



Llywodraeth Cymru
Welsh Government

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Water Strategy for Wales

Supporting the sustainable management of
our natural resources



Ministerial Foreword

Water is one of our greatest natural assets and an integral part of Wales' culture, heritage and national identity. It shapes our natural environment and landscapes, providing us with a sense of place in mountains, valleys and coastline and supporting Wales' diverse wildlife. It provides a basis for economic development, including energy supply and tourism. Access to clean, safe, and resilient water supplies also plays a vital part in supporting the health and well-being of everyone who lives, works and visits here.



I want to ensure that Wales has a thriving water environment which is sustainably managed to support healthy communities, flourishing businesses and biodiversity. I want people to receive first class, value for money water services with water used efficiently, safely and respectfully by all.

This Strategy sets out how we believe our water resources should be managed to support our communities, nature and business. We are committed to a more integrated approach to the management of water in line with our Natural Resources Management policy and proposals in the Environment (Wales) Bill. This will ensure we have the right approach in place to sustainably manage our natural resources in a more proactive and joined up way. It will also drive green growth, ensure resource efficiency, enhance the resilience and diversity of our environment and help us to tackle poverty.

We must ensure that decisions we take now will have a lasting public benefit for all of Wales. Our investment and effort must be focussed on achieving multiple outcomes. By adopting a something for something approach we can maximise long-term benefit from public investment. We will ensure that our grants, procurement and sponsorship deliver multiple benefits and offer value and efficiency for our environment, economy and society through streamlined and joined-up delivery. Our long-term economic prosperity must go hand-in-hand with the health and resilience of our natural resources, not at its expense.

We need to ensure that we have the appropriate tools and powers to deliver our Strategy's objectives. We will therefore continue to pursue the devolution of all water and sewerage matters in Wales. This will, as the Silk Commission confirms, ensure that the interests of the people of Wales are better served in future.

We face significant challenges for the future management of our natural resources. We need to act now to ensure we use these resources in a sustainable way. We cannot deliver our objectives by legislation and guidance alone – we will work together with everyone who has an interest in water, sharing expertise and developing common outcomes we can all work towards.

Carl Sargeant

A handwritten signature in black ink that reads 'Carl Sargeant'.

Minister for Natural Resources



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Introduction

Wales' natural resources are among our most valuable assets. They provide essential services – from air, food, water and land to wind, geothermal, tidal and solar energy. They are as fundamental to the long-term success of our economy as they are to the quality of our natural environment and the well-being of our communities.

Our resources are under pressure from challenges, including extreme weather, pollution, climate change and population growth. These pressures can place increased demand on our natural resources and a loss of natural habitats, while at the same time public finances are under constraint.

If the people of Wales are to continue to benefit from our natural resources – and avoid compromising those benefits for future generations – we need to find new ways to enable Wales to grow sustainably and increase resilience supported by efficient management of our natural resources.

This Strategy sets out our long-term policy direction in relation to water. Our aim is to ensure we have a more integrated and sustainable approach to managing our water and associated services in Wales. This Strategy has been developed within this context and will contribute to the implementation of our wider natural resource management policy.

A more integrated approach to the way we manage our water resources will help to promote the coordinated management of water, land and related resources. This in turn will enable us to maximise economic and social benefits in an equitable way while protecting vital ecosystems and the environment.

We must ensure the long-term needs of a sustainable and resilient environment and ensure that there are sufficient, reliable water resources and waste water services available in Wales. This approach will also drive green growth by providing an essential resource for businesses, as well as providing new opportunities for employment.

Scope of the Strategy

This Strategy is set within the context of our long-term policy direction to improve our natural resource management and covers a broad range of matters relating to the management of our water systems, including all inland waters, estuaries and coastal waters. In particular, we will place a focus on how we can increase the resilience of our whole water system in order to maximise the benefits it can bring us and reduce costs to consumers and businesses including water companies.

This Strategy complements a range of policies and programmes across the Welsh Government. A number of these policies have been referenced throughout the document. We have ensured that our approach is consistent with existing policy positions or those under development. These include:

Natural Resources Policy	Agriculture Strategy Development Programme
Tackling Poverty Action Plan	Resource Efficient Wales
Tackling fuel poverty	Food and Drink Action Plan
Common Agricultural Policy Reform	Towards Zero Waste
Rural Development Programme 2014-2020	Nature Recovery Plan
Green Growth Wales	Nature Fund
Animal Health and Welfare Framework	Cynefin
Payment for Ecosystem Services	Flood and Coast Risk Management
Climate Change Policy Refresh Priorities	Woodlands for Wales Strategy
Energy Efficiency Strategy	Partnership for Growth: Strategy for Tourism 2013-2020
Marine Plan	Distributed Energy Generation
Marine Strategy Framework Directive	Grants Review
Jobs Growth Wales	Child Poverty Strategy for Wales
Sustainable soil management approach	A Living Language: A Language for Living, the Welsh Government's Welsh Language Strategy for 2012-17

Structure of the Strategy

This Strategy sets out how we will work with others to make the best use of our water resources.

Section 2 sets out how our policy for water links to wider Welsh Government policy and explains the priorities and principles we will apply in delivering the Strategy.

Section 3 sets out the challenges we face to deliver sustainable integrated water management.

Section 4 sets out our 6 key themes which form the chapters of the Strategy. These are:

- Water for nature, people and business.
- Improving the way we plan and manage our water services.
- Delivering excellent services to customers.
- Protecting and improving drinking water quality.
- 21st century sewerage and drainage systems.
- Supporting delivery.

An action plan is at Annex A which highlights when we expect to deliver the actions highlighted throughout this Strategy.

A glossary is at Annex B.

A map showing water company boundaries in Wales is at Annex C.



2. How the Water Strategy will deliver Welsh Government Priorities and Principles

Sustainable Management of our Natural Resources

Our aim is to maintain and enhance the resilience of ecosystems and the benefits they provide, and in so doing, meet the needs of present generations without compromising the ability of future generations to meet their needs.

This Strategy sets out how we will effectively manage our water resources and take appropriate actions in a way and at a rate that will support the achievement of this objective.

Our vision

We will ensure that Wales continues to have a thriving water environment which is sustainably managed to support healthy communities, flourishing businesses and the environment. We want the people of Wales to receive first class, value for money, water services with water used efficiently, safely and respectfully by all.



Our key principles

This Strategy sets out our strategic direction for water policy in Wales over the next 20 years and beyond. At the heart of our approach are our principles for sustainable development, which support all Welsh Government policies set out below. These are set out in our Well-being of Future Generations (Wales) Act 2015 and aim to enhance the economic, social and environmental wellbeing of people and communities across Wales, achieving a better quality of life for our own and future generations in ways which promote social justice and equality of opportunity and enhance the natural and cultural environment and respect its limits.



Long term

We will consider and plan for the long-term interests of Wales. We will consider carefully the impact of policy proposals, both individually and cumulatively, to ensure that we can invest for the long-term, whilst keeping the current costs of water bills at a realistic level. Our policies and investments must result in long term benefit to the people of Wales, whilst also seeking to ensure that we are making the most of the benefits and economic opportunities that arise from water. We must not delay investment to make short term savings at the expense of future bill payers.



Prevention

We will face a number of challenges over the coming years and we need to be proactive, rather than reactive, in seeking the best solutions to these challenges. Prevention is better



than cure and taking such an approach will be more cost effective, both for public funds as well as the wider economy, in the long term. We will look for solutions that tackle the root causes of problems rather than treating symptoms of underlying failure.

In order to do this, we will base our policies on the best available evidence to ensure we deliver the right results for the people of Wales. Where we identify the need for additional evidence, we will work in close conjunction with regulators, industry, academia and other interested parties to commission or undertake the necessary research. Where appropriate, we will encourage the use of “Citizen Science”, involving individuals in gathering information about their local environment.



Integration

Historically, our natural resources, including land and water have not always been managed in a way that takes adequate account of the connections between environmental, social and economic outcomes, or in a way that emphasises the importance of sustaining our environment in the long-term in order to improve the quality of life for present and future generations.

We have made improvements in the way that we manage our water resources, driven in part by European legislation and meeting set standards. However, we want to do more than simply meet these standards. We will build upon this current practice to take a more integrated approach to natural resource management as a whole. This means that decisions affecting all natural resources will seek the best overall outcome, taking account of economic, social and environmental factors, and recognising the interdependence on each other and the underpinning resilience of our ecosystems. We believe that this wider approach to managing our natural resources will maximise benefits for people - in terms of jobs, their livelihood and health – along with benefits for the natural environment and this will ensure we make the best use of our resources over the long term.



Collaboration

We cannot realise the vision of this Strategy alone. In order to deliver the actions in this Strategy we will work in collaboration with our delivery partners including regulators, water companies, local authorities and highway authorities. The implementation of the area-based approach set out in the Environment (Wales) Bill will provide an opportunity for our delivery partners to work together on key priorities and deliver against our well-being goals.

We will also look at existing responsibilities with a view to simplifying processes going forward where we can provide real benefits for Wales.



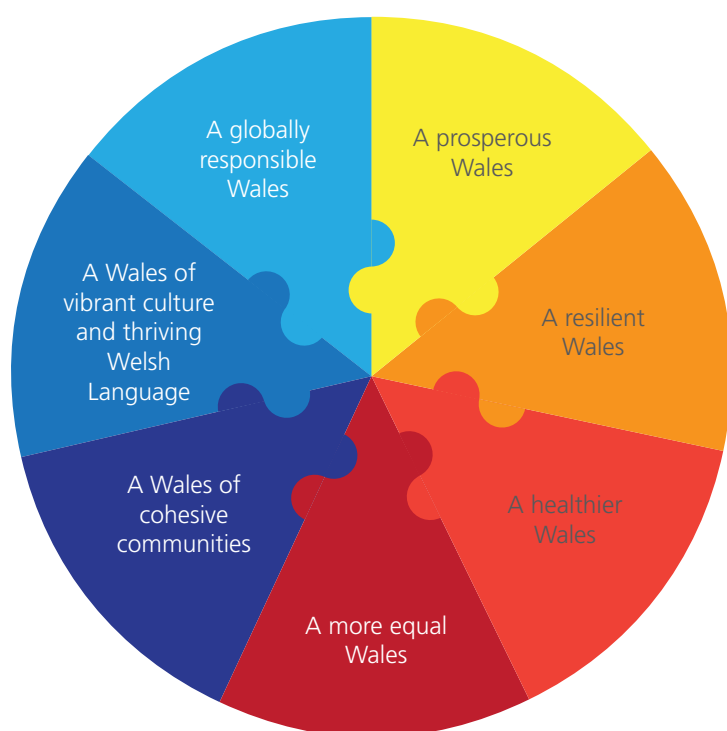
Involvement

Successful action to improve our water environment will require a pooling of expertise and a collaborative approach to delivery, sharing our ideas and experiences from across

the range of organisations related to water. The delivery of our vision will need involvement and action by a wide range of stakeholders, including water companies and regulators, businesses, those owning and managing land, public bodies, voluntary groups, local communities and individuals. Much of this will require work at a local level, linked to existing groups such as the River Basin Management Plan Liaison Groups. In the future, Natural Resources Wales will have a crucial role in facilitating work to develop shared responsibility, through the implementation of the area-based approach set out in the Environment (Wales) Bill subject to its approval by the Assembly.

Our Well-being Goals

Our priorities are underpinned by the Well-being goals set out in the Well-being of Future Generations (Wales) Act 2015. These will inform the way that we work. Our focus is on delivering maximum long term benefits for the economy and growth, for society and for the environment. These goals are:



A prosperous Wales – An innovative, productive and low carbon society which recognises the limits of the global environment and therefore uses resources efficiently and proportionately (including action on climate change); and which develops a skilled and well-educated population in an economy which generates wealth and provides employment opportunities, allowing people to take advantage of the wealth generated through securing decent work.

Using the ecosystem approach, we will work towards more integrated management of our water resources. Our objective is to promote coordinated development and management of water, land and related resources in order to maximise economic and social benefit in an equitable manner while enhancing the resilience of our ecosystems. This builds on our wider approach to the management of our natural resources.

Using our resources efficiently is fundamentally important if we are to reduce carbon emissions, save money and keep water bills affordable. There are particularly close links between management of our water resources and land management. There are also important links with energy use and related carbon emissions and the chemicals used in water treatment.



We want the people of Wales to recognise how valuable water is to Wales as a resource and to their daily lives, to take pride in our water environment and to make the best possible use of that water.

We must recognise that a reliable supply of water is essential for a thriving economy in Wales. We will ensure that our water enables improved livelihoods and supports a wide range of business sectors in Wales, including agriculture, forestry, food processing, food and beverage production, cooling and energy generation, manufacturing and tourism. Well managed water resources could offer opportunities to attract businesses requiring secure, high quality water to invest in Wales, supporting our aims of green growth and job creation.

This will require clear links to other policy areas and sectors, such as energy efficiency, climate change, flood risk and land management.

This will also involve wider public involvement and will require a better understanding in society as a whole of the services that the water environment provides.

A resilient Wales – A nation which maintains and enhances a biodiverse natural environment with healthy functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change (for example climate change).

Our natural resources provide us with our food, water and air; the raw materials and energy for our industries and support our health and well-being. For these benefits to be provided for the long-term, we will focus on building resilient ecosystems. This means taking a preventative approach; addressing the underlying issues rather than treating the symptoms, and improving the long term ability of our ecosystems to provide services and adapt to pressures and changes.

The Environment (Wales) Bill has the development of resilient ecosystems as one of its key aims. We will focus on the ecosystem as a whole, rather than individual elements; joining up the different issues and aspects of the environment, including water rather than treating them as separate problems. The implementation of the priorities will be at the all Wales, landscape or city region scale as appropriate

We will seek to understand the full range of services provided by our natural resources and ecosystems, the beneficiaries of these services and their social, economic and environmental interdependencies. This means that we do not miss important benefits or opportunities that are outside the obvious and immediate focus of our management activity. It also allows us to identify potential new solutions to current and seemingly intractable sustainable development problems.

Developing solutions will require new, innovative ways of working. For example 'Payments for Ecosystem Services' (PES) describe a variety of innovative, market-based incentive schemes that reward managers of land for maintaining and enhancing ecosystem services such as water regulation and climate regulation.

A healthier Wales – A society in which people’s physical and mental well being is maximised and in which choices and behaviours that benefit future health are understood.

We realise that there are a wide range of benefits, both mental and physical, to be had from encouraging access to water. We will ensure that our water resources improve urban space and provide safe opportunities for recreation, which improves well-being and helps people feel empowered.

We will ensure that we have high quality and well managed water systems in Wales. Safe and reliable drinking water supplies are critical to public health and well-being.

We will ensure everyone in Wales to have access to clean, wholesome drinking water. This includes public and private water supplies. We will promote recreational use of our water in a safe and sustainable manner.

A more equal Wales – A society that enables people to fulfil their potential no matter what their background and circumstances (including their socio economic background and circumstances).

The predicted effects of climate change, such as more frequent extreme weather events, can place greater strain on the most vulnerable people in our society.

We will work to improve Wales’ overall resilience to provide safeguards from major threats to the safety of life and livelihoods – such as those posed by drought, flooding or major pollution incidents.

We will ensure effective management of these types of risks. This is important to the sustainability of our wider economy and avoids cost that would be incurred if preventative action is not taken. Prioritising effort on resilience can also highlight the crucial role natural resources play in tackling poverty.

We will ensure fair and affordable water services for all and we are committed to reducing the percentage of people who have water affordability issues in Wales, in line with our broader aims set within the Welsh Government’s Tackling Poverty Action Plan and the Child Poverty Strategy for Wales. We will ensure that water companies provide sufficient information to enable people to make informed and responsible choices about how they use their water, which can help lower bills.

A Wales of cohesive communities – Attractive, viable, safe and connected communities.

