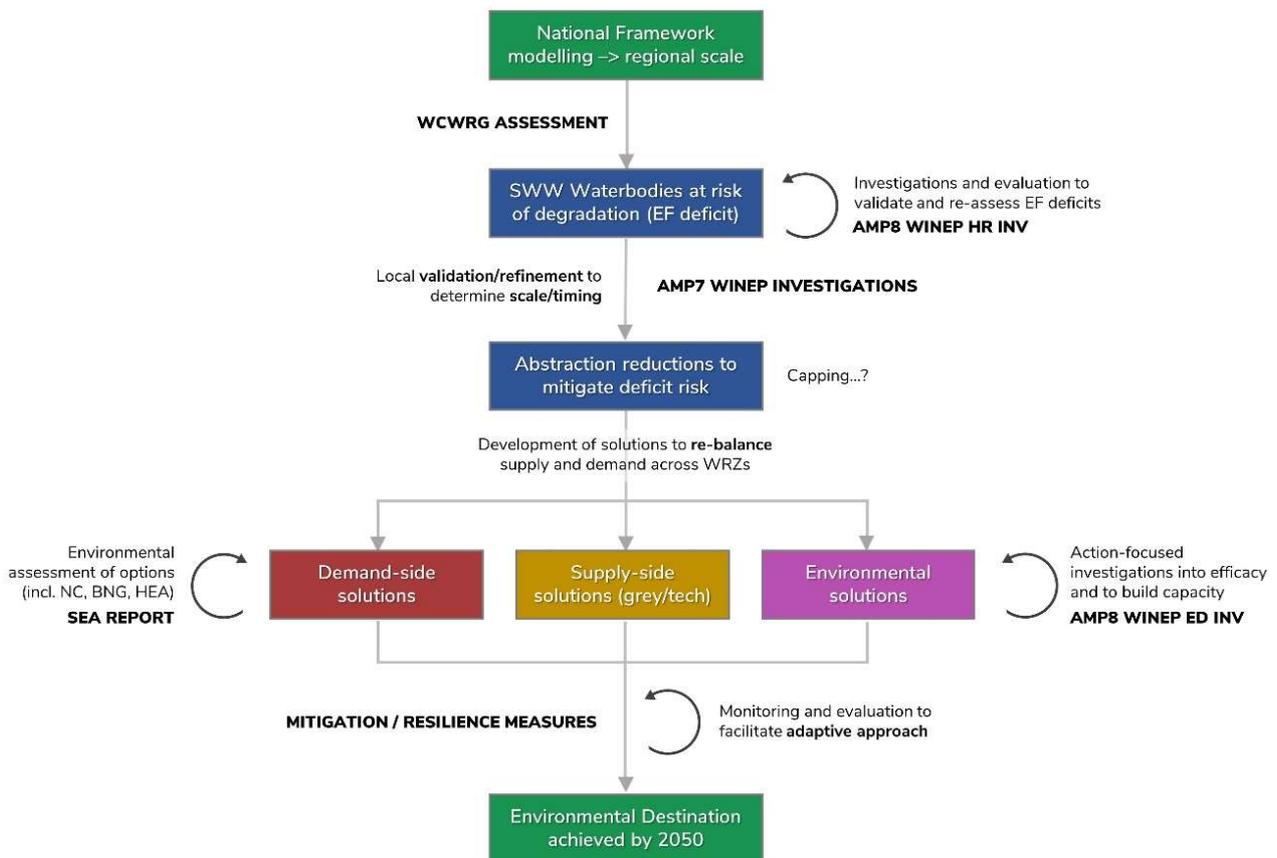
3 Our Environmental Destination

The future for public water supply is complex, in large part due to uncertainty as to how climate change will impact rainfall and evaporation patterns, river flows and groundwater storage and how the dependant environment will react to (and recover from) low-flow events, which will become more frequent and prolonged into the future. In addition, it is not clear how growth in our region (resident population, tourism) will affect the demand for water and the potential consequences that this could have on the environment.

What is certain is that climate projections are showing overwhelmingly that the climate is changing. They show that our catchments will experience reductions in river flow (either for all or part of the year) and groundwater recharge patterns will be affected. We can expect to see an increase in the frequency and severity of extreme events including flooding (posing a risk to water supply and wastewater assets), droughts (with water shortages potentially leading to service failures) and heatwaves (leading to increased demand and heightened risk of river, lake and estuary eutrophication events).

As a result, the water environment in the future will face increasing pressure, and without system changes water availability will be adversely affected, impairing our ability to ensure enough water for people, agriculture, businesses and the environment. However, though the changing climate is a reality, the impact on our water resources and the reaction of our water-dependent environment is much harder to quantify.

In developing our dWRMP, we have carefully considered the potential to adapt our supply systems and catchment ecosystems to improve resilience and achieve our 'Environmental Destination'. To do this, we have adopted an approach that is adaptive, integrated, financed, pragmatic and robust to ensure that our catchments and water supply networks are in the best state possible to secure supplies for domestic and business use while safeguarding our water-dependent environments.



Our process for ensuring we meet our 2050 Environmental Destination

The National Framework modelling undertaken by the Environment Agency in 2020 identified waterbodies in which there could be potential further constraints to water-resource availability into the 2050s (see information on the method below). This considered sectoral increases in abstraction demand, decreased flows from climate change and potentially increased levels of environmental protection for protected features.

National Framework for Water Resources

In the National Framework assessment, each waterbody was assigned one of three Abstraction Sensitivity Bands (ASBs), these are based on a view of the sensitivity of the watercourse to abstraction and are a result of national processing of expected invertebrate, fisheries and physical datasets as well as local refinement.

Each ASB (1,2,3) has been assigned a target Environmental Flow Indicator (EFI) which is defined as the permitted deviation from natural for flows to allow for the supporting of Good Status ecology. The National Framework modelling added an additional three bands, taken from Natural England’s Common Standards Monitoring Guidance⁹ (CSMG) flow targets.

Type	Q30	Q50	Q70	Q95
CSMG – WFD high hydrology (ASB6)	10%	10%	10%	5%
CSMG – Headwater (ASB5)	15%	15%	10%	5%
CSMG – River (ASB4)	10%	20%	15%	10%
ENHANCED Salmon/ Chalk /GWDTE water bodies AND WRGIS ASB3 rivers	24%	20%	15%	10%
WRGIS ASB2 rivers	26%	24%	20%	15%
WRGIS ASB1 rivers	30%	26%	24%	20%

Water available for abstraction as a percentage of natural flow as applied in the National Framework modelling

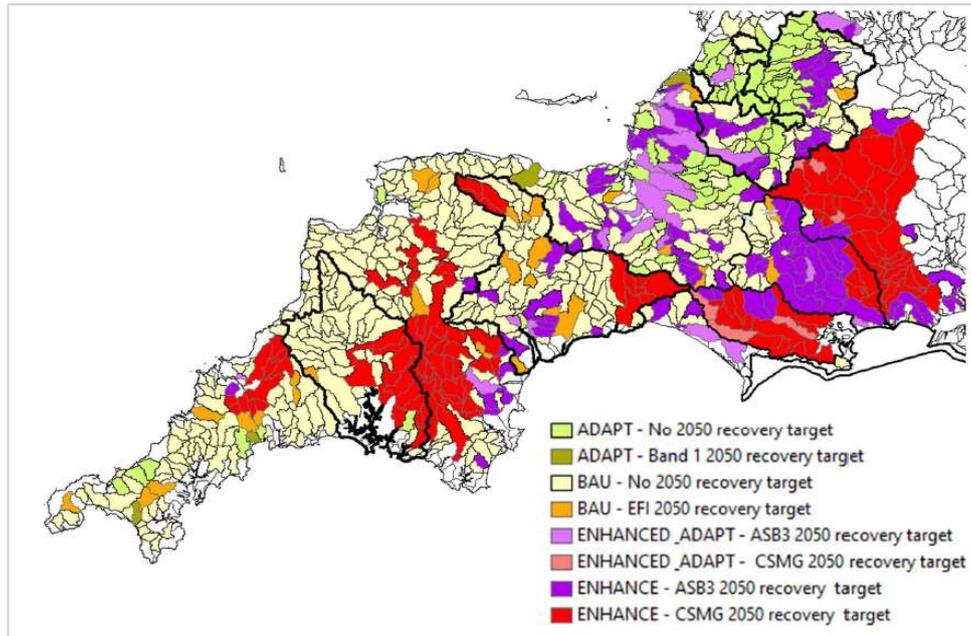
The water available for abstraction is presented as a proportion of the total available flow. This means that, if natural flows were to change in the future, the total volume available for abstractors and the environment would change, but their proportion of the available resource would remain the same. Thus, if flows were to change in the future, keeping the same EFI targets will mean less water available to support both abstraction and water-dependent ecology. This suggests that if a Hands-Off Flow condition has been set appropriately to an abstraction to protect the EFI now, it may need to be lowered if low flows fall in the future.