We will use the area-based approach set out in the Environment (Wales) Bill to understand a range of opportunities across communities in Wales. This approach will promote strategic investment in sustainable water, sewerage and drainage infrastructure that improves local environments.

A Wales of vibrant culture and thriving Welsh language – A society that promotes and protects culture, heritage and the Welsh language, and which encourages people to participate in the arts, sports and recreation.

Water is core to our development as a society. We want householders and businesses to value and identify with water in Wales and take responsibility for supporting the management of our natural capital. We want everyone to gain a better understanding of their water usage, be informed about the wider value of our water and to instil water efficient practices in the day to day running of their homes and businesses.

We are committed to having a good quality water environment which enables the people of Wales and visitors to enjoy and promote a wide range of responsible water based recreation activities across our many scenic inland and coastal waterways.

We expect and will actively encourage the water sector and others to protect and promote the Welsh language through education and services as set out in 'A Living Language: A Language for Living, the Welsh Government's Welsh Language Strategy for 2012-17'. We will ensure equal standards of services in both English and Welsh which will enable opportunities for people to use Welsh socially, at work, when receiving services, and when enjoying entertainment and recreation.

As we implement this Strategy, we will foster a Welsh identity which is distinctive but inclusive of different cultures, outward looking, and helps Wales to position itself successfully in an ever evolving world with an increasingly global perspective.

A globally responsible Wales – A nation which, when doing anything to improve the economic, social, environmental and cultural well being of Wales, takes account of whether doing such a thing may make a positive contribution to global well-being.

We need to value water more, understand the spatial variations of water resources across Wales and use it wisely to minimise the impact of our water footprint¹, especially on parts of the world where water is scarce. To do this we need to understand the impacts from our direct use of water from rivers, lakes and reservoirs in Wales and understand the indirect use of water that is embedded in the food we eat, the clothes we wear and the beverages we drink.

The availability of robust and resilient water services is essential to support business. In Wales there are already companies who rely on water to support everything from paper and steel production through to food processing and brewing – the effective management of water underpins thousands of jobs in these sectors. In recent years, many industrial users have reduced their water use through improved efficiency and recycling in order to reduce operating costs. The availability of high quality water supplies from rivers and groundwater, and through water companies, offers important opportunities to attract businesses to Wales. By ensuring that our water resources are well managed, we can support green growth and the creation and protection of jobs.

¹ The water footprint is an indicator of freshwater use that looks not only at direct water use of a consumer or producer, but also at the indirect water use.

A continued increase in the dependency on goods requiring high water use from countries or zones of the global economy, where water shortage is endemic, is not a sustainable pattern of trade. We all have a role to play to ensure that everyone understands the importance of managing water appropriately and to ensuring its value is optimised and the resource is protected.

We will undertake research to identify and understand the future economic value of our water, and the benefits and opportunities that it can provide nationally and globally.



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3. The challenges – why we need change

Our natural resources provide us with a range of services and benefits which support our health and well-being. Within this Strategy, we identify the key challenges and the actions we will take to address to ensure the sustainable management of our natural resources in Wales.

Wales has a maritime climate characterised by weather that is often cloudy, wet and windy, yet mild. This creates a perception that we have an abundance of water to support our environment, people and economy. The picture is more complicated in practice.

The topography and geology of Wales means that it can be a challenge to harness this natural resource – we cannot rely on significant groundwater supplies and must therefore try to capture and store much of our water in reservoirs. Our industrial development has also been characterised by a large number of water-intensive industries.

We must ensure careful management of our natural resources to ensure the long-term needs of the environment, people and economy can be met. Our water exists in a dynamic system of wetlands, rivers, aquifers, lakes, estuaries and coast. It is reliant on and heavily influenced by our weather patterns. It comes to us as consumers via a complex collection, storage, treatment and delivery system that is costly to build and operate.

In Wales we face a number of challenges including climate change, pollution, population increase, ageing networks and an increased demand for water and developments which will affect how we manage our natural resources.

Going forward we are likely to have more stringent environmental standards driven by scientific evidence and treatment requirements to deal with emerging contaminants/chemicals (e.g. endocrine disrupters and eutrophication). This may require greater investment in water company assets to ensure continued compliance with relevant legislation.

These all have implications for our water environment, the water industry and its regulators, land managers as well as the wider population over the next twenty years and beyond.

Impacts of climate change

We understand that our climate is changing. While the overall trends are relatively clear, there is some uncertainty over the rate of change and how quickly this impacts on us as individuals and water resources planners. This has particular implications for managing our water, given that some options (for example, reservoir construction) have long lead times and require a degree of certainty before decisions are taken. In the short to medium term therefore, we should focus on adaptive, incremental, relatively low cost measures that bring other benefits, such as reduced water demand or an improved environment.

The best available understanding is provided by the latest UK Climate Projections 2009 (UKCP09)². These suggest that temperatures in Wales will increase and that there will



be changes in seasonal patterns for rainfall, with an increase in winter and decrease in summer. Extreme weather events are predicted to become more frequent and intense.

The consequences for water resources are potentially significant. The Welsh Report of the UK Climate Change Risk Assessment³ highlights that warmer weather is likely to result in increased consumer demand and greater evaporation from our many reservoirs. More intense rainfall will cause more surface water flooding and wash more pollutants into our streams, rivers and coastal waters. It will also reduce the recharge of water into our underground water resources in the areas of Wales where these are important. Although there is some uncertainty about future rainfall, we are likely to see lower summer river flows and higher river temperatures.

In addition, drought conditions are more likely to occur. A Met Office study⁴ suggests a ten fold increase in droughts by 2100. Events like the 1975-76 drought could occur on average every 10 years. Our reliance on surface water resources in Wales means we need to be sure that our water infrastructure will be adequate for these predicted conditions.

The cost of providing sewerage and sewage treatment services in Wales will be affected by these changes. There may be increases in the frequency of spills from combined sewer overflows, sewer flooding and “tide locking” of sewers (for example, the closure of drainage outfalls caused by high tidal water levels). We will need therefore, to focus much more on how water enters the sewerage system – paying particular attention to water sensitive urban design and rural land management practices.

These changes are likely to increase the stress on the water environment. Increases in pollution, reduced flows and higher temperatures will impact on the wildlife that depends on rivers and lakes. For example, sensitive migratory fish species such as salmon, sea trout and shad would be affected. Furthermore, if water quality declines water companies will face additional costs in treating that water for public consumption.

As well as building resilience to the impacts of climate change, we also need to reduce our emissions. Without additional mitigation, the UN’s Intergovernmental Panel on Climate Change (IPCC)⁵ concluded that by the end of the 21st century global warming is expected to exceed 4°C, leading to a high risk of severe, widespread, and irreversible impacts. This will increase existing risks and create new ones for natural and human systems, which are unevenly distributed and are generally greater for disadvantaged people and communities.

European and UK Government targets set the context for the decarbonisation of our economy. The European Union has set a clear roadmap in place for decarbonisation, with key interim targets for 2020 and 2030 to guide planning towards the aim of decreasing emissions by at least 80% by 2050 (below 1990 levels).

² <http://ukclimateprojections.defra.gov.uk>

³ Climate Change Risk Assessment for Wales – January 2012:
<http://gov.wales/topics/environmentcountryside/climatechange/publications/riskassess/?lang=en>

⁴ ‘An extreme value analysis of UK drought and projections of change in the future’ – Met Office, 2010. Journal of Hydrology

⁵ IPCC Synthesis Report 2014

The Welsh Government is working to set out a clear pathway for decarbonisation in Wales. This includes establishing a legal framework for statutory targets outlined in the Environment (Wales) Bill. As a Government we intend to move to carbon budgeting, which will help guide delivery and prioritise action. In doing so, our aim is to set out a clear pathway within the context of our existing UK and EU obligations.





Our productive capacity

An increased risk of drought places pressure on private and public drinking water supplies. However, it also reduces the availability of water in summer for livestock and for crop irrigation. Agriculture currently contributes 11% of total greenhouse gas emissions in Wales, primarily in the form of methane and nitrous oxide. The key challenges for the productive capacity of our soils are loss of quality, compaction, contamination, soil sealing and erosion.

Soil biodiversity underpins the function of soils to enable sustainable production of food, fibre and wood. Soil erosion affects the productivity of soils, through the direct loss of the natural asset, the resultant sedimentation negatively impacts water quality and the health of aquatic ecosystems.

Soil compaction affects the agricultural productivity of soils and reduces water infiltration capacity, increasing overland flow and creating a flood risk. Compaction also increases the overland flow of farm materials such as manures, increasing the risk of water pollution.

Soil sealing, occurring when soil is sealed by concrete, buildings or tarmac, is the most significant form of land use change and by far the most detrimental in terms of total loss of soil function and associated ecosystem service delivery. The consequence is a total loss of soil function and the loss of delivery of all but one ecosystem service that being a platform for development.

Wales also has a substantial legacy of land contamination, which has mainly been caused by historical industrial activity. Pollution to rivers, groundwater and ponds can occur by the leaching of contaminants out of the soil into watercourses through the natural drainage of the soil or through surface run-off of water. Climate change together with habitat fragmentation and changes and other human activities are resulting in a decline in pollinator's health and populations and an increase in the chances of exotic pests and diseases arriving in Wales. Significant ongoing outbreaks continue to demonstrate the risks posed to our flora and fauna from pests and diseases, for example *Phytophthora ramorum* and Signal Crayfish.

Population growth

Wales has seen a 5.5% increase in its population since 2001 to 3.06 million in 2011⁶. This trend is likely to continue with the population projected to increase by 3% to 3.17 million by 2020 and 8% to 3.3 million by 2035⁷. The population is projected to get gradually older and the number of people aged 65 and over is projected to increase by around 22 per cent between 2010 and 2023. This growth in population will increase demand for food, water and other public services, and the balance in demand for those different services. The estimated number of households in Wales grew from around 1.1 million in 1991 to nearly 1.3 million by 2009. As a proportion, the number of one person households increased from 25% of all households in 1991 to 31% in 2009⁸. This trend is likely to continue, causing greater pressures on land for housing, food production, water demand and energy supply.

⁶ 2011 Census – <http://www.ons.gov.uk/ons/guide-method/census/2011/index.html>

⁷ Population projections produced by the Office for National Statistics – <http://www.ons.gov.uk/ons/taxonomy/index.html?nscl=Population+Projections>

⁸ Household estimates, 1991-2009 SDR 23/2011 – <http://wales.gov.uk/statistics-and-research/?lang=en>



Future development and population growth will also put pressure on sewerage systems, with already ageing networks, potentially affecting future development and leading to overloaded works, increased overflows, thereby affecting environmental quality.

Similar population trends in England will increase reliance there on secure supplies of water from Wales.

Changing demand

Although there has been a major decline in the water needs of industry in Wales, domestic consumption has been rising. Households now use about 52 %⁹ of the water put in to public supply. The average person in Wales uses approximately 150 litres¹⁰ of water (about two full baths) a day. The majority of water used in the house is used for washing and toilet flushing, but it also includes drinking, cooking, car washing and watering the garden. The changes in demand will have an impact on water resources and sewer and sewage treatment capacity.

⁹ Environment Agency – Save Water – <http://www.environment-agency.gov.uk/homeandleisure/beinggreen/117266.aspx>

¹⁰ Environment Agency – Save Water – <http://www.environment-agency.gov.uk/homeandleisure/beinggreen/117266.aspx>





4. Key Themes

Our policy for developing a more integrated approach to managing our water resources reflects our wider approach to Natural Resource Management¹¹. This involves promoting the coordinated development and management of water, land and related resources in order to maximise economic and social benefits in an equitable manner while increasing the resilience of vital ecosystems.

In this chapter our policies are set out within 6 key themes:

- Water for nature, people and business – This section sets out how the quality and quantity of our water resources will be sustainably managed, meeting society's needs and offering opportunities for green growth but also protecting and enhancing our natural environment.
- Improving the way we plan and manage our water services – This section sets out how we will ensure that our water services remain robust, sustainable and support high quality services both now and in the future.
- Delivering excellent services to customers – This section sets out how we will ensure that people and businesses in Wales have access to affordable water and sewerage services that are sustainable, safe, secure and dependable.
- Protecting and improving drinking water quality – This section sets out our approach to maintain the current high standard of our public drinking water quality, ensure compliance with the Drinking Water Directive and that any quality problems are dealt with effectively.
- 21st century sewerage and drainage system – This section sets out our approach to ensuring that both waste water and surface water are managed in an integrated way.
- Supporting delivery – This section sets out how we will support the delivery of our objectives and key outcomes.
- Each theme contains a range of actions which will address the challenges set out in Chapter 3 of this Strategy and will assist us in meeting our well-being goals and sustainable development principle.

¹¹ Environment (Wales) Bill White Paper –
<http://wales.gov.uk/consultations/environmentandcountryside/environment-bill-white-paper/?status=closed&lang=en>





4.1 Water for nature, people and business

Key Issues

Water and natural resource management

Water is a vital resource supporting a wide range of natural ecosystems in Wales. Our natural resources are under constant pressure from a range of challenges such as extreme weather, climate change, loss of natural habitats and changes in land management practice. At the same time public finances are facing constraints.

We want to ensure the people of Wales and our future generations continue to benefit from our natural resources. We have to evolve and constantly challenge ourselves to find new ways for Wales to grow sustainably, increase resilience and manage our natural resources efficiently.

We are taking a fresh approach to the management of our natural resources to ensure that we deliver maximum long term benefit for Wales' current and future wellbeing. To do this we are developing an overarching policy and legislation framework for a much more integrated approach, ensuring that we have legislation that meets Wales' needs and that we support activity which promotes the sustainable management of natural resources in practice.

The Environment (Wales) Bill will outline a modern statutory approach to allow us to plan and sustainably manage natural resources in a joined-up way. It will set out an approach to prioritise natural resource opportunities and to ensure we have the evidence needed to better inform the shape and direction of sustainable economic growth and development. This will ensure Wales has a prosperous economy alongside a healthy and resilient environment.

The Bill will include proposals that will better recognise the value of our ecosystems and the services they provide, in order to help achieve the sustainable management of natural resources – by doing this will contribute to the well-being goals in the Well-being of Future Generations (Wales) Act 2015.

Key elements include a proposed duty on Natural Resources Wales to report on the State of Natural Resources (SoNaRR). This will inform our priorities in relation to the management of our natural resources. Area Statements will be produced by Natural Resources Wales and used to set out the local (or site specific) connections with the strategic priorities for Natural Resources Management set out by the Welsh Government at an area level. This will enable a more cohesive and place based approach to making decisions on the long term benefits from our natural resources.

Water is at the heart of our integrated approach to natural resource management. Whilst historically we may have tended to look at water management issues in isolation, our work on implementing the Water Framework Directive has emphasised the benefits of taking an integrated approach to river catchment management.



The natural resources management approach will allow the ecosystem services and multiple benefits that a clean and plentiful water resource provides, to be fully realised. The water environment itself will undoubtedly benefit as a result.

We will look at smarter ways to manage our waterbodies in Wales and innovative approaches to implementing European Directives. By taking a more holistic view, using the catchment approach and improving community engagement we will be better able to take account of local circumstances and priorities.

Improving civic engagement

Effective civic engagement and involvement is at the heart of our approach to both water management and wider natural resource management. Better, more focused decisions can be made on water management issues with the involvement of local community groups, local businesses and individuals. A participatory approach involving local communities will help to ensure that all those with an interest in water are part of the agenda-setting and decision-making process.

The Water Framework Directive encourages community involvement and this is done in Wales through the River Basin Management Liaison Panels. However, their large scale can make it difficult to address specific local issues. We expect Natural Resources Wales, as the regulatory body with responsibility for ensuring the effective management of our water environment, to encourage improved community involvement at an appropriate scale using the multiple approaches and support systems available.

We want to encourage a flexible approach to this engagement rather than a “one size fits all solution”, as we recognise that in some areas catchment scale working may not be the best way to achieve the desired outcomes. Working at multiple scales will help us to understand the local context, such as economic opportunities or climate change risks, which vary throughout Wales. This will help to inform our approaches to water management as well as wider natural resource management and ensure that water and land management actions at a catchment level are integrated with our proposed area based approach to natural resource planning.

Making the most of our Water

Water provides a very wide range of benefits for our society, including jobs, recreational opportunities, energy production, food production and our health. However, many of these benefits are difficult to put a value on.

Well-managed water resources

The Welsh Government and Natural Resources Wales are responsible for the management of water resources, including the regulation of water abstraction. Water abstraction is the process of removing water from natural sources like rivers, lakes and aquifers and is how we meet most of our water supply needs in Wales. If we exclude water used in the



energy sector (hydropower), which is immediately returned to the environment, by far the majority of water abstracted in Wales is used for public water supply, with abstraction for industrial purposes a significant element. It is regulated through a system of licences issued by Natural Resources Wales. The licensing of water abstractions was established in 1963 to protect downstream abstractors, but it does not provide adequate flexibility to address the challenges of future water availability or the need to protect our natural environment¹².

To ensure that we have robust and resilient water resources we are committed to reforming the abstraction licensing system in Wales.

The abstraction licensing system also includes a number of historic exemptions which allow unconstrained water abstraction for certain purposes, such as navigation and quarry dewatering. In order to manage water resources in a fair and comprehensive way, we will bring these abstractions into the licensing system.

Protection of water quality in Wales

The way we manage water in Wales has evolved significantly over time. Historically, we have exploited the water environment to serve the needs of society, often with little regard to the natural environment. In more recent times, we have often provided incentives for land management practices without understanding the implications for the wider environment.

We are committed to improving the quality of our water in rivers, bathing waters and other water bodies across Wales.

Much of our work in managing and protecting our rivers, lakes, coastal waters and other water bodies is governed by the European Union's Water Framework Directive (WFD)¹³. The WFD is focused on establishing an integrated approach for the protection and sustainable use of the water environment. This requires a holistic approach to managing waters, looking at the water within the wider ecosystem and taking into account the movement of water through the hydrological cycle.

Member states must ensure that each water body has a programme of measures in place that will outline how they will achieve 100% good ecological status.

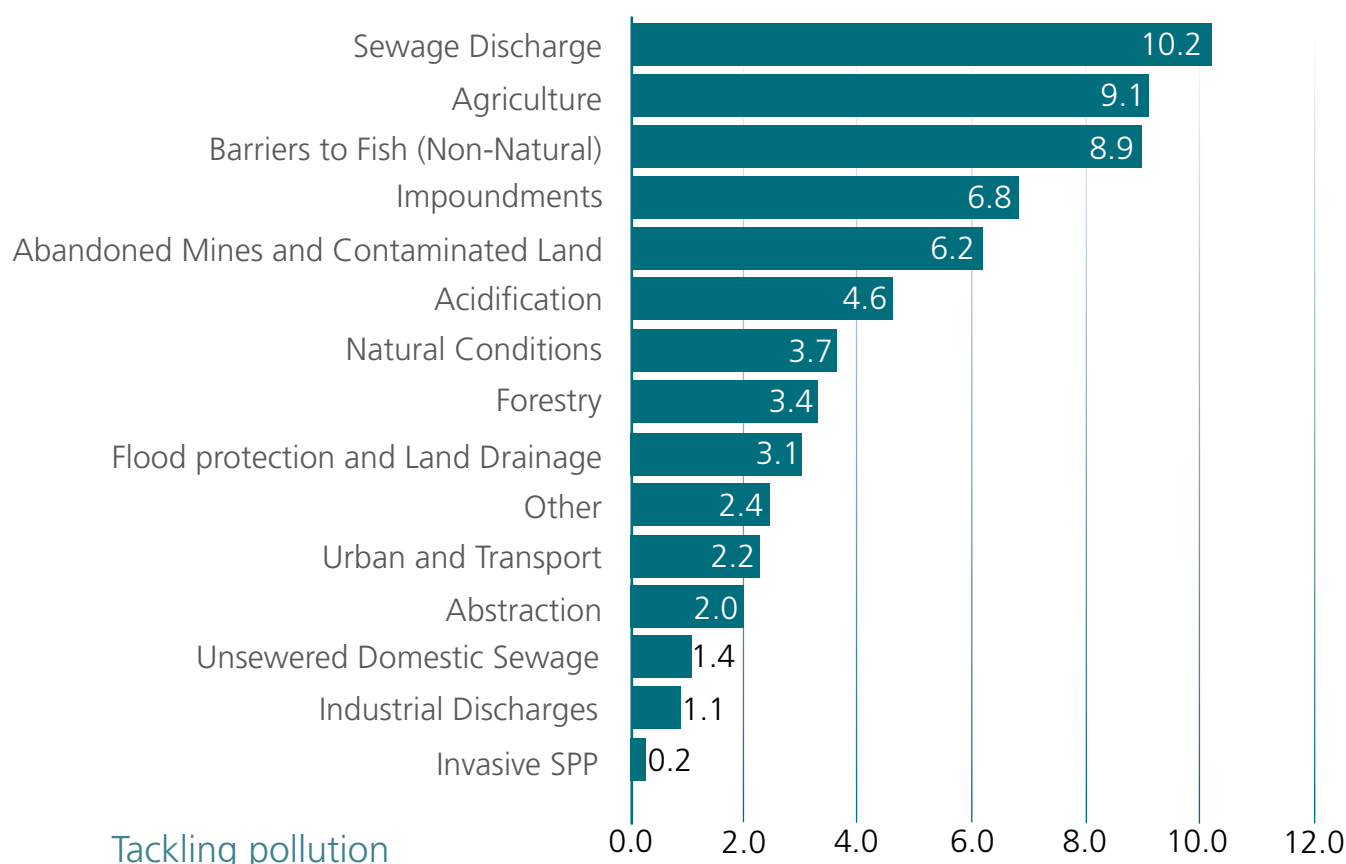
WFD also requires that other environmental priorities, economic considerations and social issues be considered and taken into account when setting water management objectives. The benefits of working collaboratively are apparent from our work on WFD compliance. This has brought together a wide range of stakeholders to protect and improve water based ecosystems and the services they provide, as well as supporting the needs of society. This is very much in line with our Natural Resources Management approach and allows the full benefits of water management to be realised.

The most significant reasons preventing our streams, rivers and estuaries from achieving good ecological status are outlined in the bar chart on the next page.

¹² Environment Agency – Current and Future Water Resources –
<http://www.environment-agency.gov.uk/research/library/publications/40731.aspx>

¹³ Water Framework Directive – <http://ec.europa.eu/environment/water/water-framework/>

2014 Reasons for not achieving good, Cycle 1 water bodies



We will take action to prevent and control water pollution which is essential to the protection of our water quality.

Our current system for the control of point source pollution from sewage treatment systems and industrial activities by Natural Resources Wales, through a system of permits and monitoring, ensures that our water environment is well protected from these sources. We expect Natural Resources Wales to maintain these high standards and to continually review their effectiveness. However, it is still under threat from diffuse pollution. Diffuse pollution occurs as the result of a wide range of activities resulting in small sources of pollution which can be difficult to identify and control. They occur in all sectors, as well as resulting from our own activities as individuals.

To address diffuse water pollution, we will ensure that we have a joined up approach to land and water management. We will also work with the construction, forestry and agriculture sectors to understand, review and where appropriate, change current practices and regulatory approaches.

We will consider whether a similar approach to that taken in Scotland is appropriate for addressing some of the issues in Wales. This has involved the use of general binding rules to address diffuse pollution.

Natural Resources Wales has produced a diffuse pollution action plan which will help to guide and inform local priorities as part of the River Basin Management Plan¹⁴ approach. The plan highlights eight key areas of concern and outlines the actions Natural Resources



Wales intends to take to work with those causing the problems to reduce diffuse water pollution.

Eight priority areas for tackling diffuse pollution

Natural Resources Wales have identified eight priority areas for tackling diffuse pollution in their Diffuse Pollution Plan for Wales. These are:

- industrial estates,
- small sewage discharges serving private properties, such as septic tanks,
- drainage misconnections,
- surface water drainage from developed areas,
- livestock management,
- land management,
- storage – slurry, fuel, oils, chemicals,
- mine waters.

The Nitrate Directive requires monitoring of nitrates in water and where necessary designation of land as a Nitrate Vulnerable Zone to provide the appropriate protection. Less than 3% of land in Wales is designated as a Nitrate Vulnerable Zone. This is due to the geography of Wales, the farming practices and also the action we are taking to address this issue.

We will work collaboratively with Natural Resources Wales and the representatives of land managers to help farmers reduce the loss of nitrate from their land. In particular, this will identify areas where action can prevent the requirement for designation in the future under standards set by the Nitrates Directive.

Oil pollution has continued to affect the water environment in Wales, in many cases as a result of oil leaks from substandard storage tanks and pipework. We will consult on and implement regulations for minimum standards for oil storage, as these have been effective in reducing diffuse pollution from oil storage and delivery elsewhere in the UK.

¹⁴ Natural Resources Wales – Diffuse Pollution Action Plan –
http://naturalresourceswales.gov.uk/our-work/policy-advice-guidance/water-policy/?lang=en#.UzQs4vl_sb0

Bathing Water Quality

In Wales, we have 102 bathing waters designated under the Bathing Water Directive. In 2015, all of these met the higher guideline standard with none predicted to be poor under the new classifications in 2016. This gives us the best bathing water quality in the UK and shows what can be achieved when we all work collaboratively towards a common goal. High bathing water quality is a key factor for tourism and supports well-being in Wales. We are striving to maintain this high standard and will ensure that bathing waters in Wales remain the best in the UK.



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Innovative Water Opportunities

Green Growth

Green growth is commonly understood to be a means to achieve economic progress in a way that is environmentally sustainable and socially inclusive. By focusing on green growth, we can help drive the transition to a low-carbon, resilient society by maximising multiple lasting benefits for people and communities, tackling poverty and ensuring the sustainable use of Wales' natural resources. The green economy is an important element of green growth and describes a specific subset of the Welsh economy. The green economy is an established and growing sector of the Welsh economy, notably seeing jobs growth of 2.4% and sales growth of 9.3% during the recession. Our coastline of 1,200 km and around 32,000 km² of sea offer significant opportunity for 'blue growth'. We will seek opportunities to put in place the necessary finance, innovation, skills and legislation to take advantage of increasing momentum with the sustainable growth agenda to secure lasting social, economic and environmental benefits for Wales. Adopting a more integrated approach to water management and wider natural resources will help us move to our green growth goal.

Payment for Ecosystem Services in Wales

The development of Payment for Ecosystem Services (PES) in Wales is a significant component of our green growth agenda. The development of PES is one mechanism that can help us deliver on our green growth ambitions, by for example providing a new source of income for our rural communities, aiding our tackling poverty agenda as well as delivering on our environmental objectives.

PES describe a variety of innovative, market-based incentive schemes that reward managers of land, including farmers and woodland owners for example, for maintaining and enhancing environmental benefits (ecosystem services) such as water regulation (e.g. water quality, flood regulation) and climate regulation over and above regulatory requirements. PES involve a willing 'buyer' (e.g. a water company), or beneficiary, of an ecosystem service (e.g. water quality) to voluntarily pay a 'seller' (typically a land manager) who is willing to adopt measures to ensure the provision of the particular ecosystem service.

Effectively it provides incentives to address market failure, for example, not all services that society demands are marketable which leads to under or over supply. By altering the economic incentives faced by our land managers or others who can affect delivery of ecosystem services, PES attempts to correct these market failures.

We commissioned a report to assess the potential for PES market mechanisms in Wales published in July 2014. The aim of the research was to determine the role of PES market mechanisms in taking forward the Welsh Government approach to natural resource management, including helping to inform the development of the Environment (Wales) Bill and the next Rural Development Plan.



Water quality based markets are viewed as the most easily valued ecosystem markets and are likely to be the first type of PES scheme to be developed in Wales. We will support the development of these types of schemes and review legislation if this is required to enable the long term establishment of this type of scheme.

Wider community benefits

Well managed water resources provide a wide range of benefits, including direct support for jobs and green growth. As part of our work to ensure that we are making the best use of all of our natural resources we will work across the Welsh Government to develop the tourism and recreational opportunities of our inland and coastal waters.

In seeking the benefits offered by our water resources for job creation and green growth in tourism and recreation, we need to take account of health, safety and environmental concerns, which should be primary considerations when assessing these opportunities. These risks will vary depending on the activity, for example fishing, kayaking or swimming, and the nature of the site, and each needs individual assessment.

Some benefits from our water environment are more difficult to put a value on. Access to water features, often linked to green space, can be beneficial to well-being and good physical and mental health in both urban and rural areas. Well managed schemes across Wales are already making use of water features for educational purposes and improving public appreciation of the need for well managed water resources.

The Welsh Government has made a commitment to ensure community benefits are a part of all contracts, where appropriate, and we also work with our partners to ensure they adopt the same practices. Community benefits should seek to directly benefit those in low income households or at risk of poverty.



Principal Actions

- We will periodically review the implementation of domestic and international legislation to identify synergies, opportunities for simplification and cost-efficiencies, taking account of natural resource management priorities and our well-being goals.
- We will work with Natural Resources Wales to build on the existing River Basin Management Liaison Panels, which promote a catchment based approach, as a means of broadening community involvement in the development of water policy at a more local catchment level. This will help inform and will evolve with, the development of the area based approach to natural resource management.
- We are committed to reforming the abstraction licensing system to inform our future policy and ensure the sustainable management of our water resources.
- We will bring exempt abstractions into the licensing system.
- We expect Natural Resources Wales to review the effectiveness of their current provision of pollution prevention advice, monitoring and enforcement procedures to ensure they are fit for purpose.
- We will encourage Natural Resources Wales and our own Agricultural Advisory Services to work with landowners to develop a common understanding of diffuse pollution and how they can help to prevent it through improved land management.
- We will encourage catchment scale community action through area statements developed by Natural Resources Wales and other co-operative groups aiming to improve water quality in their area.
- We will consult on and implement Regulations to reduce oil pollution in Wales.
- We will consider options to support the development of PES schemes and review legislation if this is required to enable the long term establishment of PES market.
- We will also work with the relevant sectors to address diffuse water pollution through understanding, reviewing and where appropriate, changing current practices and regulatory approaches. This could potentially involve the use of general binding rules.





4.2 Improving the way we plan and manage our water services

The importance of balancing short-term needs with the necessity to safeguard the ability to also meet long-term needs is a key sustainable development principle and particularly in relation to managing our water resources. Water companies have existing duties to have robust plans in place to ensure effective management, maintenance and development of our water resources and supply systems. At present, there are a range of plans produced on a 5 yearly cycle by water companies, for example:

- Water Resource Management Plan – This statutory plan models water supply and demand over a 25 year period, taking account of climate change projections, population growth and new development. The plan informs the water companies' future infrastructure and investment plans.
- Drought Plan – This statutory plan sets out short term operational steps the water company will take as a drought progresses. The plan also informs the companies' asset management plans.
- Asset Management Plan – This plan outlines water companies' proposed investment plans over a 5 year cycle. These plans are reviewed at the end of each period.

The timescales for producing these plans are not always aligned with each other and wider regulatory planning frameworks such as Ofwat's price review process¹⁵.

We will develop a planning and regulatory framework for water companies which will support the application of our principles for the sustainable management of natural resources in Wales. We will review existing planning functions including the timing and alignment of these plans. This will ensure company business plans have a more strategic approach and where appropriate actions from various plans can feed into each other, facilitating collaboration between the water companies and other key water industry stakeholders. This approach will also help regulators prioritise areas and processes that need improving to increase benefits to the people and environment of Wales, and in turn enable the water companies to identify where future investments will need to be focussed.