The National Framework modelling then considered three environmental scenarios: Business As Usual (BAU), Adapt, and Enhanced (ENH). The modelling data was used to ascertain whether there was a risk of failure against EFIs (i.e., an environmental deficit) in the 2050s. These are defined in some detail in the information released with the modelling, but can be summarised as follows:

- The **BUSINESS AS USUAL (BAU) scenario** represents no changes to environmental protection from the current day, and the focus in the scenario is on the impacts of climate change flows. Some assumptions were also made around the ability of ongoing WINEP schemes to address known issues. Another scenario, **BAU+**, has also been added, which while largely the same as BAU, provides additional protection for European Sites by providing Common Standards Monitoring Guidance (CSMG) targets for these sites.
- The **ADAPT scenario** would see policy adapted to accept that current environmental objectives may not be met and that in a few waterbodies meeting an EFI target would be infeasible. This would mean recovery to a lower standard in some heavily modified waterbodies (HMWB) and an environmental flow compliance target of ‘Band 1 non-compliant’ which is less stringent than meeting the EFI and completely resolving the deficit.
- The **ENHANCED scenario** sees greater environmental protection for Protected Areas, Sites of Special Scientific Interest (SSSI) rivers and wetlands, and the principal salmon and chalk rivers. This is achieved by applying the most sensitive flow constraints as appropriate to boost environmental protection through applying CSMG targets.

Environmental flow targets

The map below shows the distribution of environmental flow targets, identified in the National Framework, across the WCWR catchments. Where water bodies were designated as ‘Enhanced’ and ‘Adapt’ through the National Framework screening, the modelling took the more precautionary route and assigned these as ‘Enhanced’ catchments.

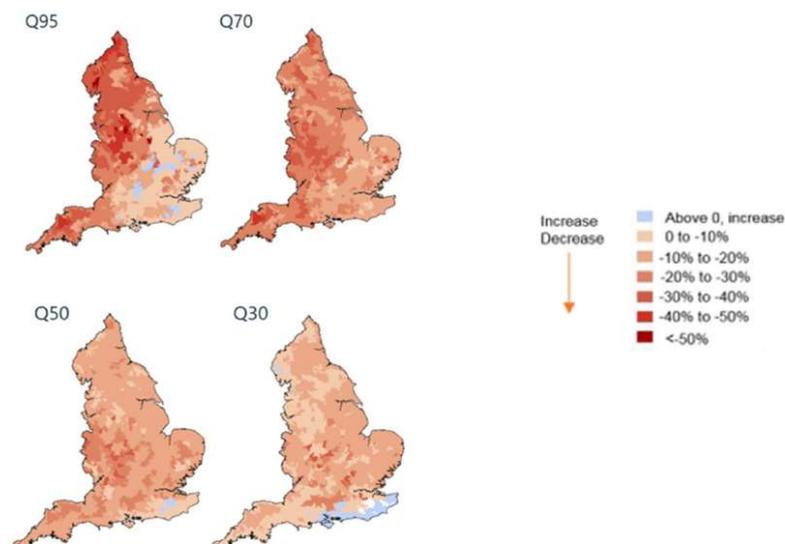


Environment Agency’s increased environmental protection ambition across the West Country.

Impact of climate change on natural flows

The Environment Agency’s National Framework predicted the impact of climate change on natural flows in 2050 using one of the eleven UKCP09 Future Flows projections. This scenario predicts a marked decrease in mid to low flows in the West Country which is generally harder hit by climate change than are the other parts of England. Impacts can be seen to be increasing in the more westerly areas, with Devon and Cornwall particularly vulnerable to reductions in flow, partly because of the lack of significant groundwater storage and buffering.

The National Framework modelling applied these percentage reductions to the natural flow statistics in the WRGIS. These revised natural flows have been used as the basis.



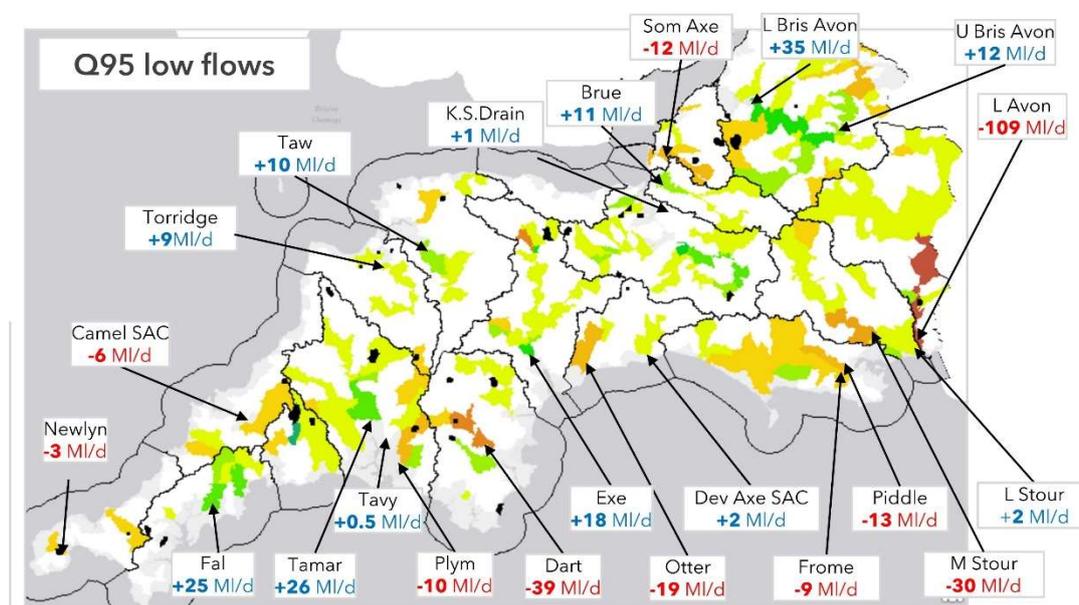
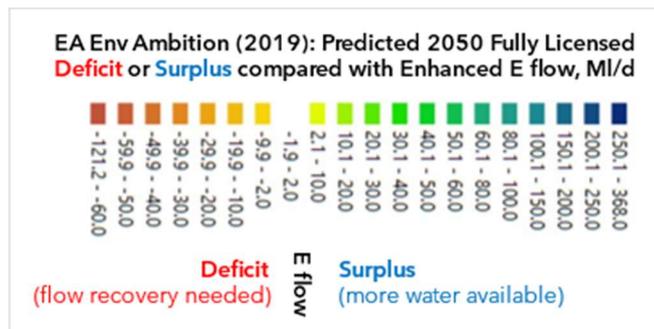
Impact of the UKCP09 afixK scenario on flows at four flow percentiles (Q95, Q70, Q50 and Q30).

Setting out our environmental ambition/destination

The Environment Agency’s modelling projections (combining the Environmental Flow Targets and the impact of climate change on natural flows) were processed to provide companies with an indication of the potential requirement for abstraction reduction to meet these deficits.

To calculate these potential reductions, water company abstraction locations were compared against the location of predicted flow deficits against EFIs. This was done on a catchment basis, starting at the top of catchments to avoid any double counting of the potential flow recovery required.

Due to some uncertainty about future abstraction estimates, it was decided that a ‘worst case’ scenario would be used for these assessments that considered a ‘Fully Licensed’ level of abstraction (all abstractions used to their full licence capacity) and an ‘Enhanced’ level of environmental ambition. This precautionary scenario would never occur, but it is useful for understanding the potential deterioration risks and the scale reductions in total licensed quantity which could be required to meet environmental flows.