There is currently no requirement for sewerage undertakers to develop and maintain a strategic waste water and sewerage management plan. At current levels of investment, public sewers may not be replaced for up to 700 years¹⁶. This aging sewerage and drainage infrastructure needs to be surveyed, maintained and upgraded in order to continue to operate effectively and the impact on customer bills now and in the future taken into account.

We will work with water companies, regulators and local authorities to introduce planning for waste water and sewerage management. Long term collaborative planning

¹⁵ <http://www.ofwat.gov.uk/pricereview/>

¹⁶ http://www.dwrwymru.com/library/PR14/YCYP_Eng.pdf/



for wastewater and sewerage management is critical to address urban flood risk and deliver Water Framework Directive and Urban Waste Water Treatment Directive outcomes.

Our aim is for sewerage and drainage systems to be resilient and well maintained, with sufficient capacity to manage the demand placed on them without causing pollution or sewer flooding of people's homes. This will enable us to move towards a preventative approach, another key principle of sustainable management of natural resources.

The water company planning and regulatory framework for water and sewerage should include:

- Embedding and aligning water company planning with our National natural resource policy and relevant area-based natural resource planning processes to ensure planning for water services both informs and takes account of our priorities for natural resources management.
- Collaborative catchment management plans and investment.
- Resilience measures, such as climate change projections, population growth and new development.
- A presumption in favour of sustainable solutions, and evidence of their use in preference to expanding or renewing existing infrastructure capacity.
- A strategy for engaging with stakeholders.
- Evidence that sustainable waste water and treatment solutions have been considered, strong justification where they are not used.
- Robust, up to date and credible evidence to demonstrate compliance with our mandatory domestic and European obligations.

Leakage

Leakage is a high priority issue for customers and can damage the industry's reputation. The industry has shown that it can become more effective in detecting and fixing leaks.

We expect companies to maintain leakage at the point where the environment, economic and social cost of reducing leakage is less or equal to the cost of getting water from other sources. Water companies should have a strategic approach to managing leakage to inform the long term leakage forecasts in their water resources management plans. We expect water companies to forecast a reduction in total leakage during the planning period.

We expect water companies to continue to innovate and develop expertise in preventing, identifying and repairing leakage more effectively. We expect Ofwat to continue to drive



improvements in respect of leakage, building on improvements already achieved since targets were introduced.

Principal actions

- In order to reduce the burden of planning on water companies, we will review existing legislative, regulatory and planning processes associated with water services management.
- We will work with water companies, regulators and local authorities to introduce planning for waste water and sewerage management.
- We expect companies to maintain leakage at the point where the environment, economic and social cost of reducing leakage is less or equal to the cost of getting water from other sources.



4.3 Delivering excellent services to customers

Key Issues

Access to Affordable Water and Sewerage Services

Ensuring access to fair and affordable water and sewerage services, both for people and businesses, is a key priority for the Welsh Government. In particular, we are concerned about the level of water charges and the impact of increases on those customers who are least able to pay.

Water affordability is part of the broader issue of poverty where households struggle to afford the necessities of life. Households are deemed to be in water poverty if they pay more than 3%¹⁷ of their income on their water bill. Establishing a link between water poverty and wider cost of living issues, such as fuel poverty, will be a key action in meeting the well-being goals set out in the Well-being of Future Generations (Wales) Act 2015.

To support the objectives of both the Tackling Poverty Action Plan and the Child Poverty Strategy for Wales, and in response to the powers set out in the Flood and Water Management Act 2010, we issued guidance¹⁸ to water and sewerage companies and Ofwat in relation to the inclusion of social tariffs in future charging schemes.

Social tariffs will enable customers who are less able to pay their bills to access reduced charges and additional support around how to reduce costs through water efficiency measures or consideration of moving to metered charges, for example.

Both water companies who operate wholly or mainly in Wales have committed to introducing social tariffs, in line with our guidance. We will monitor the uptake and effectiveness of these social tariffs and will review and revise our guidance as appropriate. We also expect the water companies to regularly review their tariffs and wider support packages for vulnerable customers, to ensure that they are serving the right people and looking for innovative solutions.

We will build on the good work that is already underway, and look at delivering further recommendations from the Walker Review report and use this as a basis for undertaking a wider review of support and assistance for tackling affordability issues. This could include:

- Determining whether there is a fairer way to assess water charges than Rateable Value, or if there is an option for revising Rateable Values.
- Looking for a 'one shop stop' approach for advice and support around debt prevention and affordability issues.

¹⁷ I Fitch, M. and Price, H. Water Poverty in the UK. Published by the Public Utilities Access Forum, July 2002, published to web by Chartered Institute of Environmental Health:
www.cieh.org/uploadedFiles/Core/Policy/Publications_and_information_services/Policy_publications/Publications/waterpoverty.pdf

¹⁸ Welsh Government Social Tariff Guidance –
<http://wales.gov.uk/topics/environmentcountryside/epq/waterflooding/publications/social-tariff-guidance/?lang=en>



Those on low incomes may find the size and infrequency of annual or bi-annual bills particularly difficult to manage. The Welsh Government expects flexible payment options to be offered to customers to assist with these problems. In particular, customers should be able to make frequent payments (such as weekly or fortnightly). Charges schemes should make clear that these options are available and that they should be drawn to the attention of customers most in need of assistance.

It is important to recognise that not all households will want to (or will be able to) pay their bills using Direct Debit. It is critical that low income households are not disadvantaged and do not end up paying more for their water bills, if they choose not to pay by Direct Debit. Families living in poverty are often at risk of experiencing the “poverty premium” where low income households pay disproportionately more for goods and services. It is critical that Ofwat and water companies take forward action to ensure this does not happen by enabling customers to take up flexible payment options at no extra cost. In so doing, they will make an important contribution to one of the objectives of the Welsh Government’s 2015 Child Poverty Strategy, which is to support families living in poverty to increase household income through debt and financial advice and action to address the “poverty premium”.

Tackling Debt

Reducing the amount of ‘bad debt’ within the water industry will also contribute to reducing water bills. Bad debt is often the result of unpaid bills that are written off by a water company, either because the debt cannot be collected (having exhausted all reasonable efforts) or the cost of recovery exceeds the debt. Over the last decade, water companies bad debt has increased¹⁹ and in Wales this lost revenue can add as much as £20²⁰ per year to a household bill.

Support for struggling households should help reduce levels of bad debt. The Welsh Government expects water companies to know their customers and to offer innovative solutions, such as appropriately targeted tariffs and payment plans, to minimise the numbers falling into debt and to maximise the numbers paying their debts.

We will ensure that the water companies have the appropriate tools to tackle this issue. The Water Industry (Undertakers Wholly or Mainly in Wales) (Information about Non-owner Occupiers) Regulations 2014²¹ came into force on 1 January 2015. They require owners of residential property to provide any non-owner occupier’s name, date of birth (if available) and the date they started occupancy, to the relevant water company

This enables the water companies to send accurate and timely bills for these properties, identify vulnerable customers earlier and provide suitable support. The regulations also make it easier to pursue non-payment of bills. This will contribute to reducing costs currently borne by other customers.

¹⁹ Welsh Government, Consultation on tackling ‘bad debt’ within the water industry in Wales, Appendix 2 - Consultation Stage Regulatory Impact Assessment February 2013, published June 2013, Welsh Government website:

<http://wales.gov.uk/consultations/environmentandcountryside/tackling-bad-debt-in-the-water-industry/?lang=en>, accessed

²⁰ Of the water companies operating wholly or mainly in Wales, Dŵr Cymru Welsh Water estimate that the equivalent of £20 of the average customer bill goes towards covering the costs of recovering outstanding revenue. However, there could be some variation in this figure between companies, since the methodologies used to calculate this amount are sensitive to companies’ individual write-off policies. The £20 figure is therefore considered to be an upper estimate and should be treated with some caution.

²¹ The Water Industry (Undertakers Wholly or Mainly in Wales) (Information about Non-owner Occupiers) Regulations 2014 – <http://wales.gov.uk/consultations/environmentandcountryside/tackling-bad-debt-in-the-water-industry/?lang=en>, accessed



We will put in place measures to review and evaluate the effectiveness of the Regulations, and where appropriate, make changes.

Strong customer focus

Ensuring a strong customer focus should be at the heart of the delivery of water and sewerage services in Wales. This requires both a sound understanding of existing and future customer needs, and a strong voice for consumer representation.

Whilst a focus on customers is important, we believe that our relationship with water should not be limited to the bills we pay to our water providers. Water is one of our most critical natural resources and assets and as we noted earlier in the Strategy, we will seek to promote a greater civic interest and involvement in the planning and management of our water resources.

We want water companies to ensure that the level of customer engagement and research achieved during price reviews becomes a key part of their operations, for example building on the Customer Challenge Group work.

We expect the water industry and regulators to take account of their own and other parties' consumer research and to respond appropriately to research findings. We also expect companies operating in Wales to be among the best on all performance measures, including those relating to customer services²². We will work with regulators and consumer representatives to establish a suitable monitoring approach.

We expect water companies in Wales to engage effectively with local authorities, housing associations and developers when proposals for development are brought forward. Similarly, we expect water companies to work effectively with businesses when new or revised requirements for supply are identified. We also expect regulators to support these processes appropriately.

We expect our water companies to be more proactive and supportive of the needs of businesses in Wales, offering excellent services to their customers. Ofwat will need to retain an integral role in driving forward efficiencies and encouraging innovation from water companies in Wales with regards to their business customers. We will work with Ofwat, the Consumer Council for Water and the water companies to ensure strong communications and information are made available to business customers about eligibility for retail competition to avoid any confusion, particularly for those customers in cross-border areas, and to ensure they are not disadvantaged.

We will monitor the costs and benefits of market reform, which will apply to water companies operating wholly or mainly in England from April 2017. This will inform our future policy about services for non-household customers served by water companies located wholly or mainly in Wales.

The water industry is a complex sector and it is therefore essential to have an independent voice for both business and domestic customers in Wales. The Consumer Council for Water represents the interests of water customers and we recognise the particular challenges that a geographic monopoly industry, with complex price setting

²² OFWAT provides information on water company performance
http://www.ofwat.gov.uk/regulating/reporting/prs_web2012-13performance



processes, provides for effective consumer representation²³. We will work jointly with the UK Government to review the role and functions of the Consumer Council for Water to ensure that consumers are receiving effective representation. This will help inform our determination on the most appropriate mechanism for consumer representation in Wales. Our decisions will be based on firm evidence and on the long term benefits for customers in Wales.

Promoting the Efficient Use of Water

Using water efficiently is an essential part of delivering long term sustainable management of our natural resources. Improvements in resource efficiency are essential for green growth – improving the resilience and productivity of businesses, communities and public service organisations; reducing the impacts of consumption and production; tackling poverty by reducing water bills and greenhouse gas emissions.

Our use of water has grown in recent years. In order to encourage a reduction in domestic and business water use, we need to do more to help people use water efficiently. Reduction in water use will reduce energy used in the treatment and delivery of drinking water, thus helping to reduce our carbon footprint. It can also help households reduce their energy bills through use of less hot water, for example.

Where possible, the Welsh Government fuel poverty schemes, Nest²⁴ and Arbed, have been working with water companies to provide water saving measures as part of their support packages. This enables water and energy efficiency measures to be installed in houses at the same time, increasing the impact of these schemes and reducing the number of visits to a property. We will continue to encourage the water companies to participate in these schemes.

To ensure that our resources are managed sustainably, now and in the future, we will work with the water companies and other interested parties to encourage and incentivise engagement and action on water usage, to challenge perceptions and to promote the benefits of water efficiency. Our aim is to assist both domestic and business consumers in reducing their water.

We will also look at the role metering has to play in encouraging reduction in consumption. We recognise that any approach to metering would need to be delivered in conjunction with innovative charging structures, including social tariffs, in order to ensure that households with affordability issues are protected.

The Welsh Government has a framework for provision of specialist advice services. Access to these services will be through Business Wales²⁵ (for business), Farming Connect²⁶ (for Farm and Forestry businesses), and Resource Efficient Wales (aimed at households, communities and public sector organisations). We will work with the water companies, the Consumer Council for Water and other advisory bodies to develop consistent messages around water debt management, water efficiency, and how consumers can engage with their water company.

²³ Delivering results for water customers in Wales – ICS Consulting and Cascade on behalf of the Welsh Government, 2014

²⁴ Nest – <http://www.nestwales.org.uk/>

²⁵ Business Wales - <http://business.wales.gov.uk/>

²⁶ Wessex Water Towards Sustainable Charging – <http://www.wessexwater.co.uk/about/threecol.aspx?id=9026&linkidentifier=id&itemid=9026>



These will be shared across the specialist advice services and we will ask the Consumer Council for Water to investigate options for feeding into wider consumer advice services, with a particular focus on debt avoidance.

Principal actions

- In line with the commitment in the Child Poverty Strategy for Wales to support families living in poverty to increase household income through debt and financial advice and action to address the poverty premium, we will take the following actions:
- We will undertake further research and a programme of work to address water poverty, reduce the number of households who struggle to pay their bills and ensure fair and flexible charging structures and options for all customers in Wales.
- We expect water companies to be innovative in supporting their customers to manage debt.
- We will monitor the uptake and effectiveness of social tariffs and will review and revise our guidance as appropriate.
- We expect water companies to regularly review their tariffs and wider support packages for vulnerable customers, to ensure that they are serving the right people and looking for innovative solutions.
- We will develop measures for assessing the impacts the Water Industry (Information about Non-owner Occupiers) Regulations.
- We will review the effectiveness of the Water Industry (Information about Non-owner Occupiers) Regulations, and where appropriate, make changes.
- We expect the Consumer Council for Water take the lead on the collation and dissemination of information and advice in relation to water affordability and debt management, including making links to wider tackling poverty initiatives.
- We will monitor the costs and benefits of market reform, which will apply to water companies operating wholly or mainly in England from April 2017. This will inform our future policy about services for non-household customers served by water companies located wholly or mainly in Wales.
- We will investigate public attitudes to the use and value of water in Wales to help to inform how businesses and households can use water more efficiently.
- We will assess and consult on options for encouraging reduction in water consumption. This will include working with the water companies and other interested parties to encourage and incentivise engagement and action on water usage; to challenge perceptions; to promote the benefits of water efficiency; and carry out further investigation into the costs and benefits of metering.
- We will expect water companies to offer flexible payment options at no extra cost to the customer to ensure that vulnerable householders and those living in poverty are able to pay for their water bills.





4.4 Protecting and improving drinking water quality

Key Issues

Maintaining and improving drinking water quality

The supply of potable water to our homes, businesses and industry is a vital service, supporting economic activity and protecting public health and the environment.

We will act to maintain the current high standard of our public drinking water quality and ensure compliance with the Drinking Water Directive via the Water Supply (Water Quality) Regulations 2010. We expect water companies to act on the findings in the annual reports from the Drinking Water Inspectorate. Water companies must maintain and build on good practice and where required, make improvements to ensure we have clean, wholesome, safe and reliable drinking water quality.

Appropriate and well-managed water supply systems

An appropriate and well-managed water supply infrastructure is critical to maintaining and improving water quality and reducing leakage. But it is also essential that the pipes and fittings which connect to this infrastructure are fit for purpose.

Water supply pipes within the boundary of a property can impact on water quality at the tap and may be subject to uncontrolled leakage. These supply pipes are privately owned and connect buildings to the public water supply infrastructure. Many are old and subject to corrosion which can cause leaks and affect water quality. The owners are often not aware of their responsibilities for the upkeep of these pipes and there is therefore no planned approach to repair and replacement.

Following a joint consultation with UK Government in 2013/14²⁷, we propose to further examine the costs and benefits of transferring ownership of the portion of water supply pipes that are currently privately owned to the water companies.

Such a transfer could facilitate the management and repair of these pipes in a more strategic and economic way and, coupled with a planned renewal programme, result in a more sustainable approach to network management which would help maintain drinking water quality. A transfer could also lead to a reduction in leakage by speeding up repair times as a result of clarity of ownership and water company service policy.

In order to protect the quality of drinking water in buildings and reduce health risks, it is vital that suitable materials and fittings are used and that they are properly installed to prevent contamination of water. For example, lead being introduced as a result of the use of lead-based solders which are not approved for use in drinking water systems or a cross connection causing a link to non-potable water. The Water Supply (Water Fittings) Regulations²⁸ aim to address these risks and protect the quality of drinking water in buildings. In order to raise standards of plumbing installation practices, a number of approved contractor schemes are under development. We will work with water companies, the Water Regulations Advisory Service and installers to promote such schemes.

²⁷ Joint Defra / Welsh Government consultation on the future management of private water supply pipes – <https://www.gov.uk/government/consultations/future-management-of-private-water-supply-pipes>

²⁸ The Water Supply (Water Fitting) Regulations (1999) – <http://www.legislation.gov.uk/uksi/1999/1148/contents/made>



Lead in Water Supplies

We must aim to keep exposure to lead as low as reasonably practicable therefore we will consider management options to reduce exposure to lead and related health risks.

Water pipes and fittings containing lead have been used for plumbing purposes until relatively recently. The health impacts of lead in drinking water, in particular for children, have been the subject of international research²⁹. Currently, these risks are managed through the dosing of drinking water with phosphate, which prevents lead dissolving into the water. Although this is the most economic means of controlling the risk from lead, it does not remove the long term risk from lead pipes and fittings. In addition, phosphate resources are limited, and its use in drinking water has consequences for sewage treatment and water pollution. We will work with the Drinking Water Inspectorate, water companies and others to investigate best practice and options for addressing the risk of lead leaching into water supplies.

Aligning with wider policy

We will align drinking water policy objectives for Wales that delivery integrated catchment management approaches to achieve a fair and appropriate balance between social, economic and environmental needs.

We will act to ensure that water companies in Wales manage their assets to keep them fit for purpose for both this generation and future generations, and that water companies' stewardship of their assets takes due account of the necessity for system resilience and for sustainable solutions.

Private Water Supplies

The rural nature of much of Wales means that many people rely on their own, private, water supplies. The Chief Inspector of Drinking Water reports have specifically highlighted the need for improvements in private water supplies which, in Wales, are regulated under the Private Water Supplies (Wales) Regulations 2010³⁰.

These regulations set out the standards that all private supplies must comply with and confirm the duties of local authorities to monitor private water supplies, maintain records and send them to the Drinking Water Inspectorate and Welsh Ministers. We will undertake a review of the effectiveness of these regulations.

We will work with the Water Health Partnership in Wales, the Drinking Water Inspectorate and local authorities to develop guidance and an engagement strategy to help owners of private supplies improve their understanding of public health and water quality issues in Wales, and their statutory responsibilities.

²⁹ World Health Organisation – Water Related Diseases – http://www.who.int/water_sanitation_health/diseases/lead/en/

³⁰ The Private Water Supplies (Wales) Regulations 2010 – <http://wales.gov.uk/topics/environmentcountryside/epq/waterflooding/privatesupplies/?lang=en>



Principal actions

- We will work with the Drinking Water Inspectorate to keep the relevant drinking water quality legislation under review and where necessary, amend it.
- We will promote approved contractor's schemes, such as the WaterSafe Installers Scheme to improve the standard of plumbing installations in Wales.
- We will investigate the costs and benefits of transferring ownership of the portion of water supply pipes that are currently privately owned, to the water supply companies.
- We will work with the Water Health Partnership in Wales, the Drinking Water Inspectorate and local authorities to develop guidance and an engagement strategy to help owners of private supplies improve their understanding of public health and water quality issues in Wales, and their statutory responsibilities.
- We will review the Private Water Supplies (Wales) Regulations 2010 to ensure they are fit for purpose and enable local authorities to carry out their duties.





4.5 21st century drainage and sewerage systems

Drainage and sewerage systems in Wales are a critical but often overlooked asset. We want sewerage and drainage infrastructure for both waste water and surface water to be well managed and maintained in an integrated way, with sufficient capacity to manage the demand placed on it and without causing pollution or sewer flooding of people's homes.

Long term collaborative management of sewerage and drainage systems is critical to address urban flood risk and deliver our Water Framework Directive and Urban Waste Water Treatment Directive outcomes. Deteriorating performance of sewerage assets poses a significant risk to water quality and we want to see a structured approach to the planning and maintenance of the sewerage and drainage network.

We will establish a framework to identify any evidence, data or regulatory gaps and consider how these might be addressed to ensure that the sewerage undertakers, regulators and other key stakeholders have the tools to make our sewerage and drainage system fit for purpose for the 21st century and beyond.

Key Issues

A sustainable approach to drainage

In both rural and developed areas, surface water flooding and diffuse pollution are matters of growing concern. The predicted increase in intense rainfall events will present even greater challenges to our drainage systems and the way that we manage land. We need a drainage approach that can cope with these challenges and help address the risk of surface water flooding and diffuse pollution.

The sustainable drainage systems (SuDS) approach to surface water management aims to deal with rainwater on the surface and close to where it falls. This approach can slow down the flow of water, reducing flood risk and protecting water quality while also providing a wide range of community benefits such as improving the visual amenity of developments, providing open space, and contributing to ecosystem resilience.

The SuDS approach can be used effectively in both rural and urban areas and supports new development without adding to the risk of flooding or pollution. In rural areas good land management practices can do much to reduce downstream flood risk and protect water quality but SuDS techniques can also provide ways of managing surface water from farm yards and buildings.

Despite these benefits, we estimate that the proportion of new developments and redevelopments drained by SuDS is low and uptake has been slow. Schedule 3 of the Flood and Water Management Act 2010 (FWMA)³¹ requires new developments to include sustainable drainage features that comply with national standards. We will consider how to implement this when we determine the most effective way of embedding SuDS principles in new developments in the longer term.

³¹ Flood and Water Management Act –
<http://www.legislation.gov.uk/ukpga/2010/29/schedule/3>



In the short term, we will publish interim national standards on an advisory basis which will enable designers; property developers; local authorities and other interested parties to both demonstrate that they have taken account of the Welsh Government's planning advice on Development and Flood Risk and to pilot the standards, so that if necessary they can be revised before being made statutory.

It is also vital that adoption and management arrangements for SuDS infrastructure and all drainage elements are agreed with the local authority or sewerage undertaker at the planning stage to ensure that the infrastructure is properly maintained and functions effectively for its design life.

The SuDS approach can also be used in tackling surface water drainage problems in existing developed areas. Retrofitting of SuDS can improve the environment for local people, provide more green spaces and recreational areas and reduce flood risk. It can relieve pressure on existing drainage systems, resulting in savings in maintenance or upgrading. It also provides an opportunity to engage with the local community on their role in drainage and water management. The SuDS approach is central to future surface water management and supporting innovative surface water drainage in Wales.

To support this, we expect sewerage undertakers and highways authorities to facilitate the use of natural systems in infrastructure developments and to reinstate or create aquatic features, such as wetlands and natural river channels, where there are benefits for wildlife, communities and customers.

For new developments, an approach which integrates water cycle management into development planning and design has been pioneered in Australia³². Known as Water Sensitive Urban Design (WSUD) it uses SuDS principles, and builds on ecosystems services principles to reduce water use, minimise flood risk and improve water quality. We will work with others both nationally and internationally to identify how the WSUD approach could be used in Wales.

Responsibility for drainage and sewerage infrastructure

Drainage systems have developed over time and this has led to a range of individuals and organisations having ownership and responsibility for them. In developed areas, local authorities and the sewerage undertaker each have certain responsibilities. In rural areas, drainage is often the responsibility of Natural Resources Wales.

Highways drainage is the responsibility of highways authorities. The relationship between highways drains and the public sewerage network is complex, with some highways drains carrying surface water from public systems and some highways drainage discharging into public sewers. Highways are also important conduits for diffuse pollution. Understanding the role they play in the drainage system is vital for development of catchment scale sustainable drainage systems.

Different legislation governs the respective roles of Natural Resources Wales, local authorities, highways authorities and sewerage undertakers. Working with all interested

³² <http://www.melbournewater.com.au/wsud>



parties, we will review legislation and practices relating to drainage, focussing on surface water, highways drainage and orphaned assets.

We want to see if the current arrangements are fit for purpose or whether we can improve governance arrangements. Our aim is to provide clarity over responsibilities, better planning and collaboration for the installation and management of these assets. This will also support the SuDS approach.

We will, as part of this drainage review, assess the implementation of the process for adoption of public sewers introduced in October 2012 and the related Ministerial Standards. We will then consider whether there is a need for statutory guidance under Section 106B of the Water Industry Act 1991³³.

Public sewers

Action to prevent and control water pollution from sewage discharges is vital for the protection of water quality. Therefore, we expect Natural Resources Wales and water companies to work together to ensure that our sewerage systems are fit for purpose. This means reducing the number of spills from combined sewer overflows and ensuring the impact of sewage discharge is kept to a minimum in line with standards set out in the Water Framework Directive and the Urban Waste Water Treatment Directive.

Misconnected sewers

Misconnected sewers cause pollution in watercourses, groundwater and coastal waters and can result in sewer overloading. Many areas have two separate drainage systems. One is the surface water sewer which takes rainwater running off roofs, drives and roads and drains into rivers and streams. The other is the foul sewer, which collects waste water and drains to a sewage treatment works where the waste water is treated and cleaned before being discharged to the environment.

A misconnection occurs when a drainage pipe for one type of water is connected to the wrong sewer system. Foul drainage connected to a surface water sewer will cause pollution. Surface run-off connected to a foul drain can overload the sewer, triggering flooding and overflows of untreated sewage into rivers and coastal waters and the sewage treatment plant.

Tackling this problem requires collaborative working between sewerage undertakers, local authorities and Natural Resources Wales. In addition to identifying and correcting misconnections, there is also a need for education to ensure that householders, plumbers and builders understand the problem and know what to do to avoid making the problem worse. To reduce pollution of the water environment caused by misconnected sewers, we will place a focus on improving the way misconnections from households are identified and resolved.

As part of our review of drainage legislation, we will consider possible changes in the law that would simplify the process of correcting misconnections.

³³ Adoption arrangements for sewers and lateral drains –

<http://wales.gov.uk/topics/environmentcountryside/epq/waterflooding/sewers/adoptionarrangements/?lang=en>



Private sewerage

The majority of properties in Wales are served by public drainage systems. However, as many as 195,000 properties in Wales, mostly in rural areas, are not connected to public sewers.

Private sewerage systems generally serve single or small numbers of properties. There are three types of system in common use - small sewage treatment plants, septic tanks, and cesspools (or cess pits).

Small sewage treatment plants and septic tanks must be registered with Natural Resources Wales. Where a public sewer is not economic these can provide a satisfactory long term solution, providing that owners take their responsibilities for maintenance seriously. Alternative, low energy systems such as compost toilets or reed bed systems are also suitable for small scale developments.

We will support owners by working with Natural Resources Wales and other partners to provide guidance on septic tank maintenance. We will also engage with local authorities who have a duty to ensure that owners of private sewerage systems maintain them to prevent a threat to public or environmental health.

Property owners can request the provision of drainage under Section 101A of the Water Industry Act 1991, and the sewerage undertaker must assess the request against specific criteria. If the undertaker turns down the request, the Planning Inspectorate is responsible for determining any disputes. The process of Section 101A can be complex and lengthy and stakeholder feedback has indicated that improvements to the statutory guidance could help to reduce the number of disputes and speed up the process. We will update and consult on a revised guidance for sewerage undertakers and act as a source of information for other stakeholders and applicants. We will also consider how Section 101A could be amended to improve its operation.



Principal actions

- We will establish a framework to identify any evidence, data or regulatory gaps and consider how these might be addressed to ensure that the sewerage undertakers, regulators and other key stakeholders have the correct tools to assist them in the management of our sewerage and drainage systems. In particular, this will need to identify and set measures to meet Water Framework Directive and Urban Waste Water Treatment Directive outcomes.
- We will look at options to implement Schedule 3 of the Flood and Water Management Act 2010, which requires new developments to include SuDS features that comply with national standards.
- We will publish interim national standards on an advisory basis until we commence Schedule 3 of the Flood and Water Management Act 2010. This will enable designers, property developers, local authorities and other interested parties to both demonstrate that they have taken account of the Welsh Government's planning advice on Development and Flood Risk and to pilot the standards, so that if necessary they can be revised before being placed on a statutory footing.
- We will undertake a review of current drainage ownership and related legislation, with a particular emphasis on surface water and orphan assets and on drainage misconnections. This review will include the operation of the mandatory sewerage adoption process and the effectiveness of the 2012 Ministers' Build Standards.
- We will support owners of private sewerage systems by working with Natural Resources Wales and other partners to provide guidance on septic tank maintenance. We will also engage with local authorities who have a duty to ensure that owners of private sewerage systems maintain them to prevent a threat to public or environmental health.
- We will consult on and implement revised guidance for sewerage schemes for rural communities under Section 101A of the Water Industry Act 1991 and consider legislating to simplify the process.



4.6 Supporting delivery

Key Issues

Delivery mechanisms

There are a number of mechanisms which we have identified as key to the development of our integrated approach to managing water.

This Strategy is supported by an action plan (Annex A) which will form the basis of our future programme of work and engagement with key stakeholders. We will review and report on our progress in delivering the actions set out in this Strategy on an annual basis.

The Water Forum for Wales was formed to support the delivery of our water agenda. The role of the Forum is to:

- engage key organisations, including water companies, regulators and consumer representatives, in planning the strategic direction for water management in Wales
- facilitate open and frank discussions on all aspects relating to the strategic management of water in Wales.
- involve our delivery partners in work to achieve actions set out in this Strategy. This will include assisting us in setting our priorities and developing and delivering our policy commitments.

We will review the remit and membership of the Water Forum for Wales on a regular basis to ensure a focus on the wider water management challenges in Wales and the delivery of our Strategy.

As well as direct engagement with partners through our existing Water Framework Directive Stakeholder Forum and the Water Forum for Wales, our regulators, such as Natural Resources Wales, engage directly with communities on water management issues. We expect Natural Resources Wales to build on this emphasis on local level engagement and involve communities in planning and decision-making. This is not necessarily about doing something new, but identifying those things that we do well and building on them.

Financial support schemes

Poor land management is a principal cause of diffuse water pollution. The 2007-2013 Rural Development Plan supported land management interventions aimed at improving water quality and reducing flood risk. A consultation on our final proposals for the Wales Rural Development Programme (RDP) for 2014–2020³⁴ was published in February 2014. The total projected budget for the RDP for Wales 2014-2020 is £953m across the programme period, with 60% (£572m) indicatively allocated to area based measures with specific reference to the Water Framework Directive. The proposals in the consultation included advice on water related issues such as land and farmyard management. For example, good practice in the feeding and watering of livestock can prevent damage to land and stream banks that might otherwise cause erosion and pollution. In addition,

³⁴ www.wales.gov.uk/topics/environmentcountryside/farmingandcountryside/cap/ruraldevelopment/rural-development-plan-for-wales-2014-2020/?lang=en



good practices in waste storage, nutrient management planning and silage production which also contribute to the protection of the water environment will be considered. The RDP developed since the consultation includes a mixed capital and revenue mechanism to support on-farm and forest improvements linked to, amongst other things, welfare and environment standards. Subject to approval by the European Commission, support will be extended into non land-based businesses and interventions might be possible that address the problems linked to pollution from metal mines.

The Glastir Advanced Scheme³⁵ will remain the main mechanism for targeting activity to meet the Water Framework Directive requirements that will help to improve water quality and management by addressing issues along a watercourse rather than being restricted to a farm by farm approach. This will be complemented by infrastructure improvements delivered through the Sustainable Production Grant Scheme. The Glastir Woodland Creation Scheme will also provide opportunities for landowners to contribute to water regulation and mitigation of agricultural land use practices through targeted woodland planting.