The 2050 Fully Licensed surplus or deficit predicted for all west country river water bodies in relation to the Enhanced environmental flow target for low flow Q95 conditions.

The National Framework modelling provided a useful initial screening that allowed waterbodies at risk of degradation to be identified. However, the assumptions made in the modelling mean that, while the estimated deficits provide a useful basis for strategic planning, they could not be entirely relied on to drive specific licence reductions. Instead, these data were used to focus and drive significant further investigations and modelling to inform the preparation of their WRMPs.

Having taken all this information into account, South West Water’s Environmental Destination represents the outcome for the environment that the Water Resources Management Plans (whether regional or water company plans) are aiming to deliver. Our Plan sets out how the company intends to meet this ambition and achieve regulatory compliance in waterbodies and protected areas by 2050.¹

¹ As stated in Chapter 1, Annex B, the SWW dWRMP fully reflects and supports the achievement of the regional plan’s long-term environmental destination as stated within Section 5.1.4 to Section 5.4 of the West Country Regional Plan.

3.1.1 Abstraction reduction to deliver our environmental destination

Water companies have an array of solutions on both the supply and demand sides of the water balance to help them meet their Environmental Destination.

Having set out our environmental ambition (the scale and locations of the waterbodies at risk of deterioration), we then developed an unconstrained suite of solutions or ‘options’ that could contribute to achieving it. This list was then subjected to an exhaustive appraisal (in collaboration with stakeholders) to determine the most cost-effective or best-value programme of measures to deliver the outcomes and the WINEP wider environmental outcomes.

All the solutions proposed in the final plan must be demonstrated as sustainable (i.e., alternative abstractions are not causing deterioration), and the actions must not be disproportionately costly.

Abstraction reductions

Perhaps the most important approach for achieving our Environmental Destination is through abstraction reduction. Action is required to change licences where abstraction is causing, or is at risk of causing, serious damage. This is to reduce abstraction pressure and to ensure that any growth in abstraction (i.e., to the fully licenced volume) does not result in a deterioration of the water environment. The scale of any reduction is dependent on the current effects of the abstraction on the environment and the risk of deterioration.

We have identified where abstraction reductions may be required for us to meet our environmental destination and to prevent the deterioration of the water environment over the coming years. The environmental destination abstraction reductions which we have included in this draft Plan are shown below.

WRZ	Abstraction site	BAU+ impact (MI/d)		Enhanced impact (MI/d)		Assumed date of reduction
		Peak abstraction reduction	WAFU	Peak abstraction reduction	WAFU	
Bournemouth	River Avon	100.00	100.00	100.00	100.00	2030 to 2045
Colliford	River Cober	1.97	1.97	1.97	1.97	2033
	Withey Brook	2.40	2.40	2.40	2.40	2038
Roadford	River Yeo	1.58	1.58	1.58	1.58	2033
	West Dart River	1.00	1.00	1.00	1.00	2033
	Cowsic River	1.00	1.00	1.00	1.00	2033
	Blackbrook River	0.26	0.26	0.26	0.26	2033
	River Swincombe	3.22	1.61	3.22	1.61	2048
	River Tavy	44.93	7.00	44.93	7.00	2038
	River Yealm	0.32	0.32	0.32	0.32	2028
	River Tamar	-	-	44.4	5.00	2043
	River Dart	25.00	20.00	25.00	20.00	2048
	Lower Dart Groundwater	4.67	0.00	4.67	0.00	2048
Wimbleball	Hook & Cotley	1.21	1.21	1.73	1.73	2042
	Greatwell *	4.24	2.12	4.24	2.12	2037
	Colaton Raleigh *	1.55	0.78	1.55	0.78	2037
	Harpford *	2.82	1.41	2.82	1.41	2033
	Dotton *	6.81	3.41	6.81	3.41	2033
Total		203.00	146.07	247.92	151.59	

Table 1: Abstraction reductions included in our draft WRMP. *Indicates abstractions in the Otter Catchment which is identified as a ‘priority catchment’ under the auspices of the ‘Environment Agency Water Abstraction Plan for 2027 (EA, 2021).

It is important to note that the EA’s ‘Water Abstraction Plan for 2027’ (EA, 2021), which aims to update all catchment abstraction licencing strategies by 2027 to ensure sustainable abstraction, has been considered throughout this process. The River Otter catchment in our Wimbleball WRZ was identified by the EA as a ‘Priority Catchment’ due to existing water pressures in the catchment. We are working with the EA and other catchment stakeholders as part of the revised East Devon Abstraction Licensing Strategy and Lower Otter Restoration Plan to ensure a sustainable position is achieved in the catchment going forward. Our Environmental Destination in our Wimbleball WRZ reflects this with reduction for several our groundwater sources in the Lower Otter catchment.

We will continue to develop our Environmental Destination prior to submission of the final Plan, agreeing the assumptions we make in liaison with local Environment Agency staff. We will also continue to develop our understanding of our abstraction sites after submission of the final WRMP by undertaking studies which will ensure that the actions we take are evidence-based and proportionate to the environmental needs.

3.1.2 Catchment and nature-based solutions

Abstraction reduction and water supply and demand options are key tools in our approach to meeting our Environmental Destination. However, there is also a growing recognition that integrated catchment or nature-based solutions (NBS) can deliver significant multiple benefits for the environment (e.g., reducing flood risk, increasing biodiversity, aiding climate adaptation, improving resilience of the environment to droughts, etc), and that they have a vital role to play in the achievement of our environmental destination.

There is a good (and increasing) understanding of how nature-based solutions benefit the environment – enhancing the overall natural capital, with interventions often delivering multiple benefits around water quality improvement, flood management, ecological diversification and resilience and carbon sequestration. However, there is much less certainty around the ability of nature-based solutions to deliver any significant increased water supply (in public water supply terms).

Catchment management, ecosystem restoration and NBS schemes delivered in catchments (such as the Upstream Thinking initiative) have demonstrated improved baseflow resilience, but evidence of these benefits at a catchment-scale and considering climate change impacts on flow regimes remains inconclusive.

These solutions include measures that promote the infiltration of rainfall recharge and reduce rapid runoff (e.g. tree planting, promotion of farming methods to reduce soil compaction, contour ploughing, modification to the aspect/slope of fields, use of riparian buffer strips); measures that hold surface water back in the upper catchments (e.g., offline storage features such as ponds), and those that slow its movement towards areas of discharge (e.g., river restoration, wetland restoration/creation, floodplain re-connection, riparian woodland, in channel water weed management, maintenance of ditch systems).

Catchment management measures and NBS such as these will:

- assist in rapid recovery from droughts (through creating a resilient environment that can withstand environmental extremes)
- reduce the local impacts of flooding (through reducing peak flood flows)
- lead to improvements in raw water quality (through reduced rates of sediment entrained runoff and leaching from soil)
- reduce the impacts from run-off
- lead to improvements in the resilience of the in-channel aquatic environment (e.g., through keeping rivers cooler through riverbank planting or by improving habitat connection with the floodplain)
- allow habitat creation and carbon sequestration through changes to land management practices

During our dWRMP and Regional Plan pre-consultation conversations, stakeholders have repeatedly stated how keen they are to collaborate with us. Their main objective initially is to help us to assess and demonstrate the ability of catchment- or nature-based solutions to contribute to the balancing of water resources supply and demand, and to the achievement of our environmental destination (and other water resources management outcomes).

To meet this challenge, we have committed to co-design and co-deliver a series of catchment and NBS actions in partnership with several of our key stakeholders.

This will be achieved primarily through the incorporation of water-resources interventions (targeting both supply and demand outcomes) into the current and future Upstream Thinking programmes.

In addition, we are also planning (in collaboration with our partners) a series of action-oriented investigations and demonstrator projects designed to build our capacity and capability (and that of our delivery partners) to target, design, deliver and evaluate catchment and NBSs that achieve water-resources outcomes.

The flagship project of this type is our '1,000 Ponds' project, which has been included as action-focused investigation in the WINEP under the 'Environmental Destination' driver, and which the first phase has been included in SWW's application for Accelerated Project Delivery of AMP8 initiatives in AMP7 (see more information below).

This is new and exciting thinking and in the early stages of development, we are seeing energy and input from stakeholders – we will be able to share more in our final WRMP.

Farm water efficiency and resilience – ‘Water Net Gain’ and ‘1,000 Ponds’

As described in Chapter 3, we have been in dialogue with key stakeholders from the agrifood sector (NFU, land management organisations/advisors, landowners, regulators, water retailers, environmental NGOs, practitioners) to establish a working group that will co-design a water resources management approach for the ‘agrifood’ sector across the South West region.

The ‘agrifood’ sector (agriculture, horticulture, food and drink supply-chain businesses) is a vital contributor to the South West Region’s economy, but it also represents a key group of stakeholders in the management of water resources. As a large group of non-household water users, these users have the potential (individually and collectively) to make a significant contribution to the delivery of water resources management outcomes.

At present this potential contribution is most significant in relation to demand-side outcomes (e.g., reduced reliance on potable water use, water efficiency, increased resilience to drought), but the sector also has huge impact potential in relation to supply-side outcomes (e.g., nature-based solutions, effluent re-use, decentralised water storage) and to our environmental ambitions (e.g., increased resilience, biodiversity enhancements, carbon sequestration, etc).

We have recognised how important it is to engage and collaborate with these stakeholders (and with their water retailers) to develop a clear understanding of their issues and concerns, and to explore with them how they may be able to contribute to both the design and delivery of our water resources plans.

As a result of this focused campaign, these stakeholders are now highly engaged (especially NFU and National Trust) and clearly see both the WRMP and WC Regional Plan as great opportunities for them to get involved in and make a significant contribution to water resources planning in the region. This collaboration has the potential to be highly mutually beneficial as it is well aligned with our ambition for the water resources plans to be ‘multi-sector’ and could give us access to a wide array of other stakeholders and networks that we may not otherwise be able to engage.

During the development of our NHH customer water efficiency strategy, and our unconstrained list of demand-management options (particularly those focused on the agrifood sector), the potential of ponds or similar offline water storage features to provide multiple benefits for water resources management has repeatedly surfaced in the discussions. It is our belief that, thanks to their abundance, heterogeneity, biodiversity value, biogeochemical potential and water storage capacity, ponds could have a crucial role to play in catchments, landscapes, and in the water resource management system.

Building on this concept, we are now leading the co-development of an initiative to create a network of farm-ponds or reservoirs and evaluate their potential to act as a decentralised water resource option and to deliver a myriad of co-benefits in the landscape (NHH water efficiency savings, natural capital/biodiversity gains, downstream ecological benefits, farm business resilience, carbon savings, etc).

We have secured firm support from our partners and stakeholders (environmental groups, agriculture sector, land management bodies, government agencies, local government partners, internal stakeholders) to work with them to co-design and initiate this scheme. This includes early conversations with large riparian landowners who are keen to engage with us to develop potential schemes ahead of our final WRMP.

A further direct outcome from these conversations has been the co-development of the Water Net Gain initiative by SWW and Westcountry Rivers Trust. The aim of the Water Net Gain Project (submitted as a £1m proposal to the Ofwat Breakthrough Challenge Fund) is to explore the governance and technical aspects of planning, designing, creating and trading of a water bank through a distributive network of ecologically connected ponds and other nature-based solutions. These features could increase resilience by passively contributing to base flows, deliver demand management benefits or actively release water to the river to dilute pollution and deliver supply-side benefits.



Upstream Thinking Catchment Management Initiative

The Upstream Thinking Project is South West Water's flagship programme of environmental improvements aimed at improving water quality in river catchments to reduce water treatment costs. The programme includes restoring peatlands, advice and grants for farmers, help with obtaining enhanced environmental stewardship schemes, soil tests along with payments for ecosystems services.

The programme is delivered via our delivery partners: Westcountry Rivers Trust, Devon Wildlife Trust, Cornwall Wildlife Trust, the Farming and Wildlife Advisory Group, the Peatland Partnership, and the University of Exeter. The partnership works closely with the Environment Agency, Natural England, the National Farmers Union, the local catchment partnerships and many other key stakeholders.

In the 2015-2020 business planning period, our catchment management programme benefited water passing through 15 WTWs across Devon and Cornwall and involved work across 10 catchments. Upstream Thinking for AMP7 is comprised of 16 Schemes and 5 investigations in 18 catchments. Expenditure is being focused on delivering the programme and exceeding the new OFWAT Biodiversity Improvement ODI (Outcome Delivery Incentives) "Hectares of new catchment management" across the AMP7 period alongside the WINEP Investigations.

The current 5-year programme is a combination of new Catchment Management Schemes and Investigations as specified on the Environment Agency (EA) Water Industry National Environment Programme (WINEP) and the continuation of ongoing AMP5/6 work in the South West Water and Bournemouth Water areas. The outcomes contribute to

- Improved raw water quality and supply and long-term business resilience
- The new Biodiversity Improvement ODI 'Hectares of new catchment management'
- The Pennon Sustainability and Natural Capital commitments of year-on-year 3% improvement from a 2020 baseline
- Water UK carbon mitigation commitments (Peatland restoration and tree planting)
- The programme is designed to combat deterioration in soil and address nutrient and water management in the farmed landscape of catchments abstracted for drinking water supply. There are potential long-term resilience benefits including
 - new treatment investment deferment at treatment works
 - reduced power, chemicals, maintenance costs and carbon emissions
 - reduced risk of WTW shut down and DWI penalties
 - water resources benefits, increased baseflow in rivers and resilience of the water environment.

The engagement of Delivery Partners and environmental stakeholders in the South West region and their match funding contributions is a key aspect of the programme, as are the Natural Capital outcomes. These are aligned with Ofwat and EA expectations and SWW's ambitions to become a leading company in environmental delivery.

Looking after the land to protect our rivers



What's going into the river?



Peat

Rainstorms on damaged moors can lead to tea-coloured water which can still be detected 80km away.



1 = 50

Bacteria

One cow has the pollution potential of 50 people. There are 900,000 cows in Devon and Cornwall.

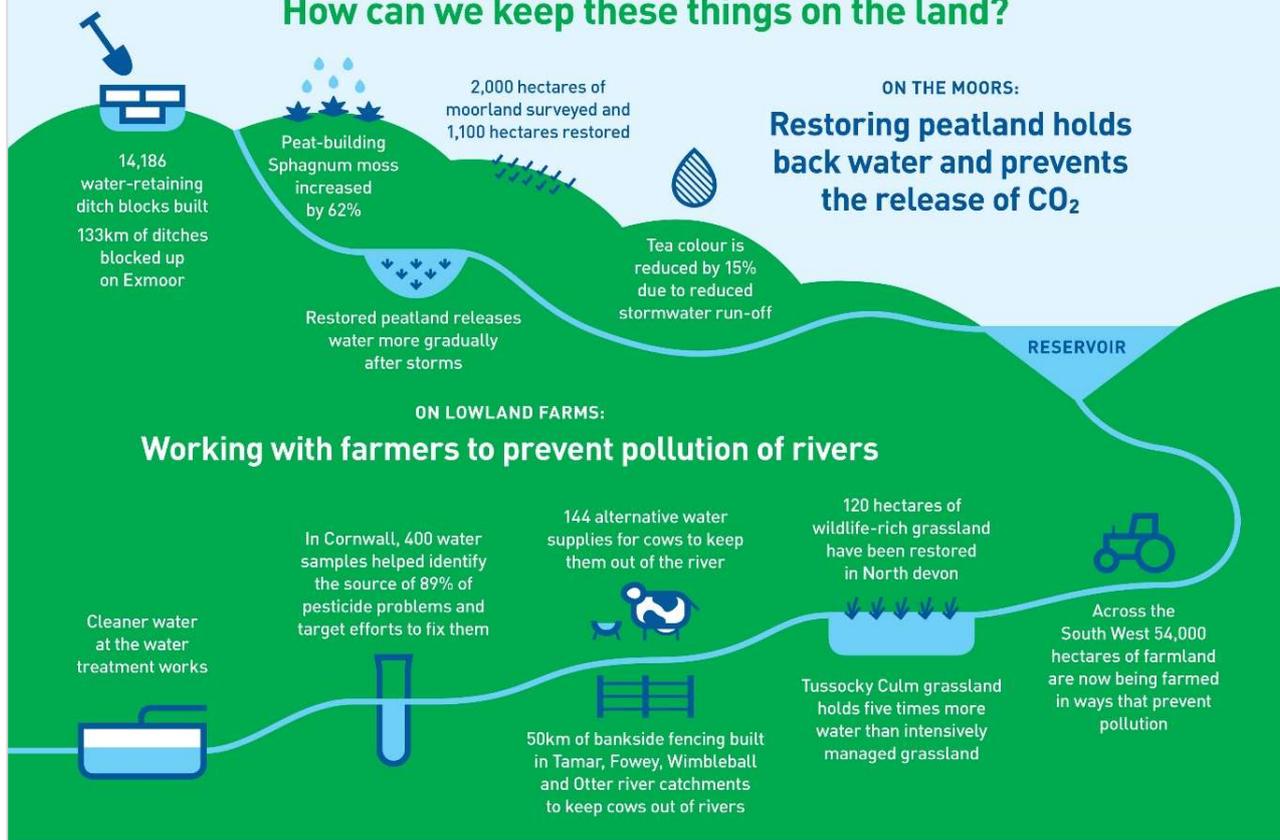


30km

Pesticides & fertiliser

Just a few drops of pesticide can be detected 30km away in the river.