A clear and transparent regulatory framework for Wales

The role of the regulators in encouraging and incentivising water companies to deliver for their customers and the sustainable management of our natural resources is central to our vision for water in Wales. We expect our regulators to work proactively and constructively with each other and with other key partners to ensure effective decision making, to reduce regulatory burdens where appropriate and help implement the aims of this Strategy.

We have published Social and Environmental Guidance for Ofwat which sets out our policy in this area and which Ofwat will take into consideration in determining the business plans of companies wholly or mainly in Wales. We aim to replace the Social and Environmental Guidance with a statutory Strategic Policy Statement (SPS) for Ofwat. The SPS will set the Welsh Government's strategic framework and policy priorities within which Ofwat will operate. It will detail how we expect Ofwat to take account of the impact of differences in water policies set by the Welsh and UK Governments and to collect appropriate evidence to inform effective regulatory and wider policy decisions. In line with the Principles of Economic Regulation³⁶ this statement will seek to provide a long-term view of the Welsh Government's overarching priorities, providing stability for both Ofwat and industry and will be updated no more frequently than once an ^oAssembly term.

We want to see more innovation in the water sector to enable more efficient and cost effective solutions. We recognise the critical importance of ensuring that public health is protected and that environmental obligations are met, but we want to ensure regulators provide incentives and encouragement for innovation within the existing structure of a water sector which is often seen as risk-averse. We expect Ofwat's future framework of incentives to provide the right balance between rewards and penalties in the context of an outcome-based approach which recognises compliance with statutory obligations, Welsh Government priorities and circumstances in Wales.

³⁵ Glastir Advanced Scheme – <http://gov.wales/topics/environmentcountryside/farmingandcountryside/farming/schemes/glastir/glastir-advanced/?lang=en>

³⁶ BIS- Principles of Economic Regulation – <http://www.bis.gov.uk/policies/better-regulation/improving-regulatory-delivery/principles-for-economic-regulation>



The delivery of our proposals depends on effective regulation. We provide the strategic direction for water policy in Wales, but it is framed within a complex set of regulatory and operational responsibilities. We will take actions to develop and implement a clear and joined-up regulatory system – both economic and environmental – which is outcome based and meets the requirements of the people and policies of Wales. We will ensure that we have fair and effective regulation which does not place unnecessary burdens on relevant businesses and consumers. We believe that changes to the regulatory environment should benefit all customers in Wales, whilst taking account of our objective of a more integrated approach to the management of our water resources.

Constitutional reform

Our objectives are the alignment of the regulatory boundaries for water and sewerage with the geographical border between Wales and England. We will pursue the conferral of full legislative competence on the National Assembly in relation to 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. We want to move to a new settlement for both the existing functions conferred upon Welsh and UK Government Ministers and the legislative competence conferred upon the National Assembly for Wales. This approach is supported by the findings of the Silk Commission on the Powers of the National Assembly³⁷.

Aligning the regulation of water and sewerage services with the geographical border will better enable us to integrate water within our approach to natural resource management, ensuring that we make the most of the opportunities that Wales' natural resources provide. Adopting the geographical border as the regulatory boundary will also provide clarity of accountability for consumers, water suppliers, policy-makers and legislators. A move towards a geographical split would ensure that the National Assembly for Wales had legislative competence in relation to all matters relating to water and sewerage, including licensing and the appointment and regulation of water undertakers. Using the geographical boundary with England for water services regulation would be in line with the legislative competence held for other Acts of the National Assembly for Wales.

To enable us to better understand the practical issues relating to moving from the current settlement, the Welsh Government will, working closely with the UK Government, regulators and water companies, undertake a detailed assessment of the issues that will need to be addressed with a view to moving towards a new settlement.

Innovative and proactive water companies

We expect our water companies to be both innovative and proactive in working with others, including regulators, in seeking to improve services and assisting with the delivery of the objectives of this Strategy.

Good research and evidence is required to underpin a successful and innovative water sector. With this knowledge, the sector can develop better ways of tackling matters

³⁷ Silk Commission –
<http://commissionondevolutioninwales.independent.gov.uk/>



of importance in Wales, now and in the future. Effective monitoring programmes are essential, both to ensure that environmental measures are met as well as to ensure properly targeted investment for future maintenance and improvements. This will help to ensure that issues are tackled earlier, when it is more cost-effective to do so, instead of them going unnoticed until a severe problem occurs, resulting in remedial action at a higher cost.

We expect the water sector to identify opportunities for research and development, working with institutions in Wales and further afield where appropriate. Companies should seek to share best practice and learn from others in developing appropriate science and technology and implementing innovations. They should, in particular, be exploring innovative approaches which will reduce their operating costs, increase resilience to climate change, reduce green-house gas emissions, support natural resource management and ensure the adoption of more resource efficient practices in their operations.

As well as ensuring excellent services to their customers, water companies in Wales should be proactively encouraging and supporting their customers, both business and domestic, to become more water efficient. We also expect them to play an important role in developing measures to support their most vulnerable customers, within the overall policy framework set out by the Welsh Government.

Resilience

A safe and secure supply of water requires investment and maintenance of the infrastructure network, building in resilience from natural hazards and the impacts of climate change. This will ensure adequate protection for people and our natural resources. We want to ensure the system remains robust, security measures are in place and high quality services are supported in the future.

Flooding, prolonged dry weather periods and other extreme weather events experienced across the UK over the last few years demonstrated the need for our water supply and waste water services and networks to be able to continue to function despite such events. This has also elevated the importance of effective emergency planning and resilience in the water sector.

The water sector has an important part to play in reducing greenhouse gas emissions and we want a water industry that is attuned to its impact on climate change. The Welsh Government Climate Change Strategy sets clear targets for reducing these emissions as well as a framework to help make sure that Wales adapts to the impacts of climate change. The water companies can play an important role in both the emission reduction and adaptation agenda by reducing their use, generating their own energy and providing water and energy advice to households. We expect water companies to reflect emission reduction and climate change adaption in their Asset Management Plans.

The Water Act 2014 introduced a primary duty which requires Ofwat to secure the long-term resilience of water and sewerage systems and provision of services to customers taking into account environmental pressures, population growth and changes in consumer behaviour. This includes promoting appropriate long-term planning and



investment by relevant water companies. Ofwat are also expected to ensure that water companies have a range of measures to manage water resources in sustainable ways, and to increase efficiency in the use of water and reduce demand for water in order to reduce pressure on water resources.

In taking forward its resilience duty we expect Ofwat to take account of the resilience duty contained in the Environment (Wales) Bill which places a focus on the ecosystem as a whole, rather than individual elements; joining up the different issues and aspects of the environment.

We intend to elevate Ofwat's current secondary duty in relation to sustainable development to primary status. Sustainable development is the central organising principle of the Welsh Government, and as such we believe that is of fundamental importance that it should be a primary duty for Ofwat. Changing the order of Ofwat's statutory duties by elevating the duty to contribute to the achievement of sustainable development from a secondary to a primary duty could improve the delivery of longer-term priorities for the water industry, and is in line with the Welsh Government sustainable development principle.

Water companies are category 2 responders under the Civil Contingencies Act 2004 and are required to cooperate and share information in the event of an emergency. We will work with the companies to develop plans that identify strategic assets, consider the loss of supply and provision of alternative supplies. We will issue Security and Emergency Measures Directions and Guidance as appropriate and actively ensure compliance against these.

Water companies are owner operators of many of the reservoirs in Wales. Although the safety record for reservoirs is excellent, they still pose a potential risk that needs to be managed effectively. We will work with the water companies, other reservoir owners and responders to ensure emergency planning arrangements are in place to manage these risks. We will put in place additional legislation to ensure future reservoir safety in Wales.

The National Strategy for Flood and Coastal Erosion Risk Management for Wales confirms the Welsh Government's risk management approach to dealing with all types of flood and coastal erosion risk, including surface water flooding.

Supporting innovation

Supporting innovation, particularly within the water industry, is one of our key priorities. We have already set out our expectation of our regulators, particularly Ofwat, in terms of driving innovation within this sector. We have also set out our clear expectation that innovation should be at the heart of the approach adopted by the water sector in Wales and in particular our water companies.

We will support innovation in the water sector through our Science Strategy, Science for Wales³⁸ and our Innovation Strategy, Innovation Wales³⁹. These set out our vision for science and innovation, the key initiatives we will take and how we measure success.

³⁸ Welsh Government – Science Strategy for Wales –
<http://wales.gov.uk/topics/businessandeconomy/csaw/?lang=en>

³⁹ Welsh Government – Innovation Wales –
<http://wales.gov.uk/topics/businessandeconomy/innovation/innovation-strategy-wales/?lang=en>



Across sector business support

Green growth is a crucial aspect of the Welsh Government drive towards economic growth and job creation that is both environmentally sustainable and socially inclusive. The green economy is an important element of green growth and describes a sub-set of the Welsh economy.

Wales is already home to an established and growing green economy⁴⁰, including a small but thriving cluster of companies in the water sector and its supply chain. The Welsh Government is dedicated to supporting these companies in meeting the challenges and taking advantage of the opportunities which this Strategy presents.

Energy, environmental goods and services, along with construction, are key priority sectors for the Welsh Government and we will continue to provide tailored support for businesses in these and related sectors to enable us to build on our existing expertise. Our dedicated team of Business Development Managers will work directly with companies to advise and assist in a range of areas from business expansion to supply chain development, developing local networks and exploring international markets⁴¹. We will continue to work across the Welsh Government to support businesses in Wales to make the most of our water and respond to current and future opportunities that water offers.

Engagement and education

We will work in collaboration with our stakeholders and seek involvement from the people of Wales to understand, educate and promote a new way of thinking which will enable us to deliver our new approach to natural resource management and meet our well-being goals sustainable development principles.

The right skills to implement the Strategy

We will seek to build on the skills and experience Wales has in the water sector to ensure that we maintain and develop a high level of expertise to support businesses as well as regulatory requirements.

Science, technology, engineering and mathematics – known as the STEM subjects – are important to everyone but have a key role to play within the water sector. We have set up the National Science Academy (NSA) to help raise interest in these subjects amongst children and adults. We want to increase the number of people who study STEM subjects, and then choose STEM-related careers at all levels. This project is part of our science Strategy, Science for Wales.

Alongside this, we will work with academic organisations (For example, Built Environment Sustainability Training (BEST) regional skills partnerships, and the Energy and Utility Skills Council) and the skills sector to ensure that we have specific education and training opportunities to meet our future water management needs and to encourage and enhance business and market opportunities within Wales.



An evidence and evaluation framework

Our approach to implementing this Strategy will be driven by evidence. Our policy development process is based on research and rigorous analysis of evidence. We expect water companies and regulators to put the same emphasis on undertaking relevant research and evidence gathering to inform their work and business planning. We see this as a key element of delivering the right results for Wales.

We will develop an evidence and evaluation framework to sit alongside the Strategy. This will be developed in conjunction with regulators, the water industry, academia and other interested parties who also have a key role in commissioning or undertaking research and evidence. It will be informed by the key priorities and strategic outcomes set out in Section 2 of this Strategy.

In particular, the framework will identify any evidence or data gaps and consider how these might be addressed, taking account of the practicality, cost and utility of deriving additional information. This will help support the development of the Strategy and inform its review and evaluation.

The framework will also consider the indicators to measure overall progress with the Strategy. There are already a significant range of indicators in place but we will assess as part of developing our evidence and evaluation framework whether we need to refine these indicators or develop new indicators.

Principal Actions

- We will review the remit and membership of the Water Forum for Wales on a regular basis to ensure a focus on the wider water management challenges in Wales and the delivery of our Strategy.
- We will review and report on our progress in delivering the actions set out in this Strategy on an annual basis.
- We will replace the Social and Environmental Guidance to Ofwat with a statutory Strategic Policy Statement (SPS) which will set the Welsh Government's strategic framework and policy priorities within which Ofwat will operate.
- We will ensure that we have fair and effective regulation which does not place unnecessary burdens on relevant businesses and consumers. We believe that changes to the regulatory environment should benefit all customers in Wales, whilst taking account of our objective of a more integrated approach to the management of our water resources.
- We will, working closely with the UK Government, regulators and water companies, undertake a detailed assessment of the issues that will need to be addressed with a view to moving towards a new constitutional settlement. This would be based on full

⁴⁰ Silk Commission –

Sales in the green economy in Wales contributed £5.5 billion to the Welsh economy in 2011/12, supporting over 41,000 jobs. During the recession between 2009/10 and 2011/12, jobs grew by around 2.4% and sales by around 9.3%.

⁴¹ www.business.wales.gov.uk



legislative competence for the National Assembly in relation to water and sewerage, along the geographical boundary.

- We intend to elevate Ofwat's current secondary duty in relation to sustainable development to primary status.
- We will work with water companies and Ofwat to ensure that water services have reduced their emissions, are resilient to extreme weather events.
- We will continue to provide tailored support for businesses in the Welsh Government's key priority sectors of energy, environmental goods and services, construction and related sectors to enable us to build on our existing expertise, with particular emphasis on supporting businesses in Wales to make the most of our water and respond to current and future opportunities that water offers.
- We will work in collaboration with our stakeholders and seek involvement from the people of Wales to understand, educate and promote a new way of thinking which will enable us to deliver our new approach to natural resource management and meet our well-being goals and sustainable development principle.
- We will seek to build on the skills and experience Wales has in the water sector to ensure that we maintain and develop a high level of expertise to support businesses as well as regulatory requirements; increase the number of people who study Science, Technology, Engineering or Mathematics (STEM) subjects, and then choose STEM-related careers at all levels; and work with academic organisations and the skills sector to ensure that we have specific education and training opportunities to meet our future water management needs and to encourage and enhance business and market opportunities within Wales.
- We will develop an evidence and evaluation framework to sit alongside the Strategy. This will be developed in conjunction with regulators, the water industry, academia and other interested parties who also have a key role in commissioning or undertaking research and evidence. It will be informed by the key priorities and strategic outcomes set out in Section 2 of this Strategy.
- We will undertake research to identify and understand the future economic value of our water, and the benefits and opportunities that it can provide nationally and globally.



Annex A – Water Strategy for Wales Action plan

The following high level action plan sets out when we expect to deliver the actions in this Strategy. Our policies will be taken forward over a range of timescales to ensure that we develop and implement the right approach for Wales which supports our well-being goals and our sustainable development principle.

We will engage with and involve our delivery partners in work to achieve actions set out in this Strategy through the Water Forum for Wales. This will include assisting us in setting our priorities and developing and delivering our policy commitments.

We will issue a report on progress against actions set out in this Strategy on an annual basis. This will be published on the Welsh Government website.

We will place a focus on developing and delivering 6 policy priorities between 2015 and 2018. These 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 of 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 license 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.

Timescale	Key objectives and supporting actions
Short term – now until 2020	Water for Nature and People: • We will work with Natural Resources Wales to build on the existing River Basin Management Liaison Panels as a means of broadening community involvement in the development of water policy at a more local catchment level. This will help inform, and will evolve with, the development of the area based approach to natural resource management. • We will ask Natural Resources Wales to review the effectiveness of their current provision of pollution prevention advice and enforcement procedures to ensure they are fit for purpose. • We will encourage Natural Resources Wales and our own Agricultural Advisory Services to work with landowners to develop a common understanding of diffuse pollution and how they can help to prevent it through improved land management. • We will consult on and implement Regulations to reduce oil pollution in Wales. • We will consider options to support the development of PES schemes and review legislation if this is required to enable the long term establishment of the PES market. • We will bring exempt abstractions into the licensing system. Delivering excellent services to customers: • We will undertake further research and a programme of work to address water poverty, reduce the number of households who struggle to pay their bills and ensure fair and flexible charging structures and options for all customers in Wales. • We will monitor the uptake and effectiveness of social tariffs and will review and revise our guidance as appropriate.