How can we keep these things on the land?



Why does it matter?



Tap water quality

The drinking water standard for pesticides (EU) is 0.10ug/L – that's equivalent to one baked bean in 21 million cans.



Lower costs

Water from a less sensitively farmed catchment costs £120 per megalitre to treat while the cost from the cleanest catchment in the region is £60/ML.



Good for wildlife

27% increase in Dunlin on Dartmoor – a rare wading bird that is under threat.



Good for the planet

A square metre of 40cm-deep peat holds a wheelbarrow load of carbon. Peatland restoration helps to store carbon, reducing greenhouse gas emissions.

Figures are from the period Upstream Thinking work in 2010-2015

upstreamthinking.org



The Upstream Thinking Catchment Management initiative

4 Strategic Environmental Assessment (SEA)

4.1 Overview

The Water Resource Planning Guidelines (EA, NRW, Defra and Ofwat, 2021) state that in developing a WRMP in England and Wales, water companies should screen for a Strategic Environmental Assessment (SEA) and carry out a full SEA if required.

New guidelines have been published for the WRMP24, which highlight the following key environmental considerations:

- Reflect the Government's 25-year Environment Plan
- Impact of climate change on river flows and groundwater recharge, and any future supply options
- Spread of invasive non-native species (INNS) and proposed measures to mitigate that risk
- Enhancing the natural resilience of catchments by effective catchment management planning, to increase the amount and/or quality of water available for abstraction without posing unacceptable pressures on the environment
- Consider whether abstractions are truly sustainable, looking across a catchment as a whole

The Guidelines and supplementary guidance notes also set out the specific environmental assessment requirements to be undertaken when developing the WRMP24. Key updates from WRMP19 include:

- Requirement to demonstrate **Biodiversity Net Gain (BNG)** for options and the plan
- Stronger focus and detailed guidance on **natural capital** including the five key ecosystem services
- Improved guidance on approaches to **integrate environmental outputs into options decision-making and programme appraisal**

4.2 SEA Scoping

The **SEA Scoping Report** is the first stage of the SEA process for WRMP24 (**Stage A**). It is produced early in the WRMP process, as it sets the context, approach, and framework for assessing the WRMP options and subsequent preferred and alternatives plans.

More specifically, the SEA scoping stage aims to

- review relevant international, national and local policies, plans and programmes and their implications for the WRMP
- establish the baseline environmental and socio-economic information and key sustainability issues and opportunities for the SWW WRMP24 area
- set the context and objectives of the SEA
- decide on the scope for the SEA, ensuring that it covers all the likely environment effects of the WRMP
- provide an opportunity to engage and collaborate with the 'Consultation Bodies' (Environment Agency, Natural England, Heritage England)

While the **SEA Directive** only mandates consultation on the SEA Scoping with statutory **Consultation Bodies**, it does also suggest that consultation with the public at earlier stages (e.g., when considering the scope of the Environmental Report) can provide useful information and public/stakeholder opinions on issues relevant to the plan or programme and the SEA. This, it suggests, can help to avoid issues arising later which might delay the preparation of the plan or programme.

This recommendation is in accordance with the WRMP Guidelines, which state that companies should engage at an early stage of their planning process with their Board, regulators, customers and interested parties, to reduce the risk of issues being identified at a later stage. The Guidelines also suggest that a good pre-consultation should lead to less challenge of the draft plan, as it should help identify and resolve concerns early in the process, and that it should help avoid delays in the later stages of the process which can have implications for the business plan and assessment at the next price review.

The draft SEA Scoping Report for SWW's draft WRMP was subjected to a 5-week consultation period during April and May 2022. During the consultation period, Consultation Bodies and other key stakeholders (including the public) had the opportunity to comment on the proposed scope and approach for the WRMP SEA.

4.3 Strategic Environmental Assessment

Chapter 13 of this WRMP provides a comprehensive summary of all environmental assessments completed on our supply-side options, and across our various programmes. The purpose of this is to present the results of the SEA of the draft Plan. This outlines the potential environmental and sustainability effects (positive and negative) of the options included within the draft Plan, and also includes assessment of in-combination and cumulative effects, mitigation and enhancement measures, and monitoring proposals.

By carrying out an SEA of the Plan, it enables the opportunity to improve options and the Plan in terms of their potential environmental effects and allows for mitigation measures to be devised where necessary. The SEA therefore is a tool used to steer plan-making and avoid adverse impacts.

Guide to the SEA Report for WRMP24 – Chapter 13

SEA components	PDF page number in Chapter 13.
Habitat Regulations Assessment (HRA)	The approach and key findings of the informal HRA Assessments for the WRMP are presented in Section 9.9 of the main SEA Environmental Report entitled, 'Informal HRA Findings'. The full technical report on is included in Annex 2: Appendix H of the SEA Report – 'Informal Habitats Regulations Assessment (HRA)'.
Water Framework Directive (WFD) Assessments	The approach and key findings of the WFD Assessments for the WRMP are presented in Section 9.10 of the main SEA Report entitled, 'WFD Assessment Findings'. The full technical report is included in Annex 3: Appendix I of the SEA Report – 'Water Framework Directive (WFD) Assessment'.
Invasive Non Native Species (INNS) Assessments	The approach and key findings of the INNS Assessments for the WRMP are presented in Section 9.11 of the main SEA Report entitled, 'INNS Assessment Findings'. The full technical report is included in Annex 5: Appendix K of the SEA Report – 'Invasive Non-Native Species (INNS) Assessment'.
Natural Capital Assessment (NCA) & Biodiversity Net Gain (BNG) Assessments	The approach and key findings of the NCA and BNG for the WRMP are presented in Section 9.12 of the main SEA Report entitled, 'NCA / BNG Assessment Findings'. The full technical report is included in Annex 4: Appendix J of the SEA Report – 'Biodiversity Net Gain (BNG) & Natural Capital Approach (NCA) Assessments'.
Individual option assessment summaries by WRZ	The individual assessments for each option in the WRMP are set out in Annex 6: Appendices L-Q of the SEA Report (with one appendix for each WRZ plus demand options).
Carbon emissions, impacts on carbon storage and carbon sequestration potential	The Ecosystem Services assessments that inform the Natural Capital Assessments undertaken for the WRMP include an assessment of the impact of each option on carbon storage and identifies if options have the potential to deliver carbon sequestration. In addition, the individual assessments set out in Annex 6: Appendices L-Q include an estimate of the embodied carbon emissions (total embodied carbon from construction) for each option where available.

4.3.1 Habitat Regulations Assessment (HRA)

The SEA Report in Chapter 13 (Annex 2: Appendix H), presents the results of the informal HRA undertaken for 42 strategic improvement supply options across five WRZs. The preferred plan included a total of 11 of these options that had been assessed as part of the WRMP.

The informal HRA has been undertaken at a strategic scale to provide an indication of potential effects on relevant designated sites (Habitats Sites) to identify significant constraints and assist with the option shortlisting process. This HRA uses an iterative process, involving two stages:

- Screening, and
- Appropriate Assessment (AA).

Habitats Sites are the collective term used within this report for designated sites which form a network that across Europe is known as Natura 2000, and domestically now known as the National Site Network (NSN). Within the UK, this network consists of Special Protection Areas (SPAs) and Special Areas of Conservation (SACs), proposed and candidate SPAs and SACs (pSPAs and cSACs).

The HRA concluded that there will be no in-combination effects on Habitats Sites as a result of this plan. However, it is noted that this assessment is indicative of potential effects and does not constitute a formal HRA. A summary of the coarse Stage 1 Screenings and AA for all options are presented, where deemed appropriate.

4.3.2 Water Framework Directive (WFD) Assessment

A WFD Report has been prepared to support the SWW WRMP24 (Annex 3: Appendix I of the SEA Report – Chapter 13). The Directive requires all waterbodies (both surface and groundwater) to achieve ‘good status’ and requires that waterbodies experience no deterioration in status as a result of the options.

The WFD assessment has been undertaken in accordance with the All Company Working Group (ACWG) Framework, consisting of two stages including an initial Level 1 comprising of basic screening, followed by a Level 2 detailed impact screening. Following the completion of these screenings, a cumulative assessment has been carried out to determine any additional impacts on respective waterbodies because of multiple options being constructed and operated in conjunction with each other.

During the Level 1 WFD assessment, 60 options have been assessed (an initial review of demand options scoped out all 15 demand options, which have not been assessed further). WFD level 1 assessments have been undertaken for 42 supply side options, in which a further six options were identified as having a very low risk of being non-compliant with the WFD objectives and as such do not require further assessment.

A WFD Level 2 assessment has been identified as required for the remaining 36 options. A WFD Level 2 assessment for the 36 options has been undertaken and findings presented within Chapter 13 Annex 3: Appendix I.

The Level 2 WFD assessments have identified further WFD mitigation and assessment would be required for 21 of the options. As such the existing Level 2 assessments have confirmed a potential risk of deterioration to 23 waterbodies. The in-combination effects assessment highlighted that in eight of the waterbodies where more than one option is planned, there is no change to the risk of deterioration for the combination of options. However, the cumulative assessment identified four waterbodies which have the potential to be impacted on by more than one of the preferred options.

The majority of the options assessed as part of the draft WRMP24 have only been subject to high level design, and if taken forward would require additional WFD assessment following design development. The findings of our WFD assessments identified that there are precautionary WFD compliance risks associated primarily with the operation of additional/new abstractions. The potential hydrological effects could conflict with achieving WFD status objectives. This is particularly the case where hydrology/ river flow is an existing limiting factor. Further development and assessment will be undertaken to improve certainty on the scale of effects in relation to potential biological effects particularly fish, and physio - chemical changes (reduced dilution). Additionally, further mitigation and assessment is planned to assess and improve the certainty of the levels of WFD risk.

4.3.3 Invasive Non-Native Species (INNS) Assessment

One objective of the SWW WRMP24 is to reduce the spread or presence of INNS, and an INNS Risk Assessment has been prepared to support the SWW WRMP24 (Annex 5: Appendix K of the SEA Report – Chapter 13).

The scope of the INNS risk assessment was to identify and evaluate the potential for the different options given within the WRMP24 to spread INNS. This consists of two assessments: a high-level ‘Level 1 screening’ of the options, and a more detailed ‘Level 2 assessment’ for those options deemed to be of a higher risk.

The Level 1 screening was undertaken to highlight INNS risks and highlight options requiring a more detailed Level 2 assessment. During this screening, 37 mainland options and five Isles of Scilly options were assessed. Of the 37 mainland options screened at Level 1, 23 options were assessed as having either no additional risk, or very low risk, with the remaining 14 being recommended for the more detailed Level 2 assessment (excluding SROs). Of the five Isles of Scilly options none were assessed as having moderate risk and subsequently no Level 2 assessments were recommended.

As part of the assessment no in-combination or cumulative assessments have been undertaken in relation to the preferred plan. However, it is further recommended that the INNS risk assessment be revised using the SAI-RAT tool for options taken forward as more information becomes available. We will ensure that appropriate mitigation for INNS risk will be considered for all options taken forward during both construction and operation.

4.3.4 Biodiversity Net Gain (BNG) and Natural Capital Assessment (NCA)

The BNG requirement as outlined in the WRPG stipulates that each option should look to maximise BNG. In April 2022, Defra and Natural England launched The Biodiversity 3.1 Metric (NE, 2022²). The Defra 3.1 metric is now the recommended approach to net gain assessments.

Our WRMP24 options have each been assessed as part of the SEA process using the BNG 3.1 Metric approach and fully in line with current guidance. The NCA assessment has been split into two stages 'Stage 1 – defining the zone of influence and the natural capital baseline' in accordance with respective guidance (National Natural Capital Atlas: Mapping indicators (NECR285)) and Stage 2 'Options level National Capital Assessment' which is undertaken in accordance with Water Resources Planning Guideline (WRPG) and Enabling a Natural Capital Approach (ENCA) requirements. See Annex 4: Appendix J in the SEA report - Chapter 13.

In the BNG assessment, a biodiversity baseline has been developed from spatial data sets of habitats inventories to calculate BNG change through land use for each option. The Priority Habitat Inventory and sites designated as Sites of Special Scientific Interest (SSSI), Special Areas of Conservation (SAC), Special Protection Area (SPA) and Ramsar sites were used to identify areas with high biodiversity importance. Units have been assigned to the pre-construction land use according to the habitats present in the options boundary. Post construction land use, including any mitigation described in the options description, has been used to calculate the post construction score. As this assessment has been carried out using only open-source data a precautionary approach is applied, presuming that where not specifically known, habitats will be assigned the moderate habitat score.

A total of 42 options were assessed, with 27 options scoped out during the initial screening phase due to the options' setting and available information. The findings identified that overall, the 14 assessed options are most likely to cause the temporary and permanent loss of Natural Capital stocks including temporary loss of woodland (broadleaved, yew, mixed, priority and coniferous), during construction which is likely to be reinstated/compensated following construction. However, there is anticipated to be permanent loss of arable stocks, pastoral stocks, other-semi natural grassland stocks, dwarf heath shrub stocks, active floodplain stocks, reservoir stocks and lake stocks as a result of construction activities. Additionally, all of the assessed options were also found to have the potential to result in a loss of BNG habitat units due to the temporary loss of Natural Capital assets during construction. The loss of Ancient Woodland is not included within BNG Metric 3.1 and are not accounted for within the assessment. Impacts to biodiversity from the potential loss of Ancient Woodland should be avoided as it is deemed irreplaceable. The preferred plan has the potential to result in an overall loss of BNG units, equating to -42.20%. As a core principle, where possible, the Best Value Plan should aim to not only reinstate lost habitat, but also provide a greater or more diverse habitat than is lost, to achieve overall BNG.

There is also the potential for the plan to result in a loss of ecosystem services due to the temporary and permanent loss of natural capital assets, with an overall loss of around -£4,887 per year for the provision of all the ecosystem services considered within the quantitative assessments. The options present opportunities to improve the existing habitats across the SWW region through post construction remediation and replacement of low value habitats with higher value habitats. Future habitat creation possibilities to ensure SWW achieve a 10% net gain include opportunities on-site and off-site, or a combination of the two, therefore aiding in developing more resilient options for the future provision of water in the SWW WRMP24. Work is currently ongoing to identify BNG opportunities at an option and/or plan level within the SWW area, to support BNG and the provision of natural capital assets and ecosystem services across the WRMP24.

All the schemes included in this dWRMP are still early in their feasibility work, and therefore specific interventions to restore habitat or improve the biodiversity net gain is still under-development. As discussed further in section 5 of this chapter, we are developing a company-wide **SWW Nature Fund** and our aim is for this to include a **WRMP-specific BNG Fund**, which we have estimated (based on the hectares impacted by our selected supply-side schemes), that can be drawn down to achieve the 10% BNG for the WRMP programme.

As the WRMP schemes move through the design and implementation process the WRMP BNG Fund will be used to deliver BNG at an option-level. These BNG measures may be achievable within the site or local area, but there may also be other opportunities (e.g., as part of Local Nature Recovery Strategy Strategies) via which they can contribute to biodiversity net gain at a larger spatial scale. The concept for the company-wide Nature Fund, its interaction with the WRMP BNG funding and how it will be evaluated, is discussed in section 5 of Chapter 4. Our aim is for this flexible and scalable approach to maximise the improvement of biodiversity and deliver wider environmental benefits.