- We will develop measures for assessing the impacts the Water Industry (Information about Non-owner Occupiers) Regulations.
- We will review the effectiveness of the Water Industry (Information about Non-owner Occupiers) Regulations, and where appropriate, make changes.
- We expect the Consumer Council for Water take the lead on the collation and dissemination of information and advice in relation to water affordability and debt management, including making links to wider tackling poverty initiatives.

Protecting and Improving Drinking Water Quality:

- We will review the Private Water Supplies (Wales) Regulations 2010 to ensure that they are fit for purpose and enable local authorities to carry out their duties.

21st Century Drainage and Sewerage Systems:

- We will publish interim national standards on an advisory basis until we commence Schedule 3 of the Flood and Water Management Act 2010.
- We will look at options to implement Schedule 3 of the Flood and Water Management Act 2010, which requires new developments to include SuDS features that comply with national standards.
- We will undertake a review of current drainage ownership and related legislation, with a particular emphasis on surface water and orphan assets and on drainage misconnections.
- We will support owners of private sewerage systems by working with Natural Resources Wales and other partners to provide guidance on septic tank maintenance. We will also engage with local authorities who have a duty to ensure that owners of private sewerage systems maintain them to prevent a threat to public or environmental health.
- We will consult on and implement revised guidance for sewerage schemes for rural communities under Section 101A of the Water Industry Act 1991 and consider legislating to simplify the process.



Medium term – 2020 to 2025

Supporting Delivery:

- We will replace the Social and Environmental Guidance to Ofwat with a statutory Strategic Policy Statement (SPS) which will set the Welsh Government's strategic framework and policy priorities within which Ofwat will operate.
- We will, working closely with the UK Government, regulators and water companies, undertake a detailed assessment of the issues that will need to be addressed with a view to moving towards a new constitutional settlement. We will develop an evidence and evaluation framework to sit alongside the Strategy.

Water for Nature and People:

- We are committed to reforming the abstraction licensing system to inform our future policy and ensure the sustainable management of our water resources.

Improving the way we plan & manage our water services:

- We will review existing legislative, regulatory and planning processes associated with water services management.
- We will work with water companies, regulators and local authorities to introduce planning for waste water and sewerage management.

Delivering excellent services to customers:

- We will investigate public attitudes to the use and value of water in Wales to help to inform how businesses and households can use water more efficiently.
- We will assess and consult on options for encouraging reduction in water consumption and carry out further investigation into the costs and benefits of metering.

21st Century Drainage and Sewerage Systems:

- We will establish a framework to identify any evidence, data or regulatory gaps and consider how these might be addressed to ensure that the sewerage undertakers, regulators and other key stakeholders have the correct tools to assist them in the management of our sewerage and drainage systems.

Supporting Delivery:

- We intend to elevate Ofwat's current secondary duty in relation to sustainable development to primary status.
- We will undertake research to identify and understand the future economic value of our water, and the benefits and opportunities that it can provide nationally and globally.

Long term – 2025 and beyond

Protecting and Improving Drinking Water Quality:

- We will investigate the costs and benefits of transferring ownership of the portion of water supply pipes that are currently privately owned, to the water supply companies.

Ongoing

Water for Nature and People:

- We will periodically review the implementation of domestic and international legislation to identify synergies, opportunities for simplification and cost-efficiencies, taking account of natural resource management priorities and well-being goals.
- We will work with the relevant sectors to address diffuse water pollution through understanding, reviewing and where appropriate, changing current practices and regulatory approaches.
- We will encourage catchment scale community action through area statements developed by Natural Resources Wales and other co-operative groups aiming to improve water quality in their area.



Improving the way we plan & manage our water services:

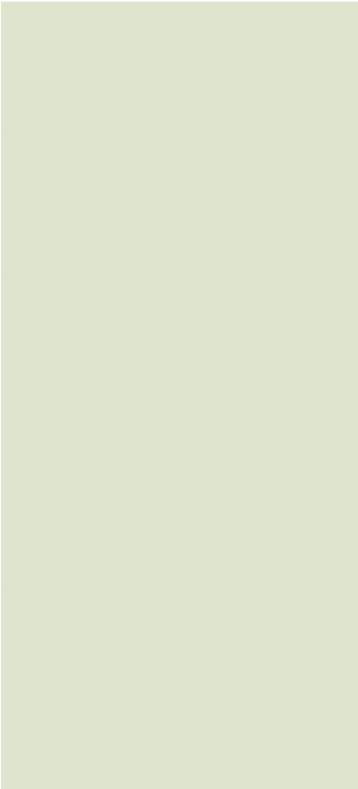
- We expect companies to maintain leakage at the point where the environment, economic and social cost of reducing leakage is less or equal to the cost of getting water from other sources.
- We will monitor the costs and benefits of market reform, which will apply to water companies operating wholly or mainly in England from April 2017.
- We expect water companies to be innovative in supporting their customers to manage debt.
- We expect water companies to offer flexible payment options at no extra cost to the customer to ensure that vulnerable householders and those living in poverty are able to pay for their water bills.

Protecting and Improving Drinking Water Quality:

- We will work with the Drinking Water Inspectorate to keep the relevant drinking water quality legislation under review and where necessary, amend it.
- We will promote approved contractor's schemes, such as the WaterSafe Installers Scheme to improve the standard of plumbing installations in Wales.
- We will work with the Water Health Partnership in Wales, the Drinking Water Inspectorate and local authorities to develop guidance and an engagement strategy to help owners of private supplies improve their understanding of public health and water quality issues in Wales, and their statutory responsibilities.

Supporting Delivery:

- We will review the remit and membership of the Water Forum for Wales on a regular basis to ensure a focus on the wider water management challenges in Wales and the delivery of our Strategy.
- We will review and report on our progress in delivering the actions set out in this Strategy on an annual basis.

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- We will ensure that we have fair and effective regulation which does not place unnecessary burdens on relevant businesses and consumers.
 - We will work with water companies and Ofwat to ensure that water services have reduced their emissions, are resilient to extreme weather events.
 - We will work in collaboration with our stakeholders and seek involvement from the people of Wales to understand, educate and promote a new way of thinking which will enable us to deliver our new approach to natural resource management and meet our well-being goals sustainable development principles.
 - We will seek to build on the skills and experience Wales has in the water sector to ensure that we maintain and develop a high level of expertise to support businesses as well as regulatory requirements.



Annex B – Glossary

A Living Language: A Language for Living, the Welsh Government's Welsh Language Strategy for 2012-17

The Government's vision is to see the Welsh language thriving in Wales. To achieve that, the strategy aims to see an increase in the number of people who both speak and use the language. This is a five-year Strategy, from 1 April 2012 to 31 March 2017, which supersedes *Iaith Pawb* published in 2003.

Agriculture Strategy Development Programme

'Farming, Food and Countryside – Building a Secure Future' sets out a clear vision of Welsh farming at the heart of a sustainable countryside and profitable rural economy. The will enable the industry to meet future challenges and take advantage of the opportunities presented in an increasingly volatile and globalised economy.

Albion Water

Albion Water provides water services to one large commercial customer in Wales. Albion Water comes under the responsibility of the UK Government as they are located wholly or mainly in England.

Anaerobic digestion

Anaerobic digestion (AD) is a natural process where plant and animal materials (biomass) are broken down by micro-organisms in the absence of air. Many forms of biomass are suitable for AD including food waste, slurry and sewage residue. It is also used to treat the food waste produced in homes, farms, supermarkets and industries across the UK. This helps divert waste from landfill.

Animal Health and Welfare Framework

The Wales Animal Health and Welfare Framework is our plan for improving animal health & welfare standards for kept animals. The Framework also considers the contribution to protecting public health, the economy and the environment. The Framework has succeeded the Great Britain Animal Health and Welfare Strategy in Wales.

Arbed

Arbed is the strategic energy performance investment programme run by the Welsh Government as part of the commitments to reduce climate change, help eradicate fuel poverty, and boost economic development and regeneration in Wales.

Area based approach

The Environment (Wales) Bill outlines the requirement on Natural Resources Wales to develop and implement an area-based approach for natural resource management. This will be a planning and priority setting process that coordinates resource use so that the long term sustainable benefits are optimised for the people, environment and economy of Wales in the present and in the future. It will align catchment based approaches to water management and water resource planning with other land management activity.



Asset Management Plans

The water industry operates on five-yearly cycles called Asset Management Plan (AMP) periods. Prices are set by Ofwat at the beginning of each period, following submissions from each company about what it will cost to deliver their business plans.

Bathing Water Directive – 2006/7/EC

This Directive focuses on the quality of bathing water in Member States. It addresses those waters in which bathing is authorised by the national authorities and regularly practised by a significant number of bathers. It does not apply to swimming pools.

Blue growth

The concept of a “blue economy” came out of the 2012 Rio+20 Conference and emphasises conservation and sustainable management, based on the premise that healthy ocean ecosystems are more productive and a must for sustainable ocean-based economies.

Blue growth looks to further harness the potential of oceans, seas and coasts to eliminate harmful fishing practices and overfishing and instead incentivise approaches which promote growth, improve conservation, build sustainable fisheries and end illegal, unreported and unregulated fishing. It will ensure tailor-made measures that foster cooperation between countries and act as a catalyst for policy development, investment and innovation in support of food security, poverty reduction, and the sustainable management of aquatic resources.

Cesspools

Cesspools, or cess-pits, are simple tanks which retain all sewage from a property. This is then removed by tanker on a regular basis for treatment at a sewage treatment plant.

Before 1974, such systems were often serviced by the local council as part of their sewerage provision for their area. Householders therefore paid no specific charge for the tanker service. Since the creation of the Water Authorities in 1974, charges have been introduced for emptying cesspools and most services are now provided on a commercial basis. Householders can find these systems expensive to maintain and there is much anecdotal evidence of illegal overflows and pumping out.

Child Poverty Strategy for Wales

Tackling poverty remains one of the key priorities of the Welsh Government. Current levels of poverty in Wales are neither acceptable nor inevitable and the Child Poverty Strategy reaffirms our aspiration to eradicate child poverty by 2020.

Citizen science

Citizen science refers to general public engagement in scientific research activities when citizens actively contribute to science either with their intellectual effort or surrounding knowledge or with their tools and resources. Citizen science may be performed by individuals, teams, or networks of volunteers. Citizen scientists often partner with professional scientists to achieve common goals. Large volunteer networks often allow scientists to accomplish tasks that would be too expensive or time consuming to accomplish through other means.



Climate change policy refresh priorities

The priorities of our refreshed approach to climate change are driving out climate risk, driving down emissions, driving up energy efficiency, and driving forward low-carbon energy, focusing on green growth, tackling social vulnerability and strengthening governance to support engagement and involvement.

Consumer Council for Water

The Consumer Council for Water is the independent representative of household and business water consumers in England and Wales. Their role is to provide a strong national voice for consumers and ensure that consumers remain at the heart of the water industry. They also take up consumer's complaints if they have tried and failed to resolve issues with their water companies.

Cooling water

Large volumes of water are needed for cooling purposes in the generation of electricity in coal, gas, biomass and nuclear power stations. In Wales, most power stations use coastal or estuarine waters and the water is almost all returned to the environment. Water is also used for cooling in a large number of industrial processes, for example in the steel industry.

Cynefin

Cynefin brings together local people, groups, businesses and organisations that deliver services to improve where they live or work.

It helps them work together to make their community cleaner, safer and nicer to live in. This also gives opportunities for business and for people to work and improve their incomes.

Dee Valley Water Plc

Dee Valley Water Plc is a water only supply company. The area of supply covers 831 square kilometres in North East Wales and the North West of England. Dee Valley Water comes under the responsibility of Welsh Ministers as they are located wholly or mainly in Wales.

Drinking Water Directive – 98/83/EC

This Directive relates to the quality of water intended for human consumption and covers both public and private supplies, setting standards for quality and for monitoring.

Drinking Water Inspectorate (DWI)

The Drinking Water Inspectorate is the independent regulator of drinking water in Wales and England. Their role is to ensure that water companies supply safe drinking water that is acceptable to consumers and meets standards set down in law. In addition, the Chief Inspector of Drinking Water publishes annual reports about the quality of private and public drinking water in Wales.



Dŵr Cymru Welsh Water

Dŵr Cymru Welsh Water provides water and sewerage services for most of Wales and parts of western England. Dŵr Cymru Welsh Water comes under the responsibility of Welsh Ministers as they are located wholly or mainly in Wales.

Ecosystem

An ecosystem is made up of living organisms (plants, animals and microorganisms) in conjunction with their non-living environment (air, water, minerals and soil) and all the diverse and complex interactions that take place between them.

Ecosystem approach

An ecosystem approach focuses on the collective management of all resources – maintaining ecological integrity whilst allowing resource extraction/use – rather than managing multiple resources independently. This approach seeks to ensure the co-existence and development of healthy, fully functioning ecosystems and human communities. The term ecosystem approach originally comes from the Convention on Biological Diversity (CBD), where it is described as “a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way”.⁴²

Ecosystem services

These are the services we get from nature such as clean drinking water; the regulation of air quality, climate and flood risk; opportunities for recreation, tourism and cultural development; and underlying functions such as soil formation and nutrient cycling. Some are essential to life and more readily valued in economic terms, while others such as attractive landscapes are less tangible but nonetheless life-enhancing. Maintaining and enhancing ecosystem services – and restoring them where they have been lost or degraded – is increasingly recognised as essential for the economy and human wellbeing.

Ecosystem services are defined as services provided by our natural resources that benefit people or other ecosystem functions. While there is no single, agreed method of categorising all ecosystem services, the Millennium Ecosystem Assessment framework⁴³ is widely accepted.

Effluent

A liquid discharged as waste, as from an industrial plant or sewage works.

Environmental Liability Directive – 2004/35/EC.

This Directive deals with the prevention and remedying of environmental damage based on the polluter pays principle.

⁴² <http://www.cbd.int/ecosystem>

⁴³ The Millennium Ecosystem Assessment (MA) was called for by the United Nations Secretary-General Kofi Annan in 2000. Initiated in 2001, the objective of the MA was to assess the consequences of ecosystem change for human well-being and the scientific basis for action needed to enhance the conservation and sustainable use of those systems and their contribution to human well-being.



Eutrophication

The ecosystem response to the addition of artificial or natural substances, mainly phosphates, through detergents, fertilizers, or sewage, to an aquatic system. Eutrophication arises from the oversupply of nutrients, which induces explosive growth of plants and algae which, when such organisms die, consume the oxygen in the body of water, thereby creating the state of hypoxia.

Food and Drink Action Plan

Towards Sustainable Growth: An Action Plan for the Food and Drink Industry 2014-2020 aims to grow output for the sector by 30% to £7 billion by 2020 and increase the profile and reputation of Welsh food and drink.

Flood and Coastal Erosion Risk Management

The National Strategy for Flood and Coastal Erosion Risk Management in Wales sets out our policies on flood and coastal erosion risk management. It also establishes a delivery framework that meets the needs of Wales now and in the future.

General Binding Rules

General Binding Rules are limit values or other conditions (defined in particular environmental laws, regulations and ordinances) at sector level or wider, that are given with the intention to be used directly to set permit conditions. They provide direct conditions or minimum standards. GBRs are binding on the Competent Authority or the operator. However, under certain conditions, some general rules may not be mandatory and deviation will be allowed, although the normal expectation would be that the rules be used directly.

Green growth

Green growth is a way of fostering economic growth and development, while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies. In practice, this means making the growth process resource efficient, low carbon, cleaner (minimising pollution and environmental impacts) and more resilient (to climate change and natural hazards) without necessarily slowing it⁴⁴.