² [The Biodiversity Metric 3.1 - JP039 \(naturalengland.org.uk\)](https://naturalengland.org.uk)

Our estimated WRMP BNG Fund is **£3.81m** based on the preferred plan (does not account for additional options selected for more extreme futures). This is based on requiring habitat restoration across 120 hectares. The 2019 Defra Biodiversity Net Gain and Local Nature Recovery Impact Assessment estimated that the cost of 1x BNG Unit would be £11k, but this report also cited another study (National Trust, 2017), which indicated that it could be ~£20k per ha for 30 years' creation and maintenance costs. Other reports (e.g., Savills, 2022), suggest that this could increase to as much as £40k per unit for on-site / off-site restoration in certain situations. We have used this guidance from Defra to determine an average cost per hectare for habitat restoration of **£25k** and then applied optimism bias of 27.28%.

These costs have not been included in the options tables, and therefore are not included in Table 7 and 8 as a result. We have estimated the likely investment based on current scheme implementation dates; in summary the biodiversity fund investment is estimated as:

AMP8	AMP9	AMP10	AMP11	AMP12
£1,474,984	£1,738,899	£127,407	£459,926	£6,650

5 Supporting nature protection and recovery: A 25-year plan for the environment

In addition to setting out our destination for environmental sustainability and resilience, and our approach to delivering the statutory requirements of the Strategic Environmental Assessment, we have also ensured that our WRMP will meet the other ambitions of the 25-Year Environment Plan, which requires WRMPs to

- take a catchment approach
- adopt a natural-capital approach in decision making
- support nature recovery and deliver net gain for the environment

5.1 Catchment approach

At its core, the Defra 25 Plan is based on several key challenges that will require environmental practitioners and policy-makers to (1) consider the value of nature in decision-making; (2) develop innovative tools and finance methods that use the latest science, data and technology; (3) plan and deliver action at the most effective scale and in a collaborative, inclusive and integrated way that breaks down silos; and (4) re-connect stakeholders with their local the environment and empower them to take action to protect and enhance it.

All these challenges can be met through taking a holistic and adaptive catchment approach to management, protection, and restoration of the water environment. The water environment is affected by activities that take place on land as well as through our actions in abstracting, using and returning water to rivers, the sea and the ground.

This makes catchments the perfect scale to consider this aspect of the environment and coordinated action at a catchment-scale by all those who use water or influence land management is now considered the most effective way to approach management of the water environment.

To meet this goal, the Catchment Based Approach was established in England in 2011 to

- deliver positive and sustained outcomes for the water environment by promoting a better understanding of the environment at a local level
- encourage local collaboration and more transparent decision-making when both planning and delivering activities to improve the water environment

Catchment Based Approach – Catchment Partnerships

The Catchment Based Approach (CaBA) is an inclusive, civil society-led initiative that works in partnership with Government, Local Authorities, Water Companies, businesses and more, to engage people and groups from across society to help improve our precious water environments and maximise the natural value of our environment.

CaBA embeds collaborative working at a river-catchment scale to deliver cross-cutting improvements to our rivers, lakes, estuaries and coastal waters. Community partnerships, bringing together local knowledge and expertise, are active in all the Water Framework Directive catchments across England, including those cross-border with Wales.

Evaluation of CaBA since it was established in 2011 has revealed that partnerships can act as a single point of coordination in a catchment, integrating an otherwise piecemeal approach to land and water management. Catchment Partnerships have forged a holistic, integrated an evidence-led approach that promotes the identification of synergies and generates projects which deliver multiple benefits – e.g., flood risk management, improved habitats, connectivity for wildlife, cleaner raw water for water companies, improved angling and recreational opportunities, better soil management, improved water supply resilience for agriculture and the environment.

South West Water has fully embraced the catchment approach and has become an active member of the Catchment Partnerships operating across the region. In addition, we have helped the West Country Water Resources Group (WCWRG) establish its Focus Catchments approach to collaboratively develop Water Resources Catchment Action Plans for 5 catchments across the region. We have also established a programme of quarterly (and additional *ad hoc*) update meetings with the catchment partnership hosts and EA Catchment Coordinators representing all

WCWRG Focus Catchments Approach

The WCWRG has embraced the ‘catchment approach’ and has demonstrated its commitment to collaborative working through the establishment of 5 West Country Water Resources (WCWR) pilot catchments in which to undertake ‘action learning’ into how to increase water supply and environmental low-flow resilience.

The 3 catchments (Dorset Stour, Poole Harbour, Bristol Avon, Tamar, and East Devon) were chosen by the WCWR Steering Group (WSWRSG) to give a distribution across catchment types and the three water companies who are partnered in the Regional Water Resources Group (Wessex Water, South West Water and Bristol Water), together with the Environment Agency and Natural England.

The pilot water-resources action plans for these catchments, which have been co-developed with catchment partners (primarily via the catchment partnerships), set out the steps towards an Environmental Destination for 2050 in each catchment, in response to the water resources-related ‘Environmental Ambition’ challenge set by the Environment Agency as part of its National Framework for Water Resources.

5.2 Natural capital approach

Natural Capital (NC) refers to the elements of the natural world that provide benefits to society and includes aspects such as woodland, grassland, freshwater, marine, urban greenspace and wetland habitats. Ecosystem services are benefits that are provided to humans by the natural environment. They vary from regulating services such as natural flood management to cultural services such as recreational value.

SWW has adopted a natural capital approach to support decision-making in relation to the natural environment. This reflects the wholesale shift towards the adoption of a ‘NC approach’ to environmental decision-making by Defra (and its agencies), local government and the water industry.

A natural-capital assessment has been undertaken on the WRMP options in accordance with the Water Resources Planning Guideline (WRPG) and Enabling a Natural Capital Approach (ENCA) requirements (see Appendix I of the SEA Report – Chapter 13). ENCA is recommended for use by HM Treasury's Green Book: appraisal and evaluation in central government (2020) and represents supplementary guidance to the Green Book.

The impact of the options on the Natural Capital stocks and indicators of condition has been assessed for each option quantitatively. This impact was assessed both during construction and post construction to give an estimation of the impact of the options’ whole lifecycle. The results of the stock assessment were reported in total losses and gains within each option’s zone of influence.

5.3 Net gain for the environment

In developing our WRMP, we have embraced the philosophies of ‘no deterioration’, ‘no net loss’ and, more recently, the ‘maintenance of natural capital value at a landscape-scale’. Indeed, through our approach, we have sought to ensure that the WRMP results in a net improvement in the environment during its implementation.

As described previously, the water resources planning guidelines stipulate that each WRMP option should seek to maximise BNG. Consideration of BNG in the planning process refers specifically to the combination of habitats present within a site and their ability to support biodiversity. Each habitat is given a distinct score that relates to its area, condition, distinctiveness and connectivity. The change in habitat due to the construction and operation of the regional plan options informs the overall BNG score and whether they are likely to contribute to a net gain in biodiversity.

In April 2022, Defra and Natural England launched The Biodiversity 3.1 Metric. The 3.1 metric presents significant improvements for measuring and accounting for nature losses and gains. It encourages users to create and enhance habitats where they are most needed to help establish or improve ecological networks through rural and urban landscapes. By linking to current and future habitat plans and strategies, including the future Local Nature Recovery Strategies (LNRS), the Metric 3.1 incentivises habitat creation and enhancement where it is most needed. It also ‘rewards’ landowners who undertake work early, creating or enhancing habitats in advance, allowing them to generate more biodiversity units from their land.

It is important to note that the BNG Metric 3.1 only accounts for direct impacts on habitats within the footprint of a development or project. The metric has been developed to be a simple assessment tool and only considers direct impacts on biodiversity through impacts on habitats. Indirect impacts are also important, but they are not included in the BNG Metric used in the WRMP SEA. At South West Water we are fully committed to achieving 10% BNG through the delivery of our WRMP options (as outlined previously), but we also want to go beyond this requirement and explore how we can make a significant contribution to the enhancement of biodiversity and the natural environment across the region for the long term.