Green Growth Wales

The proposed Green Growth Wales fund aims to increase and accelerate projects to deliver green investment in Wales. It focuses primarily, though not exclusively, on encouraging investment in resource efficiency, renewable energy generation and waste projects.

⁴⁴ OECD: Towards Green Growth



Groundwater Directive – 2006/118/EC

This Directive is designed to prevent and combat groundwater pollution. Its provisions include: criteria for assessing the chemical status of groundwater, criteria for identifying significant and sustained upward trends in groundwater pollution levels, and provisions for defining starting points for reversing these trends and preventing and limiting indirect discharges (after percolation through soil or subsoil) of pollutants into groundwater.

Habitats Directive – 92/43/EEC and Birds Directive – 2009/147/EC

These Directives form the cornerstone of Europe's nature conservation policy, built around two pillars, the Natura 2000 network of protected sites and species protection. The Habitats directive protects over 1,000 animals and plant species and over 200 so called "habitat types" (e.g. special types of forests, wetlands, etc.) of European importance.

Hydromorphology

Hydromorphology is the term used in river basin management to describe the hydrological and geomorphological processes and attributes of rivers, lakes, estuaries and coastal waters. These are, in effect the physical characteristics of the shape, boundaries and content of a water body.

Of the two elements of hydromorphology, hydrology is about water flow. It is about the quantity and dynamics of water flows, levels and interconnections with other water bodies, including groundwater.

Morphology is about the physical form of a water body. It is concerned with the width, depth and structure of the river, lake or sea bed and the condition of the bed, bank and shores.

Where water quality is good, poor hydromorphology can limit ecology. For example a concrete channel will not support the ecological diversity that a natural gravel channel would support and a barrier in a stream can prevent the migration of fish or the transport of sediment.

Integrated Natural Resource Management

Integrated natural resource management is a planning and priority setting process that coordinates the maintenance, enhancement and use of natural resources – taking into account all ecosystem services – so that the long term benefits are optimised for the people, environment and economy of Wales in the present and in the future.

It is the process that we will need to be followed to enable the sustainable management of natural resources, to deliver even greater long-term benefits to the economy, society and environment.

Marine Plan

Marine Planning will help us to manage marine activities sustainably. The Welsh Government is responsible for Marine Planning in Wales and the planning process has already begun. We are developing a Welsh National Marine Plan (WNMP) that covers Welsh inshore and offshore waters.



Marine Strategy Framework Directive

This Directive aims to protect the marine environment across Europe.

The Marine Strategy Framework Directive has been brought into UK law under the Marine Strategy Regulations 2010 which came into force on 15 July 2010.

Natural Resources Policy

This Natural Resources Policy Statement is published alongside the introduction of the Environment (Wales) Bill, and illustrates the key challenges and priorities for the sustainable management of our natural resources⁴⁵. It will be used to inform the implementation and piloting of natural resource management by Natural Resources Wales building on the current area trials, and sets the framework which our land-based natural resources policies and plans will follow and develop further for their respective areas.

Natural Resources Wales

Natural Resources Wales role is to ensure that the Natural Resources of Wales are sustainably maintained, enhanced and used, now and in the future.

Nature Fund

The Nature Fund will help us to respond to the challenges faced by our wildlife and habitats highlighted in the State of Nature report.

The Nature Fund is supporting 20 projects to tackle declining biodiversity and deliver benefits to communities. The focus of investment is on delivering 5 key priorities in 7 Nature Action Zones across Wales.

Nature Recovery Plan

Biodiversity – the variety and abundance of the natural world – underpins our lives and livelihoods by providing essential services such as water cycling and soil formation, as well cultural services such as our landscapes and wildlife.

We will put in place a plan to support biodiversity to continue to provide these services, and to protect our species, habitats and ecosystems.

The Nature Recovery Plan for Wales will also fulfil our commitment, under the Convention on Biological Diversity, to have in place a national biodiversity strategy and action plan by 2015.

Nest

Nest is a Welsh Government scheme working to help reduce the number of households in fuel poverty and make Welsh homes warmer and more energy-efficient places to live.

Nest offers a range of advice and support for everyone to save energy and maximise income.

⁴⁵ The Environment (Wales) Bill defines the objective of the sustainable management of natural resources – to maintain and enhance the resilience of ecosystems and the benefits they provide and, in so doing, meet the needs of present generations of people without compromising the ability of future generations to meet their needs.



Nitrates Directive – 91/676/EC

This aims to protect waters against pollution caused by nitrates from agricultural sources through a number of measures. These include monitoring surface waters and groundwater, designating vulnerable zones, issuing codes of good agricultural practice, implementing action programmes and evaluating the actions implemented.

Ofwat (The Water Services Regulation Authority)

Ofwat is the economic regulator for the water sector in Wales and England. Their role is to help the sector build trust and confidence with customers, the environment and wider society.

Partnership for Growth: Strategy for Tourism 2013-2020

This strategy sets the vision for the us and the industry to work in partnership to increase visitor spend to Wales.

Payment for Ecosystem Services (PES)

PES schemes involve payments to the managers of land or other natural resources in exchange for the provision of specified ecosystem services (or actions anticipated to deliver these services) over-and-above what would otherwise be provided in the absence of payment. Payments are made by the beneficiaries of the services in question, for example, individuals, communities, businesses or governments acting on behalf of various parties. Beneficiaries and land or resource managers enter into PES agreements on a voluntary basis and are in no way obligated to do so⁴⁶.

Potable Water

Potable water is water safe enough to be consumed by humans or used with low risk of immediate or long term harm.

Price Review

Ofwat carry out a price review every five years. Ofwat set the price, investment and service package that customers receive. This includes setting limits on the prices water companies can charge their customers. In doing this, Ofwat must balance the interests of consumers with the need to make sure the sectors can finance the delivery of water and sewerage services. Ofwat also need to make sure they are able to meet their other legal obligations, including their environmental and social duties.

Regional skills partnerships

There are 3 regional skills partnerships in Wales. The North Wales Economic Ambition Board, South East Wales Learning, Skills & Innovation Partnership and South West & Central Wales Regional Learning Partnership are addressing the challenges within the Welsh Government's Skills Implementation Plan which was launched in July 2014.

⁴⁶ Payments for Ecosystem Services: A Best Practice Guide DEFRA May 2013



Each of the three partnerships is made of representatives from employers, local authorities, providers and other key stakeholders.

The partnerships have four roles:

- To analyse local labour markets and recognise the workforce's skill needs.
- To advise the Welsh Government on funding for training needs.
- To engage with local employers and work strategically to recognise skill needs.
- To maximise the effectiveness of future available funding for vocational training.

Resilience

When applied to ecosystems, resilience means the ability of an ecosystem to withstand or recover from disturbance and its capacity to survive and adapt so that its biological diversity, natural processes and the provision of ecosystem services are maintained. Resilience may exhibit thresholds, which are levels of disturbance beyond which the system cannot recover, or is transformed to an alternative state (which is often undesirable, though not inevitably). Ecosystems are subject to disturbance in the form of many pressures and drivers, which notably include climate change and its knock-on effects. When managing our resources it is important that we think about the ability of ecosystems to resist, absorb, or recover from disturbance.

River basin

A river basin is an area of land from which all surface water run-off flows through a sequence of streams, rivers and, possibly, lakes into the sea at a single river mouth, estuary or delta.

River basin district

A river basin district is an area of land and sea, made up of one or more neighbouring river basins together with their associated groundwaters and coastal waters, which is identified under Article 3(1) of the Water Framework Directive as the main unit for management of river basins.

River Basin Management Plans

A River Basin Management Plan is required every six years under the Water Framework Directive for each river basin district. The plan describes the river basin district, and the pressures that the water environment faces. It shows what this means for the current state of the water environment in the river basin district, and what actions will be taken to address the pressures. It sets out what improvements are possible by and how the actions will make a difference to the local environment – the catchments, estuaries, the coast and groundwater.

River Walks

River walks, also known as catchment walkovers, are systematic visual surveys of catchments by walking. In the case of rivers or canals, this is usually done by following the course of water bodies in an upstream direction. The location, severity and cause of any



issues are recorded, along with photographic evidence. Issues may also be traced back to particular sources, or left for more detailed follow-up surveys, depending upon the specific objectives of the walk-over.

They can be an extremely effective means of providing a snap-shot of both urban and rural catchments and evidence for action, particularly in dealing with diffuse pollution.

Rural Development Programme 2014-2020

The Wales Rural Development Programme 2014-2020 (RDP) is a 7 year European Agricultural Fund for Rural Development (EAFRD) programme funded by the European Union and Welsh Government.

Scottish and Southern Energy Water

Scottish and Southern Energy Water provide water and sewerage services in Llanilid Park. Scottish and Southern Energy Water come under the responsibility of the UK Government as they are located wholly or mainly in England.

Septic tanks

These provide only primary treatment of sewage, retaining solids and allowing an overflow of partially treated sewage to discharge into land, where further treatment occurs in the soakaway system. The effluent from such systems may not be discharged into watercourses. As with sewage treatment plants, the discharge will require a registered exemption from Natural Resources Wales, for which there is no charge. Where the discharge could affect a sensitive site (such as an abstraction borehole or a Site of Special Scientific Interest), an environmental permit may be required, for which there is a one-off charge.

Severn Trent Water Plc

Severn Trent Water Plc provides water and sewerage services to some customers in Mid Wales and across the Midlands. Severn Trent Water Plc come under the responsibility of the UK Government as they are located wholly or mainly in England.

Sewage

The waste matter from domestic or industrial establishments that is carried away in sewers or drains for dumping or conversion into a form that is not toxic.

Sewage treatment plants

A wide range of small sewage treatment plants are available in Wales. Many manufacturers can provide a complete service to install and maintain such systems. They normally require a power supply, regular inspection and periodic sludge removal. They discharge suitably purified water to the environment, either into the ground or to a watercourse. In most cases, the discharge will require a registered exemption from Natural Resources Wales, for which there is no charge. Where the discharge could affect a sensitive site (such as an abstraction borehole or a Site of Special Scientific Interest), an environmental permit may be required, for which there is a one-off charge.



Sewerage

The system of pipes used in the removal of waste water and refuse.

Soakaways

A soakaway is where surface water from your roof or driveway is piped to a large underground pit filled with gravel within the boundary of your property, normally 10 to 15 feet away from the foundations.

Sustainable Drainage System – SuDS

A sustainable drainage system is designed to reduce the potential impact of new and existing developments with respect to surface water drainage discharges.

Sustainable Development

Sustainable development means enhancing the economic, social and environmental wellbeing of people and communities, achieving a better quality of life for our own and future generations in ways which:

- promote social justice and equality of opportunity; and
- enhance the natural and cultural environment and respect its limits – using only our fair share of the earth's resources and sustaining our cultural legacy⁴⁷.

Swale

A swale is a low tract of land, especially one that is moist or marshy. The term can refer to a natural landscape feature or a human-created one. Artificial swales are often designed to manage water runoff, filter pollutants, and increase rainwater infiltration.

Tackling fuel poverty

A household is in fuel poverty if they spend 10% or more of their net income on energy costs. This strategy sets out the actions we intend to take to reduce fuel poverty.

Tackling Poverty Action Plan

Our Tackling Poverty Action Plan sets out what we are doing to build resilient communities and to help prevent and reduce poverty in Wales.

Transitional waters

These are bodies of surface water in the vicinity of river mouths which are partly saline in character as a result of their proximity to coastal waters but which are substantially influenced by freshwater flows.

Towards Zero Waste

Towards Zero Waste is Wales' overriding waste strategy document.

It was launched in June 2010. The strategy document outlines the actions we must all

⁴⁷ Sustainable Development Scheme –
<http://wales.gov.uk/newsroom/sustainabledevelopment/2013/130312-sustainable-development/?lang=en>



take if we are to reach our ambition of becoming a high recycling nation by 2025 and a zero waste nation by 2050.

United Utilities

United Utilities manages the regulated water and waste water network in North West England, which includes Cumbria, Cheshire, Greater Manchester, Lancashire and Merseyside. United Utilities come under the responsibility of the UK Government as they are located wholly or mainly in England.

United Utilities derives water from both the River Dee and River Severn river basin areas. Water is abstracted from the River Dee in Chester and is supplied to customers within the southern part of their Integrated Resource Zone. United Utilities use water from Lake Vyrnwy, which is treated at Oswestry and then supplied to their customers predominantly in Cheshire and Merseyside. Both water supply systems form integral parts of their water supply system. United Utilities also have water supply infrastructure within Wales that supplies water to customers in Cheshire via the Llangollen Canal.

Urban Wastewater Treatment Directive – 91/271/EEC

This aims to protect the environment from the adverse effects of urban waste water discharges and discharges from certain industrial sectors. The Directive concerns the collection, treatment and discharge of these waste waters.

Water body

Water body means a discrete and significant element of surface water such as a lake, a reservoir, a stream, river or canal, part of a stream, river or canal, a transitional water or a stretch of coastal water.

Water Company

A water company is an organisation that supplies water and/or sewerage services to domestic and business premises.

Water Framework Directive – 2000/60/EC

This Directive established a framework for water protection and management. Its objectives include preventing and reducing pollution, promoting sustainable water use, environmental protection, improving aquatic ecosystems and mitigating the effects of floods and droughts.

Determining water body status and reasons for failure is complex and our understanding changes through time. Even water body numbers and boundaries change as we learn more. We adopt the following approach to assess the status of water bodies:

- We monitor different 'elements' (e.g. fish) for different water bodies. When an element 'score' is lower than expected, that element causes the water body to fail.
- We then collect evidence to determine why the element is failing-these are the 'Reasons for Failure'. A water body can fail for more than one element, and an element can fail for more than one reason.

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- Our level of understanding determines our certainty about a Reason for Failure: 'Confirmed' = compelling evidence, 'Probable' = reasonable evidence, 'Suspected' = suggestive evidence.

We also consider the severity for the Reason for Failure – whether we think it is having a major or minor impact on the failing element.

Water Health Partnership

The Water Health Partnership for Wales is an initiative that brings together relevant agencies to agree how to work together more effectively to protect public health by ensuring the provision of safe drinking water. Agencies in the Partnership include the Welsh Government, the Drinking Water Inspectorate (DWI), local authorities, the Consumer Council for Water Wales, Dŵr Cymru Welsh Water and Public Health Wales.

Water Sensitive Urban Design – WSUDs

Water Sensitive Urban Design is a land planning and engineering design approach which integrates the urban water cycle, including stormwater, groundwater and wastewater management and water supply, into urban design to minimise environmental degradation and improve aesthetic and recreational appeal

Water services

Water services mean all services which provide water for households, public institutions or any economic activity. This includes the abstraction, impoundment, storage, treatment and distribution of surface water or groundwater. It also includes waste-water collection and treatment facilities which subsequently discharge into surface water.

Water System

Water System means both a river and all its tributaries or the means of supplying water to households.

Water Undertakers

The term 'water undertaker' means a company appointed under the Water Industry Act 1991 (WIA91) to provide water services to a defined geographical area.

Welsh Government Skills Implementation Plan

This Plan was published in July 2014 and sets out key policy actions that will take place up until 2016 to provide the basis for employment and skills policy over the next decade. This plan also outlines the actions we can take in the short term to support the post-19 skills system and create a sustainable skills system.

Welsh Local Government Association and local authorities

Local authorities have a duty to ensure that they are informed about the wholesomeness and sufficiency of water supplies in their area. They also have a duty under the Private



Water Supplies (Wales) Regulations 2010 to regulate private water supplies, which are significant in rural areas. As planning authorities they also have need to consider water infrastructure availability in making decisions. They may also be responsible for adopting and maintaining sustainable drainages (SuDS) in the future and have an enhanced role in local flood risk management.

Woodlands for Wales Strategy

The Welsh Government Woodlands for Wales strategy sets out our 50 year plan for developing and using Welsh woodlands and trees to bring maximum benefit to the people of Wales.

Annex C

Map showing water company boundaries in Wales