Therefore, to support our Water Resources Management Plan (WRMP) and other plans currently being developed, and in recognition of the need to provide, and support, biodiversity action across the business, we are now working to establish a company-wide Nature Recovery Fund that encompasses the specific WRMP BNG Fund set out previously. The SWW Nature Fund will seek to drive positive improvements over and above the statutory BNG delivered through our investment programme.

5.3.1 Nature Recovery Fund (including the WRMP BNG Fund)

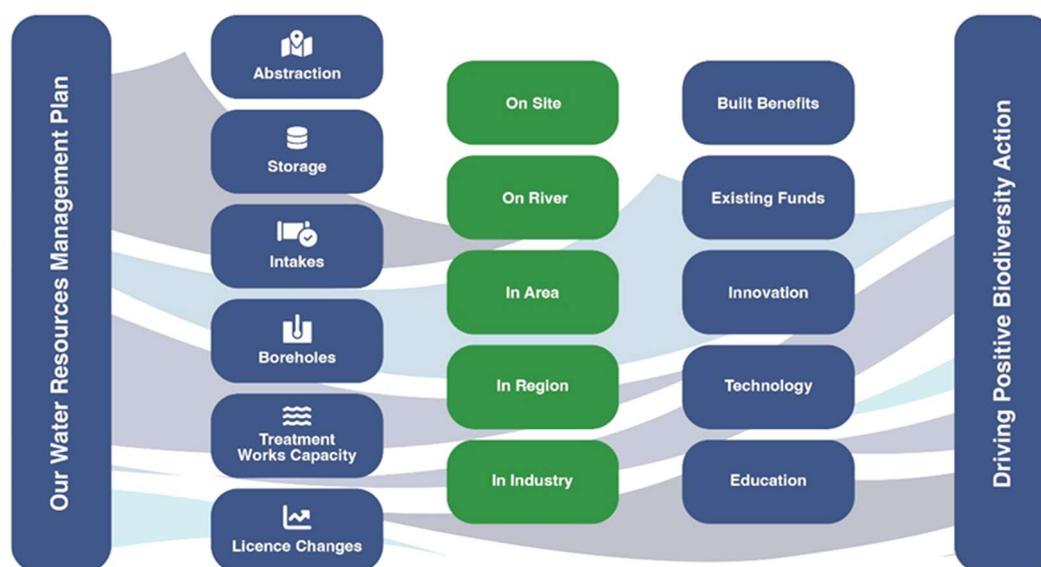
We propose to support and enhance the delivery of net improvements to the environment achieved by our WRMP through the establishment of a ‘SWW Biodiversity Action/Nature Recovery Fund’.

Through this new funding instrument, we will seek to drive **additional positive improvements** alongside the impacts that will be achieved through the delivery of our specific investment programmes. The main areas of investment will also be designed and targeted to positively impact water sources such as rivers and groundwater sources, and deliver a range of additional environmental, social and economic benefits for the region.

South West Water proposes to invest in several key areas over the long term – shown below. Where we can identify tangible benefits alongside our project investments (i.e., at the same site or on the same river), we will. Where we cannot, we have set out our process for identifying the opportunities for the fund.

The design of the fund considers the following key parameters:

1. What the main aim of the investments are,
2. Where the fund could be delivered to support biodiversity action,
3. What the fund could deliver and where could it support existing environmental action.



Positioning the Biodiversity Action/Nature Recovery Fund

Targeting and design of the funded interventions

We have detailed **where** our fund will be delivered below. When considering the design, we have determined where we want to focus the fund, where we have existing routes of success and where the fund can influence the long-term context of the WRMP and its associated benefits and impacts. We have also detailed **what** our fund will deliver below.

Where will our fund be delivered?

	On Site	On River	In Area	In Region	Education
Description	Where a direct and relevant benefit can be delivered whilst working on a WRMP site, we will utilise our existing supply chain to deliver this. We will even work with the supply chain to identify opportunities for those benefits.	Where we can co-fund initiatives with local charitable organisations, the rivers trust, local wildlife groups we will. We will prioritise those rivers where we are delivering a benefit from the WRMP.	Where we cant directly drive a positive biodiversity action associated with an individual benefit from the WRMP, we will consider other routes: <ul style="list-style-type: none"> - Other south west water projects, - Other biodiversity area action funds, - Providing skills to support other initiatives in the area primarily focused on biodiversity net gain. 	We will promote a south west first approach with reinvestment of our fund. We already have a well established set of existing environmental funds, which the WRMP will positively benefit. Where a regional benefit will be sought this will be focused on addressing the route cause of the impact of the water resources management plan. For example, reducing water consumption, testing/developing technology which will support the smart balancing of our water resourcing and furthering our systems thinking capability and capacity, for example our SMART PONDS initiative.	We want our WRMP to benefit for the long term, we have worked hard to understand the benefits and the impacts over this period. We believe that in order to truly reduce our biodiversity impact and move to a positive benefit, the industry needs to increase skills, knowledge and experience in this field. This is something our fund can support, utilising the WRMP to provide focused education for water users, joining together with research organisations and sharing the output of this with our industry peers.

What will our fund deliver?

	Built Benefit	Existing Funds	Innovation	Technology	Education
Description	Utilise our supply chain to deliver more, whilst in location.	Utilise our well-established funds, with a previous track record of delivering benefit for the WRMP.	Focus the fund on areas where betterment has not been progressive enough.	Develop our ideas into prototypes and support testing, especially for those which rely on other parties to make it a success.	Develop our ideas into prototypes and support testing, especially for those which rely on other parties to make it a success.

Value of the Fund

The ambition for the wider Nature Fund is for it to run each year as a grant scheme to which partnerships (which may include businesses, councils, community volunteer groups, conservation groups and other organisations) can bid.

The overall value of the fund will be confirmed as part of our final plans. Our aim is for it to be scaled to ensure that, in addition to ensuring that our WRMP and DWMP schemes exceed their targets of 10% biodiversity and natural capital net gain, we are also delivering significant additional enhancements to biodiversity and the environment across the region towards our long-term targets.

In addition to achieving 10% BNG through the delivery of the WRMP options, our ambition for the SWW Nature Fund is for it to deliver 600 hectares of habitat improvements over the first 5 years of the fund being established (which under the accelerated delivery programme we are aiming to be 2023-2028 – i.e., starting in AMP7 and continuing into AMP8).

We are proposing that the fund will have a value of £600k in the setup phase (Year 1-2, target = 75Ha habitat) and then £1.5m per year over the following 3 years of operation (equating to 20 x £200k projects + 100 x £12k projects, target = 225 Ha habitat per year).

Governance and administration of the Fund

The ambition for the Fund is for it to run as a grant scheme each year, to which partnerships (which may include businesses, councils, community volunteer groups, conservation groups and other organisations) can bid. We propose to establish a scoring matrix which will be used in the administration of the fund (see below).

We would use our assessment factors from the WRMP, allocating ranking and weightings dependent on the outcome of our WRMP submission. We would weight medium- to long-term benefits, with collaborative delivery effort highest.

Factors	Examples of how the factors are assessed
Benefitting and affordable for society	<ul style="list-style-type: none"> • Cost to customers and customer affordability • Intergenerational equity – costs are spread over time across generations • Meeting the needs of other stakeholders and water users
Improving the environment	<ul style="list-style-type: none"> • Reducing the amount of water taken from environmentally sensitive water sources • Reducing carbon emissions/energy use • Enhancing the environment e.g. biodiversity improvements
Improving supply resilience	<ul style="list-style-type: none"> • Reducing the risk of severe water restrictions and the frequency of temporary use restrictions • Improving the resilience of the water supply system to other risks such as flooding and extreme cold weather
Reducing demand for water	<ul style="list-style-type: none"> • Reducing the amount of: <ul style="list-style-type: none"> ○ Water each person uses ○ Leakage ○ Water used by businesses, industry and agriculture

Outline scoring matrix for proposals to the Biodiversity Fund to be assessed against.

5.3.2 Summary

In this chapter, we have set out how, by using both existing mechanisms and new approaches that are in our control, we plan to deliver positive biodiversity action, alongside our WRMP, within a long-term context of the challenges we face as a region and an industry. Through this approach we will deliver sustainable and wide-ranging benefits for our stakeholders, customers and the environment.



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